Note About Format Item

The Format item specified for each field indicates the section and specific item in the Program Default Database Number Formatting Options form that controls the formatting (units, decimal places, etc.) for the specified field. This form can be accessed using the Options menu > Database > Set Program Default DB Formatting command.

Table: Active Degrees of Freedom

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the UX degree of freedom is active.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the UY degree of freedom is active.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the UZ degree of freedom is active.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the RX degree of freedom is active.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the RY degree of freedom is active.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the RZ degree of freedom is active.

Table: Analysis Case Definitions

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the analysis case.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

The type of analysis case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, and LinSteady.

Field: InitialCond

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Zero or the name of a Nonlinear Static case. Zero means that the stiffness used is based on the unstressed state. Otherwise, the stiffness used is that at the end of the specified Nonlinear Static case. This item does not apply to response spectrum and linear modal history analysis cases.

Field: ModalCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the modal analysis case used in solving this analysis case. This item only applies to nonlinear static, response spectrum, and modal history cases.

Table: Area Added Mass Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: MassPerArea

Field is Imported: Yes
Format: Mass/Area (Mass and Weight section of form)
Units: Force-Sec2/Length3

Added mass per unit area applied to the area object.

Table: Area Auto Mesh Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: AutoMesh

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the area object is to be (internally) automatically meshed into Number1 by Number2 elements by the program for analysis.

Field: Number1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This the AutoMesh item is Yes, then the area object is to be (internally) automatically meshed into Number1 by Number2 elements by the program for analysis.

Field: Number2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This the AutoMesh item is Yes, then the area object is to be (internally) automatically meshed into Number1 by Number2 elements by the program for analysis.

Table: Area Loads - Gravity

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Area Loads - Pore Pressure

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The pore pressure load applied to the specified face of the Area object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified pressure. If no joint pattern is specified then this item is reported as None.

Table: Area Loads - Rotate

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AngularVel

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

Angular velocity for rotation about the axis of symmetry of the object.

Table: Area Loads - Surface Pressure

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Face

Field is Imported: Yes
Format: Controlled by program
Units: Text

The face of the Area object to which the pressure load is applied.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The surface pressure load applied to the specified face of the Area object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified pressure. If no joint pattern is specified then this item is reported as None.

Table: Area Loads - Temperature

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Temperature or Gradient indicating the type of load.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature assignment to the Area object.

Field: TempGrad3

Field is Imported: Yes

Format: Temperature Gradient (Forces section of form)
Units: Temp/Length

The temperature gradient in the local 3 direction (units are delta temperature/thickness 3-3) assignment to the Area object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Area Loads - Uniform

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z, X Proj, Y Proj, Z Proj, Gravity or Grav Proj indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the area object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction. X Proj, Y Proj or Z Proj are projected forces in the specified coordinate system. Projected forces are scaled by the sine of the angle between the area object and the direction of load. .

Field: UnifLoad

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The uniform load that is applied to the area object in the specified direction.

Table: Area Loads - Uniform To Frame

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z, X Proj, Y Proj, Z Proj, Gravity or Grav Proj indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the area object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction. X Proj, Y Proj or Z Proj are projected forces in the specified coordinate system. Projected forces are scaled by the sine of the angle between the area object and the direction of load. .

Field: UnifLoad

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The uniform load, in the specified direction, that is distributed to the surrounding frame objects.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either One Way or Two Way indicating the type of distribution used for the load.

Table: Area Loads - Wind Pressure Coefficients

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Windward

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the area object receiving the load is on the windward side of the structure. Otherwise it is No.

Typically, building codes specify the wind pressure on the windward side of the structure varies over the height of the structure, whereas it is constant over the structure height on other sides.

Field: Cp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The wind pressure coefficient specified for the area object.

Field: XComponent

Field is Imported: No
Format: Controlled by program
Units: Unitless

The global X component of the wind pressure coefficient.

Field: YComponent

Field is Imported: No
Format: Controlled by program
Units: Unitless

The global Y component of the wind pressure coefficient.

Field: ZComponent

Field is Imported: No
Format: Controlled by program
Units: Unitless

The global Z component of the wind pressure coefficient.

Table: Area Local Axes Assignments 1 - Typical

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that the local 1 and 2 axes are rotated about the positive local 3 axis, from the default orientation or from the orientation determined by the plane reference vector. The rotation for a positive angle appears counterclockwise when the local +3 axis is pointing toward you.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the area object. Otherwise it is No meaning that the default reference vectors are used.

Default means that the local 3-2 plane for the area object is taken to be vertical, that is, parallel to the global Z-axis. The local 2 axis is taken to have an upward sense (global +Z) unless the object is horizontal (lies in the global X-Y plane) in which case the local 2 axis is taken along the global +Y direction. The local 1 axis is horizontal, that is it lies in the global X-Y plane.

Advanced means that the local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Area Local Axes Assignments 2 - Advanced

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 31 or 32, indicating the 3-1 or the 3-2 plane, respectively.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as 0 to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as 0 to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Area Material Temperatures

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Area object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Area Reference Temperatures

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Area object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Area Section Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the area section property assigned to the specified area object.

Field: MatProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Default, or the name of a Material. Default means that the material property for the area object is taken from the material property designated for the area section that is assigned to the area object.

Table: Area Section Properties

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the area section property.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property assigned to the area section property.

Field: MatAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Material angle associated with the area section property.

Field: AreaType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Shell, Plane or Asolid indicating the type of area section.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

For shell-type area sections this is either Shell-Thin, Shell-Thick, Membrane, Plate-Thin, or Plate-Thick indicating the type of shell element.

For plane-type area sections this is either Plane-Stress or Plane-Strain indicating the type of plane element.

This item does not apply to asolid-type elements.

Field: Thickness

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

For shell-type area sections this is the membrane thickness of the element used for calcualting the membrane stiffness for full-shell and pure-membrane sections, and used for self-mass and self-weight calculations.

For plane-type sections this is the thickness of the element. This item does not apply to asolid-type area sections.

Field: BendThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This item only applies to shell-type area sections. It is the bending thickness of the section used for calculating the plate-bending and transverse shear stiffnesses for full-shell and pure-plate sections.

Field: Arc

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

This item only applies to asolid-type area sections. It is the object arc, that is, the number of degrees through which the object's planar shape is rotated to define the solid-type object. Inputting 0 for this item means that the arc will be taken as 1 radian.

Field: InComp

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if incompatible bending modes are included in the stiffness formulation. Otherwise it is No. It only applies to plane and asolid type sections.

In general, incompatible modes significantly improve the bending behavior of the object.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item only applies to asolid-type area sections. The asolid axis of symmetry is the Z axis of this coordinate system.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the section.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: TotalWt

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

Total weight of all objects in the model that are assigned the specified area section property.

Field: TotalMass

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total mass of all objects in the model that are assigned the specified area section property.

Field: F11Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

F11 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: F22Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

F22 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: F12Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

F12 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: M11Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

M11 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: M22Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

M22 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: M12Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

M12 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: V13Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

V13 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: V23Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

V23 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: MMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Mass multiplier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: WMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Weight multiplier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Table: Area Spring Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Face

Field is Imported: Yes
Format: Controlled by program
Units: Text

The face of the area object to which the specified springs are applied.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2 or 3 indicating the area local axes direction in which the springs are oriented.

Field: Stiffness

Field is Imported: Yes
Format: Trans Stiffness/Area (Stiffness section of form)
Units: Force/Length/Length2

Spring stiffness per unit area of the specified face of the area object in the direction specified.

Table: Area Stiffness Modifiers

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: f11

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The membrane f11 modifier for the specified area object.

Field: f22

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The membrane f22 modifier for the specified area object.

Field: f12

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The membrane f12 modifier for the specified area object.

Field: m11

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The bending m11 modifier for the specified area object.

Field: m22

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The bending m22 modifier for the specified area object.

Field: m12

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The bending m12 modifier for the specified area object.

Field: v13

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shear v13 modifier for the specified area object.

Field: v23

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shear v23 modifier for the specified area object.

Field: MassMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The mass modifier for the specified area object.

Field: WeightMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The weight modifier for the specified area object.

Table: Auto Seismic - BOCA96

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 response modification factor.

Field: Aa

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 effective peak acceleration coefficient.

Field: Av

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 effective peak velocity-related coefficient.

Field: S

Field is Imported: Yes
Format: Controlled by program
Units: Text

The BOCA96 site coefficient.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The BOCA96 coefficient Cs used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - IBC2000

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2000 response modification factor.

Field: SeisGroup

Field is Imported: Yes
Format: Controlled by program
Units: Text

The IBC2000 seismic group.

Field: SiteClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

The IBC2000 site class.

Field: Ss

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2000 mapped spectral acceleration for short periods.

Field: S1

Field is Imported: Yes

Format: Controlled by program
Units: Unitless

The IBC2000 mapped spectral acceleration for a one second period.

Field: Fa

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2000 site coefficient, Fa.

Field: Fv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2000 site coefficient, Fv.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The IBC2000 coefficient Cs used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - NBCC95

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: StructType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Mom Frame or Other indicating the type of structure.

Field: PeriodCalc

Field is Imported: Yes

Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Code, Prog Calc (short for program calculated), or User.

Field: Ds

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Length of wall or braced frame which constitutes the main lateral-force resisting system.

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NBCC 95 force modification factor.

Field: Za

Field is Imported: Yes
Format: Controlled by program

Units: Text

NBCC95 acceleration-related seismic zone.

Field: Zv

Field is Imported: Yes
Format: Controlled by program
Units: Text

NBCC95 velocity-related seismic zone.

Field: VType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates whether the NBCC95 zonal velocity ratio is program calculated based on Zv, or it is user-defined .

Field: V

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NBCC95 zonal velocity ratio.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NBCC95 importance factor.

Field: F

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NBCC95 foundation factor.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: FSUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The product of the NBCC95 foundation factor, F, and the NBCC95 seismic response factor, S, used in calculating the base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Field: FtUsed

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Ft force (concentrated force at the top of the building) calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - NEHRP97

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)

Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 response modification factor.

Field: SeisGroup

Field is Imported: Yes
Format: Controlled by program
Units: Text

The NEHRP97 seismic group.

Field: SiteClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

The NEHRP97 site class.

Field: Ss

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 mapped spectral acceleration for short periods.

Field: S1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 mapped spectral acceleration for a one second period.

Field: Fa

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 site coefficient, Fa.

Field: Fv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 site coefficient, Fv.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The NEHRP97 coefficient Cs used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - UBC94

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: Rw

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC94 numerical factor, Rw.

Field: Z

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC94 seismic zone factor.

Field: S

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC94 site coefficient for soil characteristics.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC94 importance factor.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The UBC94 coefficient C used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Field: FtUsed

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Ft force (concentrated force at the top of the building) calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - UBC97

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 overstrength factor.

Field: SoilType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 soil profile type.

Field: Z

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 seismic zone factor.

Field: Ca

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 coefficient, Ca.

Field: Cv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 coefficient, Cv.

Field: SourceType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 seismic source type.

Field: SourceDist

Field is Imported: Yes
Format: Controlled by program
Units: km

The distance to the closest known seismic source in kilometers.

Field: Na

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 near source factor, Na.

Field: Nv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 near source factor, Nv.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 importance factor.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Field: FtUsed

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Ft force (concentrated force at the top of the building) calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - UBC97 Isolated

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: Ri

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 overstrength factor for isolated buildings specified in UBC97 Table A-16-E.

Field: Bd

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The UBC97 coefficient for damping specified in UBC97 Table A-16-C.

Field: Kmax

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Maximum effective stiffness of the isolation system.

Field: Kmin

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Minimum effective stiffness of the isolation system.

Field: SoilType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 soil profile type.

Field: Z

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 seismic zone factor.

Field: Cvd

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 coefficient, Cv.

Field: SourceType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 seismic source type.

Field: SourceDist

Field is Imported: Yes
Format: Controlled by program

Units: km

The distance to the closest known seismic source in kilometers.

Field: Nv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 near source factor, Nv.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - User Coefficient

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: C

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The user-defined base shear coefficient (V = CW).

Field: K

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The user-defined exponent applied to the story height.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - User Loads

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Diaphragm

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the diaphragm to which the load is applied.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: AppPoint

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either CM (short for center of mass) or User indicating the application point of the load.

Field: AddEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The additional eccentricity ratio added to the specified load. This added eccentricity causes an MZ moment in the plane of the diaphragm. This item is only applicable when the user seismic load is applied at the center of mass.

Field: FX

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force applied to the diaphragm in the global X direction.

Field: FY

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force applied to the diaphragm in the global Y direction.

Field: MZ

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The moment applied to the diaphragm about the global Z axis.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The user-defined global X coordinate of the load application point.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The user-defined global Y coordinate of the load application point.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic Eccentricity Overrides

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User Coeff, User Loads or the name of the code considered for the specified load case.

Field: Diaphragm

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the horizontal rigid diaphragm constraint to which the specified eccentricity applies.

Field: Eccen

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

User-specified eccentricity for the specified rigid diaphragm constraint. Note that this eccentricity is specified as an absolute length, not a percentage of the structure dimension.

Table: Auto Seismic Loads To Groups

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User Coeff, User Loads or the name of the code considered for the specified load case.

Field: Group

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the group to which the specified load applies.

Field: GroupAvgZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The average global Z coordinate of all point objects included in the specified group.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto seismic group forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto seismic group forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto seismic group forces and moments are reported.

Table: Auto Seismic Loads To Horizontal Diaphragms

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User Coeff, User Loads or the name of the code considered for the specified load case.

Field: Diaphragm

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the horizontal rigid diaphragm constraint to which the specified load applies.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No

Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto seismic diaphragm forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto seismic diaphragm forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto seismic diaphragm forces and moments are reported.

Table: Auto Seismic Loads To Joints

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User Coeff, User Loads or the name of the code considered for the specified load case.

Field: JointElem

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint element in the SAP analysis model to which the specified auto seismic force is applied.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object associated with the specified joint element, if any.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto seismic joint element forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto seismic joint element forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto seismic joint element forces and moments are reported.

Table: Auto Wind - ASCE7-88

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The ASCE7-88 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-88 wind importance factor.

Field: GustFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-88 gust factor, G.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - ASCE7-95

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes

Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The ASCE7-95 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-95 wind importance factor.

Field: Kzt

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-95 topographic factor.

Field: GustFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-95 gust factor, G.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - ASCE7-98

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The ASCE7-98 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-98 wind importance factor.

Field: Kzt

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-98 topographic factor.

Field: GustFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-98 gust factor, G.

Field: Kd

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-98 wind directionality factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - BOCA96

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms.

Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The BOCA96 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 wind importance factor.

Field: GhType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User Defined or Per Code indicating how the gust response factor is defined.

Field: Gh

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 gust response factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - BS6399-95

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: Ve

Field is Imported: Yes
Format: Controlled by program
Units: meter/sec

The effective wind speed in meters per second.

Field: Ca

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BS6399-95 size effect factor.

Field: Cr

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BS6399-95 dynamic augmetation factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - NBCC95

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: VelPressure

Field is Imported: Yes

Format: Controlled by program
Units: kpa

The NBCC95 velocity pressure in kPa.

Field: Cg

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NBCC95 gust effect factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - UBC94

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCq

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCq

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC94 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC94 wind importance factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - UBC97

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCq

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCq

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 wind importance factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - User

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: Diaphragm

Field is Imported: Yes
Format: Controlled by program
Units: Text

Rigid diaphragm constraint for which the specified exposure width applies.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: FX

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force applied to the diaphragm in the global X direction.

Field: FY

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force applied to the diaphragm in the global Y direction.

Field: MZ

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The moment applied to the diaphragm about the global Z axis.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The user-defined global X coordinate of the load application point.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The user-defined global Y coordinate of the load application point.

Table: Auto Wind Exposure For Horizontal Diaphragms

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: Diaphragm

Field is Imported: Yes
Format: Controlled by program
Units: Text

Rigid diaphragm constraint for which the specified exposure width applies.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)

Units: Length

The global X-coordinate of the point where the wind force is applied.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y-coordinate of the point where the wind force is applied.

Field: TribWidth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The exposure width for the specified diaphragm.

Field: TribHeight

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The tributary height of wind load applied to the specified diaphragm.

Table: Auto Wind Loads To Groups

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User or the name of the code considered for the specified load case.

Field: Group

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the group to which the auto wind load applies.

Field: GroupAvgZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The average global Z coordinate of all point objects included in the specified group.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto wind group forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto wind group forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto wind group forces and moments are reported.

Table: Auto Wind Loads To Horizontal Diaphragms

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User or the name of the code considered for the specified load case.

Field: Diaphragm

Field is Imported: No
Format: Controlled by program
Units: Text

Horizontal rigid diaphragm constraint to which the specified wind load applies.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No

Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto wind diaphragm forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto wind diaphragm forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto wind diaphragm forces and moments are reported.

Table: Auto Wind Loads To Joints

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User or the name of the code considered for the specified load case.

Field: JointElem

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint element in the SAP analysis model to which the specified auto wind force is applied.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object associated with the specified joint element, if any.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto wind joint element forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto wind joint element forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto wind joint element forces and moments are reported.

Table: Bridge Loads 1 - Lane Definitions

Field: LaneName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the specified lane.

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a frame object that is part of the lane.

Field: Eccen

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Constant lane eccentricity associated with the specified frame object.

Table: Bridge Loads 2 - Standard Vehicles

Field: VehName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name (Label) of the standard vehicle.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Hn-44, HSn-44, Hn-44L, HSn-44L, AML, HL-93K, HL-93M, HL-93S, P5, P7, P9, P11, P13, Cooper E 80, UICn, or RL indicating the type of standard vehicle.

For the Hn-44, HSn-44, Hn-44L and HSn-44L vehicles, n is the nominal weight ofthe vehicle in tons. For example, if the scale factor for a HSn-44 vehicle is 20, then the vehicle specified is a HS20-44.

For the UICn vehicle n is the magnitude of the uniform load in kN/m.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item only applies to Hn-44, HSn-44, Hn-44L, HSn-44L and UICnS standard vehicles. It is the scale factor represented by the n in the vehicle type. For example, a scale factor of 20 for a HSn-44 type vehicle means a HS20-44 vehicle.

Field: DynAllow

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item only applies to HL-93K, HL-93M and HL-93S standard vehicles. It is the dynamic load allowance, that is, it is the additive percentage by which the concentrated truck or tandem axle loads will be increased. The uniform lane load is not affected.

Table: Bridge Loads 3 - General Vehicles 1

Field: VehName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name (Label) of the general vehicle.

Field: SupportMom

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Vehicle is to be used for negative span moments over supports. Otherwise it is No.

Field: IntSupport

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Vehicle is to be used for vertical forces at (1) interior supports, (2) reactions, and (3) spring supports. Otherwise it is No.

Field: OtherResp

Field is Imported: Yes

Format: Controlled by program
Units: Yes/No

This item is Yes if the Vehicle is to be used for response quantites other than those listed for the SupportMom and IntSupport items. Otherwise it is No.

Field: LeadUnif

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

The leading uniform load.

Field: TrailUnif

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

The trailing uniform load.

Field: FirstAxle

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The first axle load.

Field: AxleMom

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Floating axle load for span moments.

Field: AxleOther

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Floating axle load for all response quantities except moments.

Field: NumInter

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of sets of intermediate loads specified for this Moving Load case .

Table: Bridge Loads 4 - General Vehicles 2

Field: VehName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name (Label) of the general vehicle.

Field: InterUnif

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

An intermediate uniform load.

Field: InterAxle

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

An intermediate axle load.

Field: InterMinD

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The minimum distance between the current and preceding axles.

Field: InterMaxD

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The maximum distance between the current and preceding axles. If this value is 0 then it means an infinite distance.

Table: Bridge Loads 5 - Vehicle Classes

Field: VehClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the vehicle class.

Field: VehName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a vehicle assigned to the vehicle class.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor that multiplies the vehicle load of the associated vehicle.

Table: Bridge Loads 6 - Bridge Response

Field: InitialCond

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Zero or the name of a Nonlinear Static case. Zero means that the stiffness used is based on the unstressed state. Otherwise, the stiffness used is that at the end of the specified Nonlinear Static case. This item does not apply to response spectrum and linear modal history analysis cases.

Field: Displs

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for displacement output for all moving load analysis cases. If no displacement output is specified then this item is None.

Field: Reactions

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for reaction output for all moving load analysis cases. If no reaction output is specified then this item is None.

Field: Springs

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for spring force output for all moving load analysis cases. If no spring force output is specified then this item is None.

Field: Frames

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for frame force output for all moving load analysis cases. If no frame force output is specified then this item is None.

Field: CalcMethod

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Exact or it is a positive integer. A positive integer means that the Quick calculation method is used, and the integer specifies the refinement level.

Field: Correspond

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for frames. Otherwise it is No.

Table: Case - Buckling 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Buckling-type analysis case.

Field: NumBuckMode

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of buckling modes requested.

Field: EigenTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The eigenvalue convergence toloerance for the buckling analysis case.

Table: Case - Buckling 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Buckling-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either the name of a load case, Accel UX, Accel UY, or Accel UZ.

Accel UX, UY and UZ imply a uniform acceleration acting in the global X, Y and Z directions, respectively. The force applied at each joint is proportional to the mass tributary to that joint.

.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A unitless scale factor that multiplies the associated load case value.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor (with translational acceleration units) that multiplies the associated acceleration value.

Table: Case - Direct History 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: OutSteps

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of output time steps.

Field: StepSize

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The output time-step size.

Table: Case - Direct History 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either the name of a load case or it is one of Accel U1, Accel U2, or Accel U3. The Accel items refer to ground acceleration loads in acceleration local coordinates. Note that the acceleration local coordinates are defined by the CoordSys and Angle items.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a function defining the time variation of the ground acceleration or load case.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Scale factor multiplying the ordinate values of the specified function.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Scale factor multiplying the ordinate values of the specified function.

Field: TimeFactor

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Scale factor multiplying the time (abscissa) values of the specified function.

Field: ArrivalTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Arrival time for the specified function.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the acceleration directions. This item only applies when the LoadType item is Acceleration.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Coordinate angle between the acceleration local 1 axis and the +X-axis ofthe coordinate system specified by the CoordSys item. The rotation is about the Z-axis of the specified coordinate system. This item only applies when the LoadType item is Acceleration.

Table: Case - Direct History 3 - Proportional Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: SpecifyType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Direct, Period or Frequency indicating the method used to specify the mass and stiffness coefficients. Direct means that they are directly specified. Period means that they are specified using two periods and two associated damping ratios. Frequency means that they are specified using two frequencies and two associated damping ratios.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec

The specified mass coefficient.

Field: StiffCoeff

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The specified stiffness coefficient.

Field: Period1

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The first period value used when the SpecifyType item is Period.

Field: Frequency1

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The first frequency value used when the SpecifyType item is Frequency.

Field: Damping1

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The first damping ratio value used when the SpecifyType item is either Period or Frequency.

Field: Period2

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The second period value used when the SpecifyType item is Period.

Field: Frequency2

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The second frequency value used when the SpecifyType item is Frequency.

Field: Damping2

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The second damping ratio value used when the SpecifyType item is either Period or Frequency.

Table: Case - Direct History 4 - Integration Parameters

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: IntMethod

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Newmark, Wilson, Collocation, HilberHughesTaylor or ChungHulbert indicating the time integration method used.

Field: Gamma

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the Gamma integration parameter. This item is an input value for the Newmark, Collocation and ChungHulbert integration methods.

Gamma is not an input value for the HilberHughesTaylor integration method. In this case it is calculated from Alpha.

Field: Beta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the Beta integration parameter. This item is an input value for the Newmark, Collocation and ChungHulbert integration methods.

Beta is not an input value for the HilberHughesTaylor integration method. In this case it is calculated from Alpha.

Field: Theta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the Theta integration parameter. This item is an input value for the Wilson and Collocation integration methods.

Field: Alpha

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the Alpha integration parameter. This item is an input value for the HilberHughesTaylor and ChungHulbert integration methods.

Field: AlphaM

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the AlphaM integration parameter. This item is an input value for the ChungHulbert integration method.

Table: Case - Direct History 5 - Nonlinear Parameters

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: GeoNonLin

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either None, P-Delta, or Large Displ indicating the type of geometric nonlinearity used for this analysis case, if any.

Field: DTMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum allowed substep size.

Field: DTMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Minimum allowed substep size.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum iterations per substep.

Field: ItConvTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Iteration convergence tolerance.

Field: EvLumpTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Event lumping tolerance.

Field: FrameTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object tension or compression only is considered. Otherwise it is No.

Field: FrameHinge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object hinges are considered. Otherwise it is No.

Field: CableTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if cable object tension or compression only is considered. Otherwise it is No.

Field: LinkTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if hook and gap object tension and compression only is considered. Otherwise it is No.

Field: LinkOther

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if other link object nonlinearity is considered. Otherwise it is No. This item includes all link nonlinearity not included in the LinkTC item.

Table: Case - Modal 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal-type analysis case.

Field: ModeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Eigen or Ritz indicating the type of modes requested.

Field: MaxNumModes

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of modes requested.

Field: MinNumModes

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of modes requested.

Field: EigenShift

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The eigenvalue shift frequency. This item only applies when the ModeType is Eigen.

Field: EigenCutoff

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The eigenvalue cutoff frequency radius. This item only applies when the ModeType is Eigen.

Field: EigenTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The relative convergence tolerance on eigenvalues. This item only applies when the ModeType is Eigen.

Table: Case - Modal 2 - Load Assignments - Eigen

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is Acceleration indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Accel UX, Accel UY, or Accel UZ.

Field: TargetPar

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The target mass participation ratio.

Field: StatCorrect

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if static correction modes are to be calculated. Otherwise it is No.

Table: Case - Modal 3 - Load Assignments - Ritz

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case, Accel or Link indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

If the LoadType item is Load, then this is the name of a load case.

If the LoadType item is Acceleration, then this is either Accel UX, Accel UY or Accel UZ.

If the LoadType item is Link, then this All Links.

Field: MaxCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of generation cycles to be performed for the specified ritz starting vector. Inputting 0 means their is no limit on the number of cycles.

Field: TargetPar

Field is Imported: Yes

Format: Controlled by program
Units: Percent

The target dynamic participation ratio.

Table: Case - Modal History 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: HistoryType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Transient, Periodic or Static indicating the type of modal history. For linear modal histories all three types are applicable. For nonlinear modal histories only the Transient type is applicable.

Field: OutSteps

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of output time steps.

Field: StepSize

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The output time-step size.

Field: DampingType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either Constant, Inter-Period, Inter-Freq or Pro-Direct, Pro-Period, or Pro-Freq indicating the method used to specify the modal damping.

Inter-Period means to interpolate based on damping given at specified periods. Inter-Freq means to interpolate based on damping given at specified frequencies.

Pro-Direct means mass and stiffness proportional coefficients are directly specified. Pro-Period means that mass and stiffness proportional coefficients are calculated based on two specified period and damping sets. Pro-Freq means that mass and stiffness proportional coefficients are calculated based on two specified frequency and damping sets.

Field: ConstDamp

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

This item only applies if the DampingType item is Constant. It is the constant damping value.

Table: Case - Modal History 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either the name of a load case or it is one of Accel U1, Accel U2, or Accel U3. The Accel items refer to ground acceleration loads in acceleration local coordinates. Note that the acceleration local coordinates are defined by the CoordSys and Angle items.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a function defining the time variation of the ground acceleration or load case.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Scale factor multiplying the ordinate values of the specified function.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Scale factor multiplying the ordinate values of the specified function.

Field: TimeFactor

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Scale factor multiplying the time (abscissa) values of the specified function.

Field: ArrivalTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Arrival time for the specified function.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the acceleration directions. This item only applies when the LoadType item is Acceleration.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Coordinate angle between the acceleration local 1 axis and the +X-axis ofthe coordinate system specified by the CoordSys item. The rotation is about the Z-axis of the specified coordinate system. This item only applies when the LoadType item is Acceleration.

Table: Case - Modal History 3 - Interpolated Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period at which the specified damping ratio applies.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The frequency at which the specified damping ratio applies.

Field: Damping

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The damping ratio as a fraction of critical damping (0.05 = 5%).

Table: Case - Modal History 4 - Proportional Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: SpecifyType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Direct, Period or Frequency indicating the method used to specify the mass and stiffness coefficients. Direct means that they are directly specified. Period means that they are specified using two periods and two associated damping ratios. Frequency means that they are specified using two frequencies and two associated damping ratios.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec

The specified mass coefficient.

Field: StiffCoeff

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The specified stiffness coefficient.

Field: Period1

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The first period value used when the SpecifyType item is Period.

Field: Frequency1

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The first frequency value used when the SpecifyType item is Frequency.

Field: Damping1

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The first damping ratio value used when the SpecifyType item is either Period or Frequency.

Field: Period2

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The second period value used when the SpecifyType item is Period.

Field: Frequency2

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The second frequency value used when the SpecifyType item is Frequency.

Field: Damping2

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The second damping ratio value used when the SpecifyType item is either Period or Frequency.

Table: Case - Modal History 5 - Damping Overrides

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: Mode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The mode number to which the specified damping applies.

Field: Damping

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

Fraction of critical damping for the specified mode (0.05 = 5% critical damping).

Table: Case - Modal History 6 - Nonlinear Parameters

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: PeriodStat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Period at which, and below, modes are treated as static.

Field: DTMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum allowed substep size.

Field: DTMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Minimum allowed substep size.

Field: FConvTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Relative force convergence tolerance.

Field: EConvTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Relative energy convergence tolerance.

Field: ForceItMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum number of force iterations for large substeps.

Field: ForceItMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Minimum number of force iterations for large substeps.

Field: ConvFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Convergence factor.

Field: FrameTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object tension or compression only is considered. Otherwise it is No.

Field: FrameHinge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object hinges are considered. Otherwise it is No.

Field: CableTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if cable object tension or compression only is considered. Otherwise it is No.

Field: LinkTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if hook and gap object tension and compression only is considered. Otherwise it is No.

Field: LinkOther

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if other link object nonlinearity is considered. Otherwise it is No. This item includes all link nonlinearity not included in the LinkTC item.

Table: Case - Moving Load 1 - Lane Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Moving Load-type analysis case.

Field: AssignNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The lane assignment number.

Field: VehClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vehicle class used for this lane assignment.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor that multiplies the vehicle loads in the associated vehicle class.

Field: MinLoaded

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Minimum number of lanes to be loaded by the specified vehicle class for this lane assignment.

Field: MaxLoaded

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum number of lanes to be loaded by the specified vehicle class for this lane assignment.

Field: NumLanes

Field is Imported: No

Format: Controlled by program
Units: Unitless

Total number of lanes loaded by the specified vehicle class for this lane assignment.

Table: Case - Moving Load 2 - Lanes Loaded

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Moving Load-type analysis case.

Field: AssignNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The lane assignment number.

Field: Lane

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a lane that is loaded by the vehicle class associated with this lane assignment.

Table: Case - Moving Load 3 - MultiLane Factors

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Moving Load-type analysis case.

Field: NumberLanes

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of loaded lanes considered.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The multiple-lane scale factor applied to the Moving Load analysis case if the number of loaded lanes is that specified by the NumberLanes item.

Table: Case - Response Spectrum 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: ModalCombo

Field is Imported: Yes
Format: Controlled by program
Units: Text

The modal combination method. This is either CQC, SRSS, ABS, or GMC.

Field: GMCf1

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

GMCf1 and GMCf2 are frequencies that define the rigid-response content of the ground motion when the GMC modal combination method is used.

Field: GMCf2

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

GMCf1 and GMCf2 are frequencies that define the rigid-response content of the ground motion when the GMC modal combination method is used.

Field: DirCombo

Field is Imported: Yes
Format: Controlled by program
Units: Text

The directional combination method. This is either SRSS or ABS.

Field: ABSSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor used for the ABS directional combination method.

Field: DampingType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either Constant, Inter-Period, Inter-Freq or Pro-Direct, Pro-Period, or Pro-Freq indicating the method used to specify the modal damping.

Inter-Period means to interpolate based on damping given at specified periods. Inter-Freq means to interpolate based on damping given at specified frequencies.

Pro-Direct means mass and stiffness proportional coefficients are directly specified. Pro-Period means that mass and stiffness proportional coefficients are calculated based on two specified period and damping sets. Pro-Freq means that mass and stiffness proportional coefficients are calculated based on two specified frequency and damping sets.

Field: ConstDamp

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

This item only applies if the DampingType is Constant. It is the constant modal damping (as a fraction of critical damping, 0.05 = 5%) applied to all modes. The damping reported here does not include any additional modal damping that may come from link objects in the structure.

Field: FuncDamp

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

All functions used for the specified response spectrum analysis case are assumed to be defined at this fraction of critical damping.

Table: Case - Response Spectrum 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: LoadType

Field is Imported: No
Format: Controlled by program
Units: Text

This is Acceleration indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Accel U1, Accel U2, or Accel U3.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system used to define the local acceleration directions.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a function that defines the response spectrum curve used for the specified acceleration.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The coordinate angle between the response spectrum local 1 axis and the positive X-axis in the coordinate system specified by the CoordSys item. Positive angles are measured counterclockwise from the coordinate system X axis to the response spectrum local 1 axis. .

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor multiplying the acceleration values of the associated response spectrum function.

Table: Case - Response Spectrum 3 - Interpolated Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period at which the specified damping ratio applies.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The frequency at which the specified damping ratio applies.

Field: Damping

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The damping ratio as a fraction of critical damping (0.05 = 5%).

Table: Case - Response Spectrum 4 - Proportional Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: SpecifyType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Direct, Period or Frequency indicating the method used to specify the mass and stiffness coefficients. Direct means that they are directly specified. Period means that they are specified using two periods and two associated damping ratios. Frequency means that they are specified using two frequencies and two associated damping ratios.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec

The specified mass coefficient.

Field: StiffCoeff

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The specified stiffness coefficient.

Field: Period1

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The first period value used when the SpecifyType item is Period.

Field: Frequency1

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The first frequency value used when the SpecifyType item is Frequency.

Field: Damping1

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The first damping ratio value used when the SpecifyType item is either Period or Frequency.

Field: Period2

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The second period value used when the SpecifyType item is Period.

Field: Frequency2

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The second frequency value used when the SpecifyType item is Frequency.

Field: Damping2

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The second damping ratio value used when the SpecifyType item is either Period or Frequency.

Table: Case - Response Spectrum 5 - Damping Overrides

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: Mode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The mode number to which the specified damping applies.

Field: Damping

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

Fraction of critical damping for the specified mode (0.05 = 5% critical damping).

Table: Case - Static 1 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Static-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case, Accel, or Mode indicating the type of load specified. The Mode load type only applies to Nonlinear static analysis cases.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either the name of a load case, Accel UX, Accel UY, Accel UZ, or a mode number.

Accel UX, UY and UZ imply a uniform acceleration acting in the global X, Y and Z directions, respectively. The force applied at each joint is proportional to the mass tributary to that joint.

A mode number, together with an associated Modal analysis case implies a force at each joint in proportion to the product of the modal displacement, the modal circular frequency squared, and the mass tributary to that joint. The force is assumed to act in the direction of the modal displacement.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A unitless scale factor that multiplies the associated load case (or mode) value.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor (with translational acceleration units) that multiplies the associated acceleration value.

Table: Case - Static 2 - Nonlinear Load Application

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Static-type analysis case.

Field: LoadApp

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Full Load or Displ Ctrl indicating the type of load application.

Field: DisplType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Conjugate or Monitored indicating the control displacement type.

Field: TargetDispl

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

The target translational displacement for the displacement-controlled nonlinear static case.

Field: TargetRot

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The target rotational displacement for the displacement-controlled nonlinear static case.

Field: MonitorDOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either U1, U2, U3, R1, R2, or R3. It is the degree of freedom of the specified joint for which the displacement is monitored.

Field: MonitorJt

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label of the joint at which the displacement is monitored.

Field: GenDispl

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label of a generalized displacement for which the displacement is monitored.

Table: Case - Static 3 - Nonlinear Stage Information

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Static-type analysis case.

Field: Stage

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stage number considered.

Field: Operation

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Add or Remove indicating whether the specified group is to be added to the structure or removed from the structure.

Field: GroupName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group that is to be added to or removed from the structure for the specified stage.

Table: Case - Static 4 - Nonlinear Parameters

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Static-type analysis case.

Field: Unloading

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Unload Entire, Local Redist or Restart Secant indicating the unloading method used when a hinge drops load.

Field: GeoNonLin

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either None, P-Delta, or Large Displ indicating the type of geometric nonlinearity used for this analysis case, if any.

Field: ResultsSave

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Final State or Multiple States indicating the how much of the analysis results are saved.

Field: MinNumState

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The specified minimum number of saved states. This item only applies if the ResultsSave item is Multiple States.

Field: MaxNumState

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The specified maximum number of saved states. This item only applies if the ResultsSave item is Multiple States.

Field: PosIncOnly

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if positive displacement increments only are saved. Otherwise it is No. This item only applies if the ResultsSave item is Multiple States.

Field: MaxTotal

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum total number of steps per stage.

Field: MaxNull

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum number of null (zero) steps per stage.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum number of iterations per step.

Field: ItConvTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Relative iteration convergence tolerance.

Field: EvLumpTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Relative event lumping tolerance.

Field: FrameTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object tension or compression only is considered. Otherwise it is No.

Field: FrameHinge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object hinges are considered. Otherwise it is No.

Field: CableTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if cable object tension or compression only is considered. Otherwise it is No.

Field: LinkTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if hook and gap object tension and compression only is considered. Otherwise it is No.

Field: LinkOther

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if other link object nonlinearity is considered. Otherwise it is No. This item includes all link nonlinearity not included in the LinkTC item.

Table: Case - Steady State 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Undamped Steady State-type analysis case.

Field: LoadFreq

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The load frequency used for this steady-state analysis case.

Table: Case - Steady State 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Steady State-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either the name of a load case, Accel UX, Accel UY, or Accel UZ.

Accel UX, UY and UZ imply a uniform acceleration acting in the global X, Y and Z directions, respectively. The force applied at each joint is proportional to the mass tributary to that joint.

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Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A unitless scale factor that multiplies the associated load case value.

Field: TransAccSF

Field is Imported: Yes

Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor (with translational acceleration units) that multiplies the associated acceleration value.

Table: Connectivity - Area

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Joint1

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 1 for the Area object.

Field: Joint2

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 2 for the Area object.

Field: Joint3

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 3 for the Area object.

Field: Joint4

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 4 for the Area object.

Field: AreaArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

Area of the area object.

Field: Volume

Field is Imported: No
Format: Length3 (Section Dimensions section of form)
Units: Length3

Volume of the area object (area times membrane thickness).

Table: Connectivity - Frame/Cable

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: JointI

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint I for the Frame object.

Field: JointJ

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint J for the Frame object.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Total length of the frame object.

Table: Connectivity - Link

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Link object.

Field: JointI

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint I for the Link object.

Field: JointJ

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint J for the Link object.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Total length of the link object.

Table: Connectivity - Solid

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Joint1

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 1 for the Solid object.

Field: Joint2

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 2 for the Solid object.

Field: Joint3

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 3 for the Solid object.

Field: Joint4

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 4 for the Solid object.

Field: Joint5

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 5 for the Solid object.

Field: Joint6

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 6 for the Solid object.

Field: Joint7

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 7 for the Solid object.

Field: Joint8

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 8 for the Solid object.

Field: Volume

Field is Imported: No
Format: Length3 (Section Dimensions section of form)
Units: Length3

Total volume of the solid object.

Table: Constraint Definitions - Beam

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Beam constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Beam constraint is defined.

Field: Axis

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axis in the specified coordinate system that is parallel to the axis of the Beam constraint. This may be X, Y, Z or Auto. If Auto then the axis is automatically determined from the joints assigned to the constraint.

Table: Constraint Definitions - Body

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Body constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Body constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Diaphragm

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Diaphragm constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Diaphragm constraint is defined.

Field: Axis

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axis in the specified coordinate system that is perpendicular to the plane of the Diaphragm constraint. This may be X, Y, Z or Auto. If Auto then the axis is automatically determined from the joints assigned to the constraint.

Field: MultiLevel

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No.

If this item is Yes, then when the diaphragm constraint is assigned to selected joints using the Assign menu > Joint > Constraints command the program automatically creates new diaphragm constraint assignments at each different Z level among the selected joints. The Z level is determined in the constraint coordinate system.

The new diaphragms constraint names have a prefix of the orignal diaphragm name and a suffix of the elevation. The elevation portion of the name is in the databse units for the model, that is the units in which the model was created.

Each selected point is assigned the diaphragm constraint for its Z elevation. The net result is a series of diaphragm assignments at different Z elevations.

Note that this special multilevel assignment only works when the constraint assignment is made using the Assign menu > Joint > Constraints command. Any multilevel assignment made through the database is ignored and an error message is generated in the import log.

Table: Constraint Definitions - Equal

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Equal constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Equal constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Line

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Line constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Body constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Local

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Local constraint.

Field: U1

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF U1 is constrained. Otherwise it is No.

Field: U2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF U2 is constrained. Otherwise it is No.

Field: U3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF U3 is constrained. Otherwise it is No.

Field: R1

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF R1 is constrained. Otherwise it is No.

Field: R2

Field is Imported: Yes

Format: Controlled by program
Units: Yes/No

This item is Yes if DOF R2 is constrained. Otherwise it is No.

Field: R3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF R3 is constrained. Otherwise it is No.

Table: Constraint Definitions - Plate

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Plate constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Plate constraint is defined.

Field: Axis

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axis in the specified coordinate system that is perpendicular to the plane of the Plate constraint. This may be X, Y, Z or Auto. If Auto then the axis is automatically determined from the joints assigned to the constraint.

Table: Constraint Definitions - Rod

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Rod constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Rod constraint is defined.

Field: Axis

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axis in the specified coordinate system that is parallel to the axis of the Rod constraint. This may be X, Y, Z or Auto. If Auto then the axis is automatically determined from the joints assigned to the constraint.

Table: Constraint Definitions - Weld

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Weld constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Weld constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes

Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Field: Tolerance

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance tolerance for the weld constraint. All joints within this distance of each other are "welded", that is, they are constrained by an internal body constraint.

Table: Coordinate Systems

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a coordinate system.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Cartesian, Cylindrical or General indicating the type of coordinate system.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X-coordinate of the origin of the coordinate system specified.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y-coordinate of the origin of the coordinate system specified.

Field: Z

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z-coordinate of the origin of the coordinate system specified.

Field: AboutZ

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The rotation of a coordinate system relative to the global coordinate system is defined as follows: (1) Rotate the coordinate system about the positive global Z-axis as defined by the AboutZ item. (2) Rotate the coordinate system about the positive global Y-axis as defined by the AboutY item. (3) Rotate the coordinate system about the positive global X-axis as defined by the AboutY item. Note thatthe order in which these rotations are performed is important.

Field: AboutY

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The rotation of a coordinate system relative to the global coordinate system is defined as follows: (1) Rotate the coordinate system about the positive global Z-axis as defined by the AboutZ item. (2) Rotate the coordinate system about the positive global Y-axis as defined by the AboutY item. (3) Rotate the coordinate system about the positive global

X-axis as defined by the AboutY item. Note thatthe order in which these rotations are performed is important.

Field: AboutX

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The rotation of a coordinate system relative to the global coordinate system is defined as follows: (1) Rotate the coordinate system about the positive global Z-axis as defined by the AboutZ item. (2) Rotate the coordinate system about the positive global Y-axis as defined by the AboutY item. (3) Rotate the coordinate system about the positive global X-axis as defined by the AboutY item. Note thatthe order in which these rotations are performed is important.

Table: Database Documentation

Field: TableKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The table name key. This key is used internally by the program and CAN NOT be changed by the user.

Field: TableName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the database table as it appears in the database and in the printed output.

Field: FieldKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The field name key. This key is used internally by the program and CAN NOT be changed by the user.

Field: FieldName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the database field as it appears in the database and in the printed output.

Field: Description

Field is Imported: Yes
Format: Controlled by program
Units: Text

Description of a field in the associated database table.

Field: FieldFormat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The format type associated with the field.

Field: FieldImport

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the field is imported. Otherwise it is No.

Field: FieldRepeat

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

If the table needs to be broken up when printed, then if this item is Yes the associated field will be repeated.

Field: FieldGroup

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Fields with the same group number are typically printed together in the printed output.

Field: TableType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Input, Documentation or Output indicating the type of table.

Field: TableArea

Field is Imported: Yes
Format: Controlled by program
Units: Text

The area of the Database Tables form which includes the check box that activates display of the associated table.

Field: TableChkBox

Field is Imported: Yes
Format: Controlled by program
Units: Text

The check box that activates display of the associated table.

Table: Database Field Names

Field: TableName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The table name.

Field: FieldKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The field name key. This key is used internally by the program and CAN NOT be changed by the user.

Field: FieldName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the database field as it appears in the database.

Table: Database Format Types

Field: FormatType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Type of item as specified in the Database Display Format Form which is accessed using the Options menu > Preferences > Database Display Format command.

Field: Units

Field is Imported: Yes
Format: Controlled by program
Units: Text

The units specified in the Database Display Format Form for the item.

Field: DecPlaces

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of decimal places specified in the Database Display Format Form for the item.

Field: MinSigFig

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of significant figures specified in the Database Display Format Form for the item.

Field: ZeroTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The zero tolerance specified in the Database Display Format Form for the item.

Field: AlwaysE

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The value specified for the Always Use E Format item in the Database Display Format Form for the item.

Field: ConvFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The units conversion factor. Multiplying the value in the database table by this factor gives the value in the units specified in the Units field.

Field: UnitsCurr

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the database data is always displayed in the current units. Otherwise it is No.

Field: OverrideE

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the program is not to automatically convert to E format when the specified value is too small to display with the specified number of significant figures and decimal places. Otherwise it is No.

When this item is Yes a value to small to display with the specified number of significant figures and decimal places is displayed with less significant figures and decimal places. If the value is smallerthan 1 / (10 ^ NumDecimalPlaces) / 2, then it is reported as zero, regardless of the specified zero tolerance. If the value is greater than 1 / (10 ^ NumDecimalPlaces) / 2 but less than 1 / (10 ^ NumDecimalPlaces) then it is reported as 1 / (10 ^ NumDecimalPlaces).

Table: Database Table Names

Field: TableKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The table name key. This key is used internally by the program and CAN NOT be changed by the user.

Field: TableName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the database table as it appears in the database.

Table: Frame Added Mass Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: MassPerLen

Field is Imported: Yes
Format: Mass/Length (Mass and Weight section of form)
Units: Force-Sec2/Length2

Added mass per unit length applied to the frame object.

Table: Frame Cable Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: NumSegments

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of segments into which the program will internally discretize the cable object.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Tension or Sag indicating which user specified parameter (Tension or Sag) will be used by the program to calculate the cable shape.

Field: Tension

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

A user specified tension that is used by the program to calculate the cable shape. See also the DrapeType item.

Field: Sag

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

A user specified cable sag that is used by the program to calculate the cable shape. See also the DrapeType item.

Field: ShapeLoad

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

A user uniform load that is used together with the cable self weight when the program calculates the cable shape.

Table: Frame Design Procedures

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignProc

Field is Imported: Yes
Format: Controlled by program
Units: Text

this is either From Material or No Design indicating the design procedure for the frame object.

Table: Frame Insertion Point Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: CardinalPt

Field is Imported: Yes

Format: Controlled by program
Units: Text

The cardinal point for the object. This item defines the relative position of the object section on the line representing the frame/cable object. It may be any one of the following:
1 (bottom left),
2 (bottom center),
3 (bottom right),
4 (middle left),
5 (middle center),
6 (middle right),
7 (top left),
8 (top center),
9 (top right),
10 (centroid), and
11 (shear center).
Note that the numbers 1 through 10 are analagous to those specified for the cardinal point in Intergraph FrameWorks.

Field: JtOffsetXI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the global X direction at the I-end of the frame object. The offset is measured from the joint location to the end of the frame object (at the cardinal point).

Field: JtOffsetYI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the global Y direction at the I-end of the frame object. The offset is measured from the joint location to the end of the frame object (at the cardinal point).

Field: JtOffsetZI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the global Z direction at the I-end of the frame object. The offset is measured from the joint location to the end of the frame object (at the cardinal point).

Field: JtOffsetXJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)

Units: Length

The rigid frame joint offset in the global X direction at the J-end of the frame object. The offset is measured from the joint location to the end of the frame object (at the cardinal point).

Field: JtOffsetYJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the global Y direction at the J-end of the frame object. The offset is measured from the joint location to the end of the frame object (at the cardinal point).

Field: JtOffsetZJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the global Z direction at the J-end of the frame object. The offset is measured from the joint location to the end of the frame object (at the cardinal point).

Table: Frame Loads - Distributed

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force or Moment indicating the type of load assigned.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z, X Proj, Y Proj, Z Proj, Gravity or Grav Proj indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the frame object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction. X Proj, Y Proj or Z Proj are projected forces in the specified coordinate system. Projected forces are scaled by the sine of the angle between the frame object and the direction of load. Projected moments are scaled by the cosine of the angle between the frame object and the direction of load.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDistA

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the starting point of the load segment considered. The relative distance is equal to the absolute distance divided by the beam length.

Field: RelDistB

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the ending point of the load segment considered. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDistA

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the starting point of the load segment considered.

Field: AbsDistB

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the ending point of the load segment considered.

Field: FOverLA

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

The force intensity at the starting point of the load segment considered.

Field: FOverLB

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

The force intensity at the ending point of the load segment considered.

Field: MOverLA

Field is Imported: Yes
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The moment intensity at the starting point of the load segment considered.

Field: MOverLB

Field is Imported: Yes
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The moment intensity at the ending point of the load segment considered.

Table: Frame Loads - Gravity

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Frame Loads - Point

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force or Moment indicating the type of load assigned.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z or Gravity indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the frame object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the load location. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the load location.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The point force applied at the specified location along the frame object.

Field: Moment

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The point moment applied at the specified location along the frame object.

Table: Frame Loads - Temperature

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Temperature, Gradient2, or Gradient3 indicating the type of temperature load applied to the frame object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature assignment to the Frame object.

Field: TempGrad2

Field is Imported: Yes
Format: Temperature Gradient (Forces section of form)
Units: Temp/Length

The temperature gradient in the local 2 direction (units are delta temperature/thickness 2-2) assignment to the Frame object.

Field: TempGrad3

Field is Imported: Yes
Format: Temperature Gradient (Forces section of form)
Units: Temp/Length

The temperature gradient in the local 3 direction (units are delta temperature/thickness 3-3) assignment to the Frame object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label of a Joint Pattern of scale factors multiplying the temperature change and temperature gradient values. If no pattern is specified then a unit scale factor is assumed at every joint.

Table: Frame Local Axes Assignments 1 - Typical

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that the local 2 and 3 axes are rotated about the positive local 1 axis, from the default orientation or from the orientation determined by the plane reference vector. The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.

Field: MirrorAbt2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is Yes if, for design, the frame section is assumed to be mirrored (flipped) about the local 2-axis. This item does not affect the analysis, it only affects the design.

Field: MirrorAbt3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is Yes if, for design, the frame section is assumed to be mirrored (flipped) about the local 3-axis. This item does not affect the analysis, it only affects the design.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the frame object. Otherwise it is No meaning that the default reference vectors are used.

Default means that the local 1-axis for the frame object goes from the I-end to the J-end of the object. The local 2-axis direction is specified by an angle measured from the global +Z axis (or from the global +X axis if the object local 1-axis is parallel to the global +Z axis). The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.

Advanced means that the local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Frame Local Axes Assignments 2 - Advanced

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12 or 13, indicating the 1-2 or the 1-3 plane, respectively.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as 0 to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as 0 to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Frame Material Temperatures

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Frame object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified material temperatures. If no joint pattern is specified then this item is reported as None.

Table: Frame NL Hinge Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: AssignHinge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a hinge property assigned to the specified frame object.

Field: GenHinge

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the hinge property generated by the program for the specified frame object based on the assigned hinge property.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the hinge location. The relative distance is equal to the absolute distance divided by the beam length.

If you specify a hinge that falls on the end length offsets at the ends of the frame object, then the program automatically relocates the hinge at the inside face of the end offset.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the hinge location

If you specify a hinge that falls on the end length offsets at the ends of the frame object, then the program automatically relocates the hinge at the inside face of the end offset.

Field: ActualDist

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

that the program will use.

Typically the ActualDist item is the same as the AbsDist item, however, if you specified that the hinge falls on the end length offset of the frame object, then the ActualDist and AbsDist items will be different.

Table: Frame Offset Along Length Assignments

Field: Frame

Field is Imported: Yes

Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Automatic or User indicating how the offsets alongthe length of the frame object are determined. Automatic means that the offset length is determeined automatically from the frame object connectivity. User defined means that the user specified the offsets.

Field: LengthI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Offset along the length of the frame object at the I-end of the object.

Field: LengthJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Offset along the length of the frame object at the J-end of the object.

Field: RigidFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The rigid zone factor. This is the fraction of the end offset length assumed to be rigid for bending and shear deformations.

Table: Frame Output Station Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: StationType

Field is Imported: Yes

Format: Controlled by program
Units: Text

This is either MinNumSta or MaxStaSpcg. It indicates which of the output station fields (MinNumSta or MaxStaSpcg) will be read on import.

Field: MinNumSta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of output stations along the frame object. If the MaxStaSpcg item is specified for the frame object then this item is blank.

Field: MaxStaSpcg

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum spacing between output stations along the frame object. If the MinNumSta item is specified for the frame object then this item is blank.

Table: Frame P-Delta Force Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the projection of the P-Delta axial force.

Field: Direction

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Local 1, X Proj, Y Proj or Z Proj indicating the direction of the specified force.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

P-Delta axial force in the specified direction. If the direction is a projection then this is the projection of the P-Delta axial force upon the indicated axis of the specified coordinate system.

Table: Frame Prestress 1 - Patterns

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Tension

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tension in the prestressing cable.

Field: DrapeI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The cable drape at the I-end of the frame object measured from the centroid of the frame object, in the local 2-axis direction. The cable drape at the I and J ends of the object is positive measured upward from the centroid. The cable drape at the center of the object is positive measured downward.

Field: DrapeCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The cable drape at the center of the frame object measured from the centroid of the frame object, in the local 2-axis direction. The cable drape at the I and J ends of the object is positive measured upward from the centroid. The cable drape at the center of the object is positive measured downward.

Field: DrapeJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The cable drape at the J-end of the frame object measured from the centroid of the frame object, in the local 2-axis direction. The cable drape at the I and J ends of the object is positive measured upward from the centroid. The cable drape at the center of the object is positive measured downward.

Table: Frame Prestress 2 - Load Multipliers

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Multiplier

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor that multiplies the prestress load created by all prestressing tendons that act on the object.

Table: Frame Property Modifiers

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: AMod

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

Multiplier for frame cross-section (axial) area. This item is multiplied times the similar modifier specified for the frame section; it does not replace the modifier specified for the frame section.

Field: AS2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for frame shear area in the 2 direction. This item is multiplied times the similar modifier specified for the frame section; it does not replace the modifier specified for the frame section.

Field: AS3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for frame shear area in the 3 direction. This item is multiplied times the similar modifier specified for the frame section; it does not replace the modifier specified for the frame section.

Field: JMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for frame torsional constant. This item is multiplied times the similar modifier specified for the frame section; it does not replace the modifier specified for the frame section.

Field: I22Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for frame moment of inertia about the local 2-axis. This item is multiplied times the similar modifier specified for the frame section; it does not replace the modifier specified for the frame section.

Field: I33Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for frame moment of inertia about the local 3-axis. This item is multiplied times the similar modifier specified for the frame section; it does not replace the modifier specified for the frame section.

Field: MassMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for the frame element self mass. This item is multiplied times the similar modifier specified for the frame section; it does not replace the modifier specified for the frame section.

Field: WeightMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for the frame element self weight. This item is multiplied times the similar modifier specified for the frame section; it does not replace the modifier specified for the frame section.

Table: Frame Reference Temperatures

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Frame object reference temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified reference temperatures. If no joint pattern is specified then this item is reported as None.

Table: Frame Release Assignments 1 - General

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Label of a Frame object.

Field: PI

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the axial degree of freedom is released at the I-end of the frame object.

Field: V2I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 2-axis direction degree of freedom is released at the I-end of the frame object.

Field: V3I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 3-axis direction degree of freedom is released at the I-end of the frame object.

Field: TI

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the torsion degree of freedom is released at the I-end of the frame object.

Field: M2I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 2-axis degree of freedom is released at the I-end of the frame object.

Field: M3I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 3-axis degree of freedom is released at the I-end of the frame object.

Field: PJ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the axial degree of freedom is released at the J-end of the frame object.

Field: V2J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 2-axis direction degree of freedom is released at the J-end of the frame object.

Field: V3J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 3-axis direction degree of freedom is released at the J-end of the frame object.

Field: TJ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the torsion degree of freedom is released at the I-end of the frame object.

Field: M2J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 2-axis degree of freedom is released at the J-end of the frame object.

Field: M3J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 3-axis degree of freedom is released at the J-end of the frame object.

Field: PartialFix

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if any of the releases assigned at the specified frame end have partial fixity. Otherwise it is No.

Table: Frame Release Assignments 2 - Partial Fixity

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: PI

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for axial deformations at the I-end of the frame object.

Field: V2I

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 2-axis direction at the I-end of the frame object.

Field: V3I

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 3-axis direction at the I-end of the frame object.

Field: TI

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for torsional deformations at the I-end of the frame object.

Field: M2I

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 2-axis at the I-end of the frame object.

Field: M3I

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 3-axis at the I-end of the frame object.

Field: PJ

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for axial deformations at the J-end of the frame object.

Field: V2J

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 2-axis direction at the J-end of the frame object.

Field: V3J

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 3-axis direction at the J-end of the frame object.

Field: TJ

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for torsional deformations at the I-end of the frame object.

Field: M2J

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 2-axis at the J-end of the frame object.

Field: M3J

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 3-axis at the J-end of the frame object.

Table: Frame Section Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: SectionType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either I/Wide Flange, Channel, Tee, Angle, Double Angle, Box/Tube, Pipe, Rectangular, Circle, General, Auto Select List, or Nonprismatic indicating the type of frame section assigned to the object.

Field: AutoSelect

Field is Imported: Yes
Format: Controlled by program
Units: Text

If the frame section type is an auto select list then this column contains the name of the auto select section list assigned to the object. Otherwise it is N.A.

Field: AnalSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is the name of the analysis section assigned to the frame object. The analysis section is the frame section property that was used in the last analysis performed. If no analysis has been performed then it is the name of the frame section assigned to the object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

This is the name of the design section currently associated with the object. If no design has been run then this item is reported as N.A.

Field: MatProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Default, or the name of a Material. Default means that the material property for the line object is taken from the material property designated for the frame section that is assigned to the line object.

Table: Frame Section Properties 1 - General

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the frame section, for example, W8X10 or FSEC1.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property assigned to the frame section.

Field: Shape

Field is Imported: Yes
Format: Controlled by program
Units: Text

The section shape type. It is one of the following:
I/Wide Flange
Channel
Tee
Angle
Double Angle
Box/Tube
Pipe
Rectangular
Circle
General
Auto Select List
Nonprosmatic
.

Field: t3

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Overall depth of the section measured perpendicular to the local 3-axis. This dimension is the primary dimension affecting I33.

Field: t2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Overall width of the section measured perpendicular to the local 2-axis. This dimension is the primary dimension affecting I22.

Field: tf

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Flange thickness for the section. This applies to both the top and bottom flanges of all sections except I/Wide Flange sections for which it only applies to the top flange. The flanges are oriented parallel to the section local 3-axis.

Field: tw

Field is Imported: Yes
Format: Length (Section Dimensions section of form)

Units: Length

Web thickness for the section. For double angles it is the web thickness of one of the angles. For double channels it is the web thickness of one of the channels. For pipes it is the wall thickness of the pipe. The webs are oriented parallel to the section local 2-axis.

Field: t2b

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This item only applies to I/Wide Flange sections. It is the width of the bottom flange.

Field: tfb

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This item only applies to I/Wide Flange sections. It is the thickness of the bottom flange.

Field: dis

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This is the separation distance between double angles or double channels.

Field: Area

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

Cross-section area of the section.

Field: TorsConst

Field is Imported: Yes
Format: Length4 (Section Dimensions section of form)
Units: Length4

Torsional constant.

Field: I33

Field is Imported: Yes
Format: Length4 (Section Dimensions section of form)
Units: Length4

Moment of inertia for bending about the local 3 axis.

Field: I22

Field is Imported: Yes
Format: Length4 (Section Dimensions section of form)
Units: Length4

Moment of inertia for bending about the local d axis.

Field: AS2

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

Shear area for shear in the local 2-axis direction.

Field: AS3

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

Shear area for shear in the local 3-axis direction.

Field: S33

Field is Imported: Yes
Format: Length3 (Section Dimensions section of form)
Units: Length3

Section modulus for bending about the local 3 axis.

Field: S22

Field is Imported: Yes
Format: Length3 (Section Dimensions section of form)
Units: Length3

Section modulus for bending about the local 2 axis.

Field: Z33

Field is Imported: Yes
Format: Length3 (Section Dimensions section of form)
Units: Length3

Plastic modulus for bending about the local 3 axis.

Field: Z22

Field is Imported: Yes
Format: Length3 (Section Dimensions section of form)
Units: Length3

Plastic modulus for bending about the local 2 axis.

Field: R33

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Radius of gyration about the local 3 axis.

Field: R22

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Radius of gyration about the local 2 axis.

Field: ConcCol

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is either Yes, indicating that the frame section is a concrete column, or it is No. If it is Yes then additional information about the section is included in the Concrete Column Properties table.

Field: ConcBeam

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is either Yes, indicating that the frame section is a concrete beam, or it is No. If it is Yes then additional information about the section is included in the Concrete Beam Properties table.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the section.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: TotalWt

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

Total weight of all objects in the model that are assigned the specified frame section property.

Field: TotalMass

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total mass of all objects in the model that are assigned the specified frame section property.

Field: FromFile

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the section properties are obtained from a section property database file. Otherwise it is No.

Field: AMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Area modifier for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: A2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear area modifier for shear parallel to the local 2-axis for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: A3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear area modifier for shear parallel to the local 3-axis for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: JMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Torsional constant modifier for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: I2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment of inertia modifier for bending about the local 2-axis for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: I3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment of inertia modifier for bending about the local 3-axis for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: MMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Mass multiplier for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: WMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Mass multiplier for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: SectInFile

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the section as it appears in the section property database file.

Field: FileName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name (full path) of the section property database file from which the section properties are to be obtained. This item only applies when the FromFile item is Yes.

Table: Frame Section Properties 2 - Concrete Column

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a frame section property assigned to a frame object.

Field: ReinfConfig

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Rectangular or Circular indicating the configuration of the column longitudinal reinforcing.

Field: LatReinf

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Ties or Spiral indicating the type of column lateral (shear) reinforcing.

Field: Cover

Field is Imported: Yes

Format: Length (Section Dimensions section of form)
Units: Length

The distance from the edge of the column to the center of the longitudinal reinforcement.

In the special case of circular reinforcement in a rectangular column, the cover is taken to be the minimum distance from the edge of the column to a circle drawn through the center of each rebar in the circular reinforcement pattern. .

Field: NumBars3Dir

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item applies to a rectangular reinforcing configuration. It is the number of longitudinal bars (including the corner bar) on each face of the column that is parallel to the local 3-axis of the column.

Field: NumBars2Dir

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item applies to a rectangular reinforcing configuration. It is the number of longitudinal bars (including the corner bar) on each face of the column that is parallel to the local 2-axis of the column.

Field: NumBarsCirc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item applies to a circular reinforcing configuration. It is the total number of longitudinal reinforcing bars in the column.

Field: BarSize

Field is Imported: Yes
Format: Controlled by program
Units: Text

The specified size of longitudinal reinforcing bars in the column.

Field: ReinfType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the column longitudinal reinforcing is to be designed or checked.

Table: Frame Section Properties 3 - Concrete Beam

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a frame section property assigned to a frame object.

Field: TopCover

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance from the top of the beam to the centroid of the top longitudinal reinforcement.

Field: BotCover

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance from the bottom of the beam to the centroid of the bottom longitudinal reinforcement.

Field: TopLeftArea

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total area of longitudinal reinforcement at the top left end of the beam.

Field: TopRghtArea

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total area of longitudinal reinforcement at the top right end of the beam.

Field: BotLeftArea

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total area of longitudinal reinforcement at the bottom left end of the beam.

Field: BotRghtArea

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total area of longitudinal reinforcement at the bottom right end of the beam.

Table: Frame Section Properties 4 - Auto Select

Field: ListName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the auto select section list.

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a frame section that is assigned to the auto select section list.

Table: Frame Section Properties 5 - Nonprismatic

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the frame section.

Field: NumSegments

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of segments that define the nonprismatic section.

Field: SegmentNum

Field is Imported: No
Format: Controlled by program

Units: Unitless

The segment number.

Field: StartSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the frame section property at the beginning of the specified segment.

Field: EndSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the frame section property at the end of the specified segment.

Field: LengthType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Absolute or Variable indicating the type of length specified. For import this item determines which of the two length fields, AbsLength or VarLength will be read.

Field: AbsLength

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute (fixed) length of the segment, if any.

Field: VarLength

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified variable length of the segment, if any.

Field: EI33Var

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear, Parabolic or Cubic indicating the variation of E*I33 along the specified segment.

Field: EI22Var

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear, Parabolic or Cubic indicating the variation of E*I22 along the specified segment.

Table: Frame Spring Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, or 3 indicating one of the local axes directions for the frame object.

Field: Stiffness

Field is Imported: Yes
Format: Trans Stiffness/Length (Stiffness section of form)
Units: Force/Length/Length

The line spring stiffness assigned to the frame object in the specified direction.

Table: Frame Auto Subdivision Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: AutoDivide

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the frame object is to be (internally) automatically subdivided by the program for analysis. .

Field: AtJoints

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if automatic subdivision is to occur at intermediate joints along the frame object.

Field: AtFrames

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if automatic subdivision is to occur at intesections with other frame objects.

Field: NumSegments

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of segments that the frame is to be divided into. If this item is zero then it does not apply.

Field: MaxLength

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The maximum length of segments that the frame is to be divided into. If this item is zero then it does not apply.

Field: MaxDegrees

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The maximum number of degrees that segments of curved frame members are to be divided into. If this item is zero then it does not apply.

Table: Frame Tension And Compression Limits

Field: Frame

Field is Imported: Yes

Format: Controlled by program
Units: Text

Label of a Frame object.

Field: TensLimit

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a tension limit exists for the frame object. Otherwise it is No. For import, the Tension item is only read if this item is Yes.

Field: CompLimit

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a compression limit exists for the frame object. Otherwise it is No. For import, the Compression item is only read if this item is Yes.

Field: Tension

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tension limit for the frame object.

Field: Compression

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The compression limit for the frame object.

Table: Function - Plot Functions

Field: PlotFunc

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a plot function.

Field: Type

Field is Imported: Yes
Format: Controlled by program

Units: Text

This is the type of plot function. It may be LoadFunc, Energy, BaseReac, Joint, Frame, AreaShell, AreaPlane, AreaASolid, Solid, Link or SectionCut.

Field: ObjectLabel

Field is Imported: Yes
Format: Controlled by program
Units: Text

For Joint, Frame, AreaShell, AreaPlane, AreaASolid, Solid and Link-type plot functions this is the label of the object for which the plot function is defined. For Section Cut plot functions it is the name of the section cut. The field is not filled for Load Function, Energy and BaseReac-type plot functions.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The relative distance from the I-end of the frame object to the location where the frame forces are to be reported. If this location does not fall at an output station then the output forces are reported at the output station closest to the specified location. The relative distance is equal to the absolute distance divided by the length of the frame object.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The absolute distance from the I-end of the frame object to the location where the frame forces are to be reported. If this location does not fall at an output station then the output forces are reported at the output station closest to the specified location.

Field: Joint

Field is Imported: Yes
Format: Controlled by program

Units: Text

This item applies to AreaShell, AreaPlane, AreaASolid and Solid-type plot functions. It is the joint where the force or stress is reported.

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item depends on the type of plot function. The following values are possible for each plot function:

Load Function: Acc Dir 1, Acc Dir 2, Acc DirZ, or the name of any load case.

Energy: Input, Kinetic, Potential, Modal Damping, Link Damper, Link Hysteretic and Error.

Base: VX, VY, VZ, MX, MY, MZ

Joint: RelDispU1, RelDispU2, RelDispU3, RelDispR1, RelDispR2, RelDispR3, RelVelU1, RelVelU2, RelVelU3, RelVelR1, RelVelR2, RelVelR3, RelAccelU1, RelAccelU2, RelAccelU3, RelAccelR1, RelAccelR2, RelAccelR3, AbsDispU1, AbsDispU2, AbsDispU3, AbsDispR1, AbsDispR2, AbsDispR3, AbsVelU1, AbsVelU2, AbsVelU3, AbsVelR1, AbsVelR2, AbsVelR3, AbsAccelU1, AbsAccelU2, AbsAccelU3, AbsAccelR1, AbsAccelR2, AbsAccelR3, SpringF1, SpringF2, SpringF3, SpringM1, SpringM2, SpringM3, ReactionF1, ReactionF2, ReactionF3, ReactionM1, ReactionM2, ReactionM3.

Frame: P, V2, V3, T, M2, M3

AreaShell Resultants: F11, F22, F12, FMax, FMin, FVM, M11, M22, M12, MMax, MMin, V13, V23, VMax.

AreaShell Top Stresses: TopS11, TopS22, TopS12, TopSMax, TopSMin, TopSVM, TopS13, TopS23, TopSVMax.

AreaShell Bottom Stresses: BotS11, BotS22, BotS12, BotSMax, BotSMin, BotSVM, BotS13, BotS23, BotSVMax.

AreaPlane: S11, S22, S33, S12, SMax, SMin, SVM.

AreaAsolid: S11, S22, S33, S12, SMax, SMin, SVM.

Solid: S11, S22, S33, S12, S13, S23, SMax, SMid, SMin, SVM.

Link: DeformU1, DeformU2, DeformU3, DeformR1, DeformR2, DeformR3, PI, V2I, V3I, TI, M2I, M3I, PJ, V2J, V3J, TJ, M2J, M3J.

Section Cut: F1, F2, F3, M1, M2, M3.

Field: Mode

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either All, indicating that all modes are considered in the output, or it is a single mode number, indicating that only the specified mode is considered in the output.

Table: Function - Response Spectrum - BOCA96

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the BOCA96 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Aa

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 seismic coefficient representing the effective peak acceleration.

Field: Av

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 seismic coefficient representing the effective peak velocity-related acceleration.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 reponse modification factor.

Field: S

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 coefficient for the soil profile characteristics of the site.

Table: Function - Response Spectrum - EuroCode8

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the EuroCode8 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Ag

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The EuroCode8 design ground acceleration.

Field: SoilClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

The EuroCode8 subsoil class. This is either A, B or C.

Field: DampFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The EuroCode8 damping correction factor.

Table: Function - Response Spectrum - From File

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the response spectrum function from file.

Field: Frequency

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The response spectrum function frequency value.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Accel

Field is Imported: No

Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: HeaderLines

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Number of header lines in the file that ETABS will ignore.

Field: DataType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Freq vs Accel or Period vs Accel.

Field: FileName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the text file containing the function.

Table: Function - Response Spectrum - IBC2000

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the IBC2000 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: SDS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2000 design earthquake spectral response at short periods.

Field: SD1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2000 design earthquake spectral response at a one second period.

Table: Function - Response Spectrum - NBCC95

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the NBCC95 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: V

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The NBCC95 zonal velocity ratio.

Field: Za

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NBCC95 acceleration-related seismic zone.

Field: Zv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NBCC95 velocity-related seismic zone.

Table: Function - Response Spectrum - NEHRP97

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the NEHRP97 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: SDS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 design earthquake spectral response at short periods.

Field: SD1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 design earthquake spectral response at a one second period.

Table: Function - Response Spectrum - NZS4203

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the NZS4203 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NZS4203 scaling factor. The ordinates of the response spectrum are calculated using 1992 NZS4203 Equations 4.6.3 and 4.6.4. If you are using Equation 4.6.3 then you input the scaling factor as Sp * R * Z * Ls. If you are using Equation 4.6.4 then you input the scaling factor as Sm * Sp * R * Z * Lu.

Field: SoilCat

Field is Imported: Yes

Format: Controlled by program
Units: Text

The NZS4203 site subsoil category. This is either A, B or C.

Table: Function - Response Spectrum - UBC94

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the UBC94 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Z

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC94 seismic zone.

Field: SoilType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC94 soil type. This is either 1, 2 or 3.

Table: Function - Response Spectrum - UBC97

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the UBC97 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Ca

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 seismic coefficient Ca.

Field: Cv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 seismic coefficient Cv.

Table: Function - Response Spectrum - User

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the user-defined response spectrum function.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Table: Function - Time History - Cosine

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Cosine time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period of the Cosine function, that is, the time in seconds that it takes for the function to complete one cycle.

Field: StepsPerCyc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of function value points provided for each cycle of the function.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Table: Function - Time History - From File

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the time history function from file.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: HeaderLines

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of lines ETABS will ignore at the beginning of the file.

Field: PrefixChars

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of characters ETABS will ignore at the beginning of each line in the file.

Field: PtsPerLine

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

How many function values, or sets of time and function values, depending on the DataType, are specified on each line of the file.

Field: DataType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Equal Interval or Time and Value. Equal Interval means that the file contains function values that are spaced at an equal time value that is specified in the Interval column. Time and Value means that the file contains sets of time and function values.

Field: FormatType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Free of Fixed indicating the format type for the data in the file.

Field: FixedLength

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This is the number of characters per item that applies if the format type is Fixed.

Field: Interval

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

An equal time interval between function values. This item applies when DataType is Equal Interval.

Field: FileName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the text file containing the function.

Table: Function - Time History - Ramp

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Ramp time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: RampTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The time it takes for the ramp function to initially reach its maximum value.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Field: MaxTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The time at the end of the ramp function.

Table: Function - Time History - Sawtooth

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Sawtooth time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period of the Sawtooth function, that is, the time in seconds that it takes for the function to complete one cycle.

Field: RampTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The time it takes for the Sawtooth function to ramp up from a function value of zero to its maximum amplitude.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Table: Function - Time History - Sine

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Sine time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period of the Sine function, that is, the time in seconds that it takes for the function to complete one cycle.

Field: StepsPerCyc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of function value points provided for each cycle of the function.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Table: Function - Time History - Triangular

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Triangular time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No

Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period of the Triangular function, that is, the time in seconds that it takes for the function to complete one cycle.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Table: Function - Time History - User

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the user-defined time history function.

Field: Time

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Table: Function - Time History - User Periodic

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the user-defined periodic time history function.

Field: Time

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Table: General Grids

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the coordinate system with which the general grid system is associated.

Field: GridID

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label for the grid line.

Field: LineType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Straight or Arc indicating the line type. If it is Straight then the X1, Y1, X2 and Y2 items are specified to define the line. If it is Arc then the X1, Y1, X2, Y2, XC and YC items are specified to define the arc.

Field: X1

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of end point 1 on the grid line in the specified coordinate system. Note that the default bubble location is at the endpoint 2 end of the grid line.

Field: Y1

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of end point 1 on the grid line in the specified coordinate system. Note that the default bubble location is at the endpoint 2 end of the grid line.

Field: X2

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of end point 2 on the grid line in the specified coordinate system. Note that the default bubble location is at the endpoint 2 end of the grid line.

Field: Y2

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of end point 2 on the grid line in the specified coordinate system. Note that the default bubble location is at the endpoint 2 end of the grid line.

Field: XC

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

This item only applies to arcs. It is the X coordinate of a third point on the arc in the specified coordinate system.

Field: YC

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

This item only applies to arcs. It is the Y coordinate of a third point on the arc in the specified coordinate system.

Field: PrimaryGrid

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is either Yes indicating that the grid line is a primary grid line or it is No indicating that it is a secondary grid line. Secondary grid lines do not display bubbles or grid ID text.

Field: LineColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The color of the grid line.

Field: ColorByUser

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is either Yes indicating that the grid line color was specified by the user, or it is No indicating that grid line color was set by the program.

Field: BubbleSize

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the grid line bubble.

Field: SwitchBub

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is either Yes indicating that the grid line bubble is to be switched from the default 2-end of the grid line to the 1-end, or it is No indicating that the bubble is to be at the 2-End.

Field: Visible

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is either Yes indicating that the grid line is visible or it is No indicating that it is not visible.

Table: Generalized Displacement Definitions 1 - Translational

Field: GenDispl

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the generalized displacement.

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a joint included in the generalized displacement.

Field: U1SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the translation of the U1 degree of freedom of the joint.

Field: U2SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the translation of the U2 degree of freedom of the joint.

Field: U3SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the translation of the U3 degree of freedom of the joint.

Field: R1SF

Field is Imported: Yes
Format: Gen Displ L/Rad (Displacements section of form)
Units: Length/rad

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Field: R2SF

Field is Imported: Yes
Format: Gen Displ L/Rad (Displacements section of form)
Units: Length/rad

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Field: R3SF

Field is Imported: Yes
Format: Gen Displ L/Rad (Displacements section of form)
Units: Length/rad

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Table: Generalized Displacement Definitions 2 - Rotational

Field: GenDispl

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the generalized displacement.

Field: Joint

Field is Imported: Yes
Format: Controlled by program

Units: Text

Name of a joint included in the generalized displacement.

Field: U1SF

Field is Imported: Yes
Format: Gen Displ Rad/L (Displacements section of form)
Units: Rad/Length

The scale factor that multiplies the translation of the U1 degree of freedom of the joint.

Field: U2SF

Field is Imported: Yes
Format: Gen Displ Rad/L (Displacements section of form)
Units: Rad/Length

The scale factor that multiplies the translation of the U2 degree of freedom of the joint.

Field: U3SF

Field is Imported: Yes
Format: Gen Displ Rad/L (Displacements section of form)
Units: Rad/Length

The scale factor that multiplies the translation of the U3 degree of freedom of the joint.

Field: R1SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Field: R2SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Field: R3SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Table: Grid Lines

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system for which the grid lines are defined.

Field: AxisDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either X, R, Y, T or Z indicating the axis direction used to locate the grid line. X and Y only apply to Cartesian coordinate systems. R and T only apply to Cylindrical coordinate systems. Z applies to both Cartesian and Cylindrical coordinate systems.

Field: XRYZCoord

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Location of the grid line along the axis specified by the AxisDir item when the AxisDir item is X, R, Y or Z.

Field: TAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Location (angle) of the grid line when the AxisDir item is T.

Field: Visible

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the grid line is visible. Otherwise it is No.

Table: Groups 1 - Definitions

Field: GroupName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a group.

Field: Selection

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for selection. Otherwise it is No.

Field: SectionCut

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining section cuts. Otherwise it is No.

Field: Steel

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining steel frame design groups. Otherwise it is No.

Field: Concrete

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining concrete frame design groups. Otherwise it is No.

Field: Aluminum

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining aluminum design groups. Otherwise it is No.

Field: ColdFormed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining cold formed design groups. Otherwise it is No.

Field: Stage

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining starges for nonlinear static analysis. Otherwise it is No.

Field: Bridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for reporting bridge response output. Otherwise it is No.

Field: AutoSeismic

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for reporting auto seismic loads. Otherwise it is No.

Field: AutoWind

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for reporting auto wind loads. Otherwise it is No.

Field: MassWeight

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for reporting group masses and weight. Otherwise it is No.

Table: Groups 2 - Assignments

Field: GroupName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a group.

Field: ObjectType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The type of object specified, e.g., joint, frame, area, solid or link.

Field: ObjectLabel

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an object that is part of the specified group.

Table: Groups 3 - Masses and Weights

Field: GroupName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a group.

Field: SelfMass

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

The cummulative self mass of all objects in the group.

Field: SelfWeight

Field is Imported: Yes
Format: Weight (Mass and Weight section of form)
Units: Force

The cummulative self weight of all objects in the group.

Field: TotalMassX

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

The cummulative total X-direction mass of all objects in the group.

Field: TotalMassY

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

The cummulative total Y-direction mass of all objects in the group.

Field: TotalMassZ

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

The cummulative total Z-direction mass of all objects in the group.

Table: Hinge Props 1 - Overview

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.

For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.

Only user defined hinge properties are imported.

Field: NumDOFs

Field is Imported: No

Format: Controlled by program
Units: Unitless

The number of active degrees of freedom in the frame nonlinear hinge.

Field: P

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the P degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.

No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not de-fined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.

For import, note that if the PMM degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: V2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the V2 degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.

No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not de-fined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.

For import, note that if the PMM degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: V3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the V3 degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.

No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not de-fined using a default hinge property.

Yes, default means the degree of freedom is active, and it is defined using a default hinge property.

For import, note that if the PMM degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: T

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the T degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.

No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not de-fined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.

For import, note that if the PMM degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: M2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the M2 degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.

No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not de-fined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.

For import, note that if the PMM degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: M3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the M3 degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.

No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not de-fined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.

For import, note that if the PMM degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: PMM

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the PMM degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.

No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not de-fined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.

For import, note that if the PMM degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Table: Hinge Props 2 - General

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.

For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.

Only user defined hinge properties are imported.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3 and PMM indicating the degree of freedom considered.

Field: RigidPlast

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

If the force-deformation behavior of the hinge is rigid-plastic then this item is Yes. Otherwise it is No. Currently all hinges are rigid-plastic, i.e., this item is always Yes.

Field: Symmetric

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes, indicating that the hinge is symmetric, or it is No. Symmetric means that the negative force deformation behavior is the same as the positive force deformation behavior.

Field: FDType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Force-Displ, Moment-Rot or Stress-Strain indicating the type of force-deformation specified.

For import this item only applies to P, V2 and V3 degrees of freedom. It is either Force-Displ or Stress-Strain.

Field: UseYldForce

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No. Yes means that the specified forces or moments used to define the hinge force deformation curve are to be scaled using the program calculated yield force of the frame section to which the hinge is assigned.

Field: UseYldDispl

Field is Imported: Yes

Format: Controlled by program
Units: Yes/No

This item is either Yes or No. Yes means that the specified displacements or rotations used to define the hinge force deformation curve are to be scaled using the program calculated (approximate) yield displacement or rotation of the frame section to which the hinge is assigned.

Field: FDPosForSF

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The scale factor use to scale positive forces when the force-deformation type is Force-Displ.

Field: FDPosDisSF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The scale factor use to scale positive displacements when the force-deformation type is Force-Displ.

Field: FDNegForSF

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The scale factor use to scale negative forces when the force-deformation type is Force-Displ.

Field: FDNegDisSF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The scale factor use to scale negative displacements when the force-deformation type is Force-Displ.

Field: MRPosMoSF

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor use to scale positive moments when the force-deformation type is Moment-Rot.

Field: MRPosRoSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor use to scale positive rotations when the force-deformation type is Moment-Rot.

Field: MRNegMoSF

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor use to scale negative moments when the force-deformation type is Moment-Rot.

Field: MRNegRoSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor use to scale negative rotations when the force-deformation type is Moment-Rot.

Field: SSPosStrsSF

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The scale factor use to scale positive stresses when the force-deformation type is Stress-Strain.

Field: SSPosStnSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor use to scale positive strains when the force-deformation type is Stress-Strain.

Field: SSNegStrsSF

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The scale factor use to scale negative stresses when the force-deformation type is Stress-Strain.

Field: SSNegStnSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor use to scale negative strains when the force-deformation type is Stress-Strain.

Field: LengthType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item only applies when the force-deformation type is Stress-Strain. It indicates whether on import the Absolute length field (SSAbsLen) or the Relative length field (SSRelLen) field will be read.

Field: SSAbsLen

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The absolute length of a hinge whose force-deformation type is Stress-Strain.

Field: SSRelLen

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The relative length of a hinge whose force-deformation type is Stress-Strain. The relative distance is equal to the absolute distance divided by the beam length.

Table: Hinge Props 3 - Force-Deformation Data

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.

For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.

Only user defined hinge properties are imported.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3 and PMM indicating the degree of freedom considered.

Field: FDPoint

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either -E, -D, -C, -B, A, B, C, D or E indicating a point on the specified hinge force de-formation curve. The Force and Displ items listed in the next two columns (fields) apply to this point. Note that FD is short for Force-Displacement.

Field: Force

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The force, moment or stress used to define the specified point (see FDPoint column) on the hinge force deformation curve. Note that the units for this item are provided by its associated scale factor in the Hinge Force Deformation Information table.

Field: Displ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The displacement, rotation or strain used to define the specified point (see FDPoint column) on the hinge force deformation curve. Note that the units for this item are provided by its associated scale factor in the Hinge Force Deformation Information table.

Table: Hinge Props 4 - Acceptance Criteria

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.

For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.

Only user defined hinge properties are imported.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3 and PMM indicating the degree of freedom considered.

Field: ACPoint

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either IO, LS or CP indicating a particular acceptance criteria. The ACPos and ACNeg items listed in the next two columns (fields) apply to this point. Note that the AC is short for Acceptance Criteria.

IO is short for immediate occupancy, LS is short for life safety and CP is short for collapse prevention.

Field: ACPos

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The acceptable positive deformation for the specified acceptance criteria. Note that the units for this item are provided by its associated scale factor in the Hinge Force Deformation Information table.

Field: ACNeg

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The acceptable negative deformation for the specified acceptance criteria. Note that the units for this item are provided by its associated scale factor in the Hinge Force Deformation Information table.

Table: Hinge Props 5 - PMM Surface - General

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.

For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.

Only user defined hinge properties are imported.

Field: PCurve

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Elastic-Plastic or it is Proportional. It refers to the axial force-deformation characteristics of the hinge. When specified as

Proportional it means it is proportional to the specified moment rotation curve.

Field: IntType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User, Steel: AISC-LRFD, Steel: FEMA-273 or Conc: ACI 318-99.

AISC-LRFD interaction surfaces are calculated using AISC LRFD93 Specification Equations H1-1a and H1-1b with phi equal to one.

FEMA-273 interaction surfaces are calculated using FEMA-273 (October 1997) .Equation 5-4.

ACI 318-99 interaction surfaces are constructed with phi equal to one.

Field: ExpectedFy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress used in calculating AISC-LRFD and FEMA-273 interaction surfaces.

Field: DoublySym

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No. It indicates whether or not a user-defined interaction surface it is doubly symmetric.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Thhe number of separate P-M curves used to define a user-defined interaction surface.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points on each P-M curve in a user-defined interaction surface.

Field: IntPScale

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The scale factor for the P values in a user-defined interaction surface.

Field: IntMScale

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor for the various M values in a user-defined interaction surface.

Table: Hinge Props 6 - PMM Surface - Data

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.

For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.

Only user defined hinge properties are imported.

Field: PtNum

Field is Imported: Yes
Format: Controlled by program
Units: Text

The point number on the P-M curve.

Field: P

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The axial force at the specified PointNum on each P-M curve.

Table: Hinge Props 7 - PMM Surface - Curve Angles

Field: HingeName

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.

For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.

Only user defined hinge properties are imported.

Field: CurveNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The P-M curve number.

Field: Angle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle associated with the specified curve number. An angle of 0 degrees means that the specified moment is about the positive local 2-

axis of the section. An angle of 90 degrees means that the specified moment is about the positive local 3-axis of the section.

Table: Joint Added Mass Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Joint Local or Global indicating the coordinate system in which the joint masses are defined.

In general we recommend defining joint masses in the joint local coordinate system. All analyses are performed using the local coordinate system. When masses that are defined in the global coordinate system are converted to the joint local coordinate system for analysis, all off-diagonal mass values in the joint local system (if any) are ignored. In other words, any mass coupling that may occur as a result of the coordinate transformation is ignored.

Field: Mass1

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Translational mass assigned to the specified joint in the local 1 (or global X) direction.

Field: Mass2

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Translational mass assigned to the specified joint in the local 2 (or global Y) direction.

Field: Mass3

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Translational mass assigned to the specified joint in the local 3 (or global Z) direction.

Field: MMI1

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia assigned to the specified joint about the local 1 (global X) axis.

Field: MMI2

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia assigned to the specified joint about the local 2 (global Y) axis.

Field: MMI3

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia assigned to the specified joint about the local 3 (global Z) axis.

Table: Joint Constraint Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint that is assigned the specified constraint.

Field: Constraint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a constraint.

Field: Type

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Body, Diaphragm, Plate, Rod, Beam, Equal, Local, Weldor indicating the type of constraint.

Table: Joint Coordinates

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system in which the specified joint was last defined (edited).

Field: CoordType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Cartesian or Cylindrical indicating how the items in the XorR, Y, T, and Z fields are to be interpreted. See the documentation of those fields for more information.

Field: XorR

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

If the CoordType item is Cartesian then this is the X coordinate of the specified joint in the coordinate system specified by the CoordSys item.

If the CoordType item is Cylindrical then this is the R coordinate of the specified joint in the coordinate system specified by the CoordSys item.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the specified joint in the coordinate system specified by the CoordSys item. This item only applies if the CoordType item is Cartesian.

Field: T

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The T coordinate of the specified joint in the coordinate system specified by the CoordSys item. This item only applies if the CoordType item is Cylindrical.

Field: Z

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the specified joint in the coordinate system specified by the CoordSys item.

Field: SpecialJt

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The item is Yes if the specified joint is designated as a Special Joint. Otherwise it is No.

The significance of a Special joint is that it is not automatically deleted by the graphic interface if (or when) no objects are connected to it. If a joint is not designated as a special joint, then the graphic interface will always delete it if it is not connected to an object.

If a point is created in the graphic interface using either the Draw menu > Add Special Joint command, or its associated toolbar button, then that point is designated as a Special Joint. If a point is automatically created in the graphic interface as a result of drawing another object, then that joint is not designated as a Special Joint.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the specified joint.

Field: GlobalY

Field is Imported: No

Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the specified joint.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the specified joint.

Table: Joint Loads - Force

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load case is defined.

Field: F1

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Force applied to the joint in the local 1 direction.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: F2

Field is Imported: Yes
Format: Force (Forces section of form)

Units: Force

Force applied to the joint in the local 2 direction.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: F3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Force applied to the joint in the local 3 direction.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: M1

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Moment about the local 1-axis applied to the joint.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: M2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Moment about the local 2-axis applied to the joint.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: M3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Moment about the local 3-axis applied to the joint.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Table: Joint Loads - Ground Displacement

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load case is defined.

Field: U1

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

Translational ground displacement applied to the joint in the local 1 direction. Note that the joint must be restrained (or have a spring) in the local 1 direction for this load to be active.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: U2

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

Translational ground displacement applied to the joint in the local 2 direction. Note that the joint must be restrained (or have a spring) in the local 2 direction for this load to be active.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: U3

Field is Imported: Yes

Format: Translational Displ (Displacements section of form)
Units: Length

Translational ground displacement applied to the joint in the local 3 direction. Note that the joint must be restrained (or have a spring) in the local 3 direction for this load to be active.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: R1

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

Rotational ground displacement applied to the joint about the local 1-axis. Note that the joint must be restrained (or have a spring) about the local 1-axis for this load to be active.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: R2

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

Rotational ground displacement applied to the joint about the local 2-axis. Note that the joint must be restrained (or have a spring) about the local If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.2-axis for this load to be active.

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Field: R3

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

Rotational ground displacement applied to the joint about the local 3-axis. Note that the joint must be restrained (or have a spring) about the local 3-axis for this load to be active.

If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Table: Joint Local Axes Assignments 1 - Typical

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the joint.

Field: AngleA

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the joint local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the joint local coordinate system with respect to the global axes.

The orientation of the joint local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleB

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the joint local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the joint local coordinate system with respect to the global axes.

The orientation of the joint local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleC

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the joint local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the joint local coordinate system with respect to the global axes.

The orientation of the joint local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the joint. Otherwise it is No meaning that the default reference vectors are used.

In the default system the joint positive local 1, 2 and 3 axes are parallel to the global positive X, Y and Z axes, respectively.

In the advanced system the joint local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Joint Local Axes Assignments 2 - Advanced

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the joint.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12, 13, 21, 23, 31, or 32.

Field: AxOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the axial reference vector.

Field: AxCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the axial reference vector coordinate direction and the axial user vector.

Field: AxCoordDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axial coordinate direction taken at the joint in the specified coordinate system and used to define the axis reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: AxVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as zero then it means the current joint. If both of these items is reported as zero then this option is not used to define the axis reference vector.

Field: AxVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as zero then it means the current joint. If both of these items is reported as zero then this option is not used to define the axis reference vector.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program

Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the joint in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the joint in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as 0 to indicate the current joint. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as 0 to indicate the current joint. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: AxVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Joint Panel Zone Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: PZFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Elastic, User or Link. It identifies how the panel zone properties are defined. In the Assign Panel Zone form that appears when you select a point and click the Assign menu > Joint/Point > Panel Zone command there are four options for the panel zone properties. They are:
Elastic properties from column,
Elastic properties from column and doubler plate,
Specified spring properties, and
Specified link property.

The PZFrom item is specified as Elastic for each of the first two options above. The DoublerPl item in the output table tells you if a doubler plate is considered in the properties. If a nonzero doubler plate thickness is reported then the doubler plate is considered when computing the panel zone properties.

The PZFrom item is specified as User when there are specified spring properties. These spring properties are reported in the MajorStiff and MinorStiff items in the output table.

The PZFrom item is specified as Link when there is a specified link property. The link object name is reported in the PZLink item in the output table.

Field: DoublerPl

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Thickness of the doubler plate.

Field: MajorStiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Specified panel zone rotational spring stiffness for major axis bending (about the local 3-axis of the column and panel zone).

Field: MinorStiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Specified panel zone rotational spring stiffness for minor axis bending (about the local 2-axis of the column and panel zone).

Field: PZLink

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a link object specified to define the panel zone properties.

Field: PZConnect

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either 'Beams to Other Objects' or 'Braces to Other Objects' indicating how the panel zone connects the elements at the specified joint.

Field: AxesFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Column or User indicating how the local axes of the panel zone are defined. If the axes are user-defined then the PZAxesAngle item defines the orientation of the panel zone local axes.

Field: PZAxesAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

This item only applies if the AxesFrom item is 'User defined.' It is the angle measured counter-clockwise from the positive global X-axis to the local 2-axis of the panel zone.

Table: Joint Pattern Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: Pattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the specified joint pattern.

Field: Value

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Joint pattern value at the specified joint.

Table: Joint Pattern Definitions

Field: Pattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the specified joint pattern.

Table: Joint Restraint Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: U1

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the U1 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: U2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the U2 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: U3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the U3 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: R1

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the R1 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: R2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the R2 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: R3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the R3 degree of freedom is restrained at the specified joint. Otherwise it is No.

Table: Joint Spring Assignments 1 - Uncoupled

Field: Joint

Field is Imported: Yes
Format: Controlled by program

Units: Text

Label of a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the joint springs are defined.

Field: U1

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U1 (UX) direction for the specified cooordinate system at the indicated joint.

Field: U2

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U2 (UY) direction for the specified cooordinate system at the indicated joint.

Field: U3

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U3 (UZ) direction for the specified cooordinate system at the indicated joint.

Field: R1

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R1 (RX) direction for the specified cooordinate system at the indicated joint.

Field: R2

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R2 (RY) direction for the specified cooordinate system at the indicated joint.

Field: R3

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R3 (RZ) direction for the specified cooordinate system at the indicated joint.

Table: Joint Spring Assignments 2 - Coupled

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the joint springs are defined.

Field: U1

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U1 (UX) direction for the specified cooordinate system at the indicated joint.

Field: U1U2

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U1U2 (UXUY) direction for the specified cooordinate system at the indicated joint.

Field: U2

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U2 (UY) direction for the specified cooordinate system at the indicated joint.

Field: U1U3

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U1U3 (UXUZ) direction for the specified cooordinate system at the indicated joint.

Field: U2U3

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U2U3 (UYUZ) direction for the specified cooordinate system at the indicated joint.

Field: U3

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U3 (UZ) direction for the specified cooordinate system at the indicated joint.

Field: U1R1

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U1R1 (UXRX) direction for the specified cooordinate system at the indicated joint.

Field: U2R1

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U2R1 (UYRX) direction for the specified cooordinate system at the indicated joint.

Field: U3R1

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U3R1 (UZRX) direction for the specified cooordinate system at the indicated joint.

Field: R1

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R1 (RX) direction for the specified cooordinate system at the indicated joint.

Field: U1R2

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U1R2 (UXRY) direction for the specified cooordinate system at the indicated joint.

Field: U2R2

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U2R2 (UYRY) direction for the specified cooordinate system at the indicated joint.

Field: U3R2

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U3R2 (UZRY) direction for the specified cooordinate system at the indicated joint.

Field: R1R2

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R1R2 (RXRY) direction for the specified cooordinate system at the indicated joint.

Field: R2

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R2 (RY) direction for the specified cooordinate system at the indicated joint.

Field: U1R3

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U1R3 (UXRZ) direction for the specified cooordinate system at the indicated joint.

Field: U2R3

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U2R3 (UYRZ) direction for the specified cooordinate system at the indicated joint.

Field: U3R3

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U3R3 (UZRZ) direction for the specified cooordinate system at the indicated joint.

Field: R1R3

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R1R3 (RXRZ) direction for the specified cooordinate system at the indicated joint.

Field: R2R3

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R2R3 (RYRZ) direction for the specified cooordinate system at the indicated joint.

Field: R3

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R3 (RZ) direction for the specified cooordinate system at the indicated joint.

Table: Link Loads - Gravity

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Link Local Axes Assignments 1 - Typical

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the link object.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that the local 2 and 3 axes are rotated about the positive local 1 axis, from the default orientation or from the orientation determined by the plane reference vector (and if it is a single-joint link object, the axis reference vector). The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the link. Otherwise it is No meaning that the default reference vectors are used.

Default means that the local 1-axis for two-joint link objects goes from the I-end to the J-end of the object and the local 1-axis for single-joint link objects is in the global +Z direction. The local 2-axis direction is specified by an angle measured from the global +Z axis (or from the global +X axis if the object local 1-axis is parallel to the global +Z axis). The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.

Advanced means that the local axes are defined with respect to user-defined reference vectors.

Table: Link Local Axes Assignments 2 - Advanced

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the link object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12 or 13, indicating the 1-2 or the 1-3 plane, respectively.

Field: AxOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the axial reference vector.

Field: AxCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the axial reference vector coordinate direction and the axial user vector.

Field: AxCoordDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axial coordinate direction taken at the link center in the specified coordinate system and used to define the axis reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR. This item is only applicable to single-joint link objects.

Field: AxVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector for single joint link objects. If one of these items is reported as 0 then it means the link object center. If both items are reported as zero then this option is not used to define the axis reference vector. These items do not apply to two-joint link objects.

Field: AxVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector for single joint link objects. If one of these items is reported as 0 then it means the link object center. If both items are reported as zero then this option is not used to define the axis reference vector. These items do not apply to two-joint link objects.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as 0 to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as 0 to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: AxVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Link Property Definitions 01 - General

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: LinkType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear, MultiLinear, Gap, Hook, Damper, Plastic (Wen), Rubber Isolator, or Friction Isolator indicating the type of link object.

Field: Mass

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Mass assigned to this link property.

Field: Weight

Field is Imported: Yes
Format: Weight (Mass and Weight section of form)
Units: Force

Weight assigned to this link property.

Field: RotInert1

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia about the link local 1-axis assigned to the associated link property.

Field: RotInert2

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia about the link local 2-axis assigned to the associated link property.

Field: RotInert3

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia about the link local 3-axis assigned to the associated link property.

Field: PDM2I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

P-Delta factor for moment at the I-end of the link about the link local 2-axis. This is the fraction of the P-Delta moment about the local 2-axis that is resisted as moment at the I-end of the link.

Note that the P-Delta moment can be resisted by moment at the I-End, moment at the J-End, and a shear couple where the shears are applied at the I and J ends. PDM2I and PDM2J are the fractions of the P-Delta moment about the local 2-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 2-axis is taken as a shear couple.

Similarly, PDM3I and PDM3J are the fractions of the P-Delta moment about the local 3-axis that is resisted as moment at the ends of the link.

The remainder of the P-Delta moment about the local 3-axis is taken as a shear couple.

Field: PDM2J

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

P-Delta factor for moment at the J-end of the link about the link local 2-axis. This is the fraction of the P-Delta moment about the local 2-axis that is resisted as moment at the J-end of the link.

Note that the P-Delta moment can be resisted by moment at the I-End, moment at the J-End, and a shear couple where the shears are applied at the I and J ends. PDM2I and PDM2J are the fractions of the P-Delta moment about the local 2-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 2-axis is taken as a shear couple.

Similarly, PDM3I and PDM3J are the fractions of the P-Delta moment about the local 3-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 3-axis is taken as a shear couple.

Field: PDM3I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

P-Delta factor for moment at the I-end of the link about the link local 3-axis. This is the fraction of the P-Delta moment about the local 3-axis that is resisted as moment at the I-end of the link.

Note that the P-Delta moment can be resisted by moment at the I-End, moment at the J-End, and a shear couple where the shears are applied at the I and J ends. PDM2I and PDM2J are the fractions of the P-Delta moment about the local 2-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 2-axis is taken as a shear couple.

Similarly, PDM3I and PDM3J are the fractions of the P-Delta moment about the local 3-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 3-axis is taken as a shear couple.

Field: PDM3J

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

P-Delta factor for moment at the J-end of the link about the link local 3-axis. This is the fraction of the P-Delta moment about the local 3-axis that is resisted as moment at the J-end of the link.

Note that the P-Delta moment can be resisted by moment at the I-End, moment at the J-End, and a shear couple where the shears are applied at the I and J ends. PDM2I and PDM2J are the fractions of the P-Delta moment about the local 2-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 2-axis is taken as a shear couple.

Similarly, PDM3I and PDM3J are the fractions of the P-Delta moment about the local 3-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 3-axis is taken as a shear couple.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the property.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Table: Link Property Definitions 02 - Linear

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: TransKE

Field is Imported: Yes

Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Table: Link Property Definitions 03 - MultiLinear

Field: Link

Field is Imported: Yes

Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: Point

Field is Imported: No
Format: Controlled by program
Units: Text

Designation of a point on the multilinear force-deformation curve.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force at the specified point on the multilinear force-deformation curve. This item only applies to translational degrees of freedom (U1, U2 and U3).

Field: Displ

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

The displacement at the specified point on the multilinear force-deformation curve. This item only applies to translational degrees of freedom (U1, U2 and U3).

Field: Moment

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The moment at the specified point on the multilinear force-deformation curve. This item only applies to rotational degrees of freedom (R1, R2 and R3).

Field: Rotation

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotation at the specified point on the multilinear force-deformation curve. This item only applies to rotational degrees of freedom (R1, R2 and R3).

Table: Link Property Definitions 04 - Damper

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The initial stiffness of a rotational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransC

Field is Imported: Yes
Format: NL Damping - Trans (Damping Items section of form)
Units: Force*(s/Length)^Cexp

The nonlinear damping coefficient used for translational degrees of freedom. This item is used for nonlinear analysis cases only.

Field: RotC

Field is Imported: Yes
Format: NL Damping - Rot (Damping Items section of form)
Units: Force-Length*(s/rad)^Cexp

The nonlinear damping coefficient used for rotational degrees of freedom. This item is used for nonlinear analysis cases only.

Field: CExp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The nonlinear damping exponent that is applied to the velocity across the damper in the equation of motion. This item is used for nonlinear analysis cases only.

Table: Link Property Definitions 05 - Gap

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: NonLinear

Field is Imported: Yes

Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The initial stiffness of a rotational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransOpen

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The initial gap opening for a translational degree of freedom.

Field: RotOpen

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The initial gap opening for a rotational degree of freedom.

Table: Link Property Definitions 06 - Hook

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The initial stiffness of a rotational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransOpen

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The initial hook opening for a translational degree of freedom.

Field: RotOpen

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The initial hook opening for a rotational degree of freedom.

Table: Link Property Definitions 07 - Rubber Isolator

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransYield

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The yield force for the link. This item applies to translational degrees of freedom.

Field: Ratio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ratio of the post-yield stiffness divided by the initial stiffness.

Table: Link Property Definitions 08 - Sliding Isolator

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program

Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: Slow

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The friction coefficient at zero velocity.

Field: Fast

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The friction coefficient at fast velocity.

Field: Rate

Field is Imported: Yes
Format: Slider Rate (Miscellaneous section of form)
Units: sec/Length

The inverse of the characteristic sliding velocity.

Field: Radius

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Radius of the sliding contact surface. Note that 0 means there is an infinite radius, that is, the slider is flat.

Table: Link Property Definitions 09 - Plastic (Wen)

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The initial stiffness of a rotational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransYield

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The yield force for the link. This item applies to translational degrees of freedom.

Field: RotYield

Field is Imported: Yes

Format: Moment (Forces section of form)
Units: Force-Length

The yield moment for the link. This item applies to rotational degrees of freedom.

Field: Ratio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ratio of the post-yield stiffness divided by the initial stiffness.

Field: YieldExp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The yielding exponent that controls the sharpness of the transition from the initial stiffness to the yielded stiffness.

Table: Link Property Definitions 10 - Plastic (Kinematic)

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes

Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: Point

Field is Imported: No
Format: Controlled by program
Units: Text

Designation of a point on the force-deformation curve.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force at the specified point on the force-deformation curve. This item only applies to translational degrees of freedom (U1, U2 and U3).

Field: Displ

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

The displacement at the specified point on the force-deformation curve. This item only applies to translational degrees of freedom (U1, U2 and U3).

Field: Moment

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The moment at the specified point on the force-deformation curve. This item only applies to rotational degrees of freedom (R1, R2 and R3).

Field: Rotation

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotation at the specified point on the force-deformation curve. This item only applies to rotational degrees of freedom (R1, R2 and R3).

Table: Link Property Assignments

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LinkType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Linear, MultiLinear, Gap, Hook, Damper, Plastic (Wen), Rubber Isolator, or Friction Isolator indicating the type of link object.

Field: LinkJoints

Field is Imported: No
Format: Controlled by program
Units: Text

This is either SingleJoint or TwoJoint indicating the type of link object.

Field: LinkProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Table: Load Case Definitions

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the load case.

Field: DesignType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either DEAD, SUPER DEAD, LIVE, REDUCE LIVE, QUAKE, WIND, SNOW, or OTHER. It is used for determining load case multipliers when the program creates default design load combinations.

Field: SelfWtMult

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The self weight multiplier for the load case.

Field: AutoLoad

Field is Imported: Yes
Format: Controlled by program
Units: Text

If the Type item is Quake or Wind then this is either None, User or the name of the design code used to create the auto load.

Table: Masses 1 - Mass Source

Field: MassFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Elements, Loads or All. Elements means that the mass is calculated from the self mass of elements plus any additional masses specified on joint, frame or area elements. Loads means that the mass is calculated from a user-specified collection of one or more load cases. All means that themass is calculated from both Elements and Loads.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

A load case used to define the mass.

Field: Multiplier

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for the load case specified in the LoadCase item.

Table: Masses 2 - Assembled Joint Masses

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: UX

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total global X-direction mass applied to the specified joint either directly or indirectly.

Field: UY

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total global Y-direction mass applied to the specified joint either directly or indirectly.

Field: UZ

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total global Z-direction mass applied to the specified joint either directly or indirectly.

Field: RX

Field is Imported: No
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Total mass moment of inertia about the global X-axis applied to the specified joint.

Field: RY

Field is Imported: No
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Total mass moment of inertia about the global Y-axis applied to the specified joint.

Field: RZ

Field is Imported: No
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Total mass moment of inertia about the global Z-axis applied to the specified joint.

Table: Material Properties 1 - General

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either isotropic, orthotropic or anisotropic indicating the type of material. In the majority of models isotropic properties are used. .

Field: DesignType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Steel, Concrete, Aluminum, ColdFormed or None indicating the design type of the material.

Field: UnitMass

Field is Imported: Yes
Format: Mass/Volume (Mass and Weight section of form)
Units: Force-Sec2/Length4

The mass per unit volume of the material.

Field: UnitWeight

Field is Imported: Yes
Format: Weight/Volume (Mass and Weight section of form)
Units: Force/Length3

The weight per unit volume of the material.

Field: E

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Modulus of elasticity. This item only applies if the material is isotropic and not temperature dependent. Otherwise the properties are found in the Material Properties - Advanced table.

Field: U

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Poisson's ratio. This item only applies if the material is isotropic and not temperature dependent. Otherwise the properties are found in the Material Properties - Advanced table.

Field: A

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion (units are 1/delta temperature). This item only applies if the material is isotropic and not temperature dependent. Otherwise the properties are found in the Material Properties - Advanced table.

Field: NumAdvance

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of different advanced properties specified for the material.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the material.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Table: Material Properties 2 - Advanced

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature at which the associated material properties apply.

Field: E1

Field is Imported: Yes

Format: Stress Input (Stresses section of form)
Units: Force/Length2

Modulus of elasticity in the Material 1 direction. This item is imported for isotropic, orthotropic and anisotropic materials.

Field: E2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Modulus of elasticity in the Material 2 direction. This item is imported for orthotropic and anisotropic materials.

Field: E3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Modulus of elasticity in the Material 3 direction. This item is imported for orthotropic and anisotropic materials.

Field: G12

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear modulus in the Material 1-2 plane. This item is imported for orthotropic and anisotropic materials. For isotropic materials the value of G is calculated using the standard formula from E and U.

Field: G13

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear modulus in the Material 1-3 plane. This item is imported for orthotropic and anisotropic materials. For isotropic materials the value of G is calculated using the standard formula from E and U.

Field: G23

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear modulus in the Material 2-3 plane. This item is imported for orthotropic and anisotropic materials. For isotropic materials the value of G is calculated using the standard formula from E and U.

Field: U12

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Standard poisson's ratio. This item is imported for isotropic, orthotropic and anisotropic materials.

Field: U13

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Standard poisson's ratio. This item is imported for orthotropic and anisotropic materials.

Field: U23

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Standard poisson's ratio. This item is imported for orthotropic and anisotropic materials.

Field: U14

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U24

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U34

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U15

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U25

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U35

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U45

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U16

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U26

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U36

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U46

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U56

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: A1

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 1 direction. This item is imported for isotropic, orthotropic and anisotropic materials. The units are 1/delta temperature.

Field: A2

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 2 direction. This item is imported for orthotropic and anisotropic materials. The units are 1/delta temperature.

Field: A3

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 3 direction. This item is imported for orthotropic and anisotropic materials. The units are 1/delta temperature.

Field: A12

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 1-2 plane. This item is imported for anisotropic materials. The units are 1/delta temperature.

Field: A13

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 1-3 plane. This item is imported for anisotropic materials. The units are 1/delta temperature.

Field: A23

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 2-3 plane. This item is imported for anisotropic materials. The units are 1/delta temperature.

Table: Material Properties 3 - Design Steel

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress of the steel.

Field: Fu

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile strength of the steel.

Table: Material Properties 4 - Design Concrete

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Fc

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Concrete compressive strength.

Field: RebarFy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield strength of the rebar used for axial and bending design calculations.

Field: RebarFys

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield strength of the rebar used for shear design calculations.

Field: LtWtConc

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the material specified is lightweight concrete. Otherwise it is No.

Field: LtWtFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shear strength reduction factor for lightweight concrete.

Table: Material Properties 5 - Design Aluminum

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: AlumType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Wrought, Cast-Mold or Cast-Sand indicating the type of aluminum.

Field: Alloy

Field is Imported: Yes
Format: Controlled by program
Units: Text

The Alloy designation for the aluminum, for example, 2014-T6 for wrought or 356.0-T7 for cast (mold or sand) aluminum.

Field: Ftu

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile ultimate strength of aluminum.

Field: Fty

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile yield strength of aluminum.

Field: Fcy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Compressive yield strength of aluminum.

Field: Fsu

Field is Imported: Yes
Format: Stress Input (Stresses section of form)

Units: Force/Length2

Shear ultimate strength of aluminum.

Field: Fsy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear yield strength of aluminum.

Table: Material Properties 6 - Design ColdFormed

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Table: Named Sets - Analysis Results 1 - General

Field: DBONamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of an analysis results named set.

Field: SortOrder

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'Elem, Cases' or 'Cases, Elem' indicating the output sort order.

Field: ModeStart

Field is Imported: Yes
Format: Controlled by program
Units: Text

The starting mode for modal output.

Field: ModeEnd

Field is Imported: Yes
Format: Controlled by program

Units: Text

The ending mode for modal output. If all modes are to be output then this item is All.

Field: ModalHist

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Envelopes or StepByStep indicating the type of output specified for modal history analysis cases.

Field: DirectHist

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Envelopes or StepByStep indicating the type of output specified for direct history analysis cases.

Field: NLStatic

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Last Step or StepByStep indicating the type of output specified for nonlinear static analysis cases.

Field: BaseReacX

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Global X coordinate of the point where the base reactions are reported.

Field: BaseReacY

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Global Y coordinate of the point where the base reactions are reported.

Field: BaseReacZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Global Z coordinate of the point where the base reactions are reported.

Field: Combo

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Envelopes or MultiValued indicating the type of output specified for combinations.

Field: NumCheckBox

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total number of selected check boxes.

Field: NumCases

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected analysis cases.

Field: NumGenDispl

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected generalized displacements.

Field: NumJtForce

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected joint force types.

Field: NumSectCuts

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected section cuts.

Field: NumEESets

Field is Imported: No

Format: Controlled by program
Units: Unitless

The number of selected element energy named sets.

Field: NumNLSSets

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected nonlinear static curves named sets.

Field: NumRSSets

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected joint time history response spectra named sets.

Field: NumPFSets

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected plot function traces named sets.

Table: Named Sets - Analysis Results 2 - Selections

Field: DBONamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of an analysis results named set.

Field: SelectType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The type of selection. This is either CheckBox, AnalysCase, GenDispl (short for generalized displacement), JointForce, SectionCut, EENamedSet (EE is short for element energy), NLSNamedSet (NLS is short for nonlinear static curves), RSNamedSet (RS is short for joint time history response spectra), or PFNamedSet (PF is short for plot function trace).

Field: CheckBxArea

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is only filled if the SelectType item is Check box. It is either Joint, Element or Structure, indicating the area on the Database Output Tables form where the check box exists.

Field: Selection

Field is Imported: Yes
Format: Controlled by program
Units: Text

Depending on the value of the SelectType item, this item is one of the following:

Check box: Caption of the selected check box.
Analysis case: Name of the selected analysis case.
Gen displ: Name of the selected generalized displacement.
Joint force: Type of the selected joint force.
Section cut: Name of the selected section cut.
EE named set: Name of the selected element energy named set.
NLS named set: Name of the selected nonlinear static curves named set.
RS named set: Name of the selected joint time history response spectra named set.
PF named set: Name of the selected plot function traces named set.

Table: Named Sets - Element Energy

Field: EENamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of an element energy named set.

Field: ForceCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case used for forces when computing the element energy.

Field: DisplCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case used for displacements when computing the element energy.

Field: ShowValues

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element energy is to be shown as values when displayed on screen. It is no if it is to be shown as different colors (with a legend) when displayed on screen.

Table: Named Sets - Model Definition

Field: DBINamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a model definition named set.

Field: SelectType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The type of selection. This is either Check box or Load case.

Field: CheckBxArea

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is only filled if the SelectType item is Check box. It is either Structure, Geometry, Properties, Loads, Cases, Joints, Frames, Areas, Solids, or Links, indicating the area on the Database Input Tables form where the check box exists.

Field: Selection

Field is Imported: Yes
Format: Controlled by program
Units: Text

If the SelectType item is Check box then this is the name of the selected checkbox. If the SelectType item is Load case then this is the name of the selected load case.

Table: Named Sets - Nonlinear Static Curves

Field: NLSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a nonlinear static curve named set.

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case for which the nonlinear static curve is generated.

Field: PlotType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force-Displ (short for force-displacement) or ADRS (short for acceleration-disiplacement response spectrum, i.e., capacity spectrum).

Field: AddNote

Field is Imported: Yes
Format: Controlled by program
Units: Text

Additional notes associated with the nonlinear static curve.

Field: CurveColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the nonlinear static curve will be displayed on the screen.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: Ca

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The Ca coefficient for demand curves in a capacity spectrum plot.

Field: Cv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Cv coefficient for demand curves in a capacity spectrum plot.

Field: PlotPeriod

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the lines of constant period are to be displayed on screen in the capacity spectrum plot. Otherwise it is No.

Field: PlotDemand

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the demand spectra for different damping levels are to be displayed on screen in the capacity spectrum plot. Otherwise it is No.

Field: PlotSingle

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the single demand spectrum is to be displayed on screen in the capacity spectrum plot. Otherwise it is No.

Field: PeriodColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the period lines will be displayed on the screen.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: DemandColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the family of demand curves will be displayed on the screen.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: SingleColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the single demand curve will be displayed on the screen.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: Period1

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The first of four user specified periods which will be displayed on screen in the capacity spectrum plot if the PlotPeriod item is Yes.

Field: Period2

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The second of four user specified periods which will be displayed on screen in the capacity spectrum plot if the PlotPeriod item is Yes.

Field: Period3

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The third of four user specified periods which will be displayed on screen in the capacity spectrum plot if the PlotPeriod item is Yes.

Field: Period4

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The fourth of four user specified periods which will be displayed on screen in the capacity spectrum plot if the PlotPeriod item is Yes.

Field: Damping1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The first of four user specified damping values for which demand spectra will be displayed on screen in the capacity spectrum plot if the PlotDemand item is Yes.

Field: Damping2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The second of four user specified damping values for which demand spectra will be displayed on screen in the capacity spectrum plot if the PlotDemand item is Yes.

Field: Damping3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The third of four user specified damping values for which demand spectra will be displayed on screen in the capacity spectrum plot if the PlotDemand item is Yes.

Field: Damping4

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The fourth of four user specified damping values for which demand spectra will be displayed on screen in the capacity spectrum plot if the PlotDemand item is Yes.

Field: AddDamp

Field is Imported: Yes

Format: Controlled by program
Units: Unitless

The inherent and additional structural damping used in the capacity spectrum plot.

Field: StructType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either A, B, C, or User indicating the structural type.

Field: BetaZero1

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The BetaSubZero value for point 1 associated with the specified StructType item.

Field: Kappa1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Kappa value for point 1 associated with the specified StructType item.

Field: BetaZero2

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The BetaSubZero value for point 2 associated with the specified StructType item.

Field: Kappa2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Kappa value for point 1 associated with the specified StructType item.

Field: HLabelFD

Field is Imported: Yes
Format: Controlled by program
Units: Text

The horizontal axis label for a force-displacement plot.

Field: VLabelFD

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vertical axis label for a force-displacement plot.

Field: HMinFD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum horizontal axis value displayed for a force-displacement plot. If both HMinFD and HMaxFD are input as 0, then the entire horizontal extent of the force-displacement plot is displayed.

Field: HMaxFD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum horizontal axis value displayed for a force-displacement plot. If both HMinFD and HMaxFD are input as 0, then the entire horizontal extent of the force-displacement plot is displayed.

Field: VMinFD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum vertical axis value displayed for a force-displacement plot. If both VMinFD and VMaxFD are input as 0, then the entire vertical extent of the force-displacement plot is displayed.

Field: VMaxFD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum vertical axis value displayed for a force-displacement plot. If both VMinFD and VMaxFD are input as 0, then the entire vertical extent of the force-displacement plot is displayed.

Field: HLabelCS

Field is Imported: Yes
Format: Controlled by program

Units: Text

The horizontal axis label for a capacity spectrum plot.

Field: VLabelCS

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vertical axis label for a capacity spectrum plot.

Field: HMinCS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum horizontal axis value displayed for a capacity spectrum plot. If both HMinCS and HMaxCS are input as 0, then the entire horizontal extent of the capacity spectrum plot is displayed.

Field: HMaxCS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum horizontal axis value displayed for a capacity spectrum plot. If both HMinCS and HMaxCS are input as 0, then the entire horizontal extent of the capacity spectrum plot is displayed.

Field: VMinCS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum vertical axis value displayed for a capacity spectrum plot. If both VMinCS and VMaxCS are input as 0, then the entire vertical extent of the capacity spectrum plot is displayed.

Field: VMaxCS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum vertical axis value displayed for a capacity spectrum plot. If both VMinCS and VMaxCS are input as 0, then the entire vertical extent of the capacity spectrum plot is displayed.

Table: Named Sets - Plot Function Traces 1 - General

Field: PFNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a plot function trace named set.

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case for which the plot function trace is generated.

Field: HorizFunc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Time, or the name of a plot function indicating the item used for the horizontal axis of the plot function trace.

Field: NumVertFunc

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of vertical plot functions contained in this named set.

Field: TimeFrom

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The starting time (or step) for the plot function trace.

Field: TimeTo

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The ending time (or step) for the plot function trace.

Field: OverrideH

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the default range of values displayed (or tabulated) for the horizontal axis of the plot function trace is to be overridden.

Field: OverrideV

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the default range of values displayed (or tabulated) for the vertical axis of the plot function trace is to be overridden.

Field: HorizMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum value displayed (or tabulated) along the horizontal axis of the plot function trace. If both the HorizMin and the HorizMax items are zero then the full horizontal range of the plot function trace is displayed.

Field: HorizMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum value displayed (or tabulated) along the horizontal axis of the plot function trace. If both the HorizMin and the HorizMax items are zero then the full horizontal range of the plot function trace is displayed.

Field: VertMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum value displayed (or tabulated) along the vertical axis of the plot function trace. If both the VertMin and the VertMax items are zero then the full vertical range of the plot function trace is displayed.

Field: VertMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum value displayed (or tabulated) along the vertical axis of the plot function trace. If both the VertMin and the VertMax items are zero then the full vertical range of the plot function trace is displayed.

Field: HorizLabel

Field is Imported: Yes
Format: Controlled by program
Units: Text

The horizontal axis label for the plot function trace.

Field: VertLabel

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vertical axis label for the plot function trace.

Field: GridOverlay

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if grid lines are displayed on the plot function trace. Otherwise it is No.

Table: Named Sets - Plot Function Traces 2 - Vertical Functions

Field: PFNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a plot function trace named set.

Field: VertFunc

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the vertical plot function in the plot function trace.

Field: LineType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Solid, Dashed or Dotted indicating the line type used when the trace is displayed on the screen.

Field: LineColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the trace will be displayed on the screen.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: VertSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor applied to the vertical plot function values in the trace.

Table: Named Sets - Response Spectrum 1 - General

Field: RSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a joint time history response spectrum named set.

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case for which the response spectrum curve is generated.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system in which the response spectrum curve is generated.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either UX, UY, or UZ (U1, U2 or U3 for local) indicating the direction in the specified coordinate system for which the response spectrum curve is generated.

Field: AbsType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either frequency or period indicating the data type for the abscissa (horizontal axis) of the response spectrum curve.

Field: OrdType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either SD, SV, PSV, SA, or PSA indicating the data type for the ordinate (vertical axis) of the response spectrum curve.

SD is spectral displacement, SV is spectral velocity, PSV is psuedo spectral velocity, SA is spectral acceleration, and PSA is psuedo spectral acceleration.

Field: SpcWidening

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The peaks of the spectrum are widened by two times this percentage of the frequency at the peak. For example, if the frequency at a peak of the spectrum is 0.5 cycles/sec, and the specified spectrum widening is 10%, then the peak is widened on each side by 0.10 * 0.5 =.05 cycles per second. In other words, the peak is widened to extend from 0.45 cycles per second to 0.55 cycles per second.

Field: OrdSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor applied to the ordinate (vertical axis) values of the response spectrum.

The scale factor item linearly scales the ordinates of the response spectrum. This scale factor can be useful if, for example, you have run your analysis in kip and inch units and you want to see a PSA response spectrum with the acceleration in g (acceleration of gravity) instead of inches/second2. If this were the case you would specify the scale factor as:

1 / 386.4 = 0.002588.

Field: NumJoints

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of joints specified in the named set.

Field: NumDamping

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of different damping values specified in the named set.

Field: DefFreqPer

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Default Frequencies (or Periods) are included as values for which a point will exist on the generated reponse spectrum curve.

The default frequencies in Hz are: 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 2, 2.2, 2.4, 2.6, 2.8, 3, 3.3, 3.6, 4, 4.4, 4.7, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 10, 11, 12, 13, 14, 15, 16.5, 18, 20, 22, 25, 28 and 33. The default periods are equal to one divided by the default frequencies.

Field: StrFreqPer

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the structural frequencies (periods) calculated by the program are frequencies (periods) for which a point will be generated on the reponse spectrum curve. The frequencies (periods) used are those for the modal analysis case that is associated with the specified analysis case for the response spectrum generation.

Field: NumUserFP

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of user-specified frequency (or period) values for which a point will be generated on the reponse spectrum curve.

Field: AbsScale

Field is Imported: Yes
Format: Controlled by program
Units: Text

The is either Arithmetic or Log indicating the type of scale used on the abscissa (horizontal axis) of the response spectrum curve.

Field: OrdScale

Field is Imported: Yes
Format: Controlled by program
Units: Text

The is either Arithmetic or Log indicating the type of scale used on the ordinate (vertical axis) of the response spectrum curve.

Field: GridOverlay

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if grid lines are displayed on the response spectrum plot. Otherwise it is No.

Table: Named Sets - Response Spectrum 2 - Joints

Field: RSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a joint time history response spectrum named set.

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

A joint for which a reponse spectrum curve is generated.

Table: Named Sets - Response Spectrum 3 - Damping

Field: RSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a joint time history response spectrum named set.

Field: Damping

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A damping value for which a reponse spectrum curve is generated.

Table: Named Sets - Response Spectrum 4 - User Freq/Periods

Field: RSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a joint time history response spectrum named set.

Field: FreqOrPer

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Frequency or Period. It indicates which of the following fields (Frequency or Period) will be read on import.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

A frequency value for which a point will be generated on the reponse spectrum curve.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

A period value for which a point will be generated on the reponse spectrum curve.

Table: Overwrites - Aluminum Design - AA-ASD 2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced

length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless coefficient that depends on the moment gradient. Specifying 0 means the value is program determined.

Field: K1Comp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining slenderness limit for elements in compression. Specifying 0 means the value is program determined.

Field: K2Comp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining allowable compressive stress for elements in compression. Specifying 0 means the value is program determined.

Field: K1Bend

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining slenderness limit for elements in bending. Specifying 0 means the value is program determined.

Field: K2Bend

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining allowable compressive stress for elements in bending. Specifying 0 means the value is program determined.

Field: KT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for tension members, kt. Specifying 0 means the value is program determined.

Field: C1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral buckling coefficient, C1. Specifying 0 means the value is program determined.

Field: C2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral buckling coefficient, C2. Specifying 0 means the value is program determined.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable compressive stress for member considered as an axially loaded column. Specifying 0 means the value is program determined.

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable tensile stress for a member loaded only axially. Specifying 0 means the value is program determined.

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress for major axis bending for members subjected to bending only. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress for minor axis bending for members subjected to bending only. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fs2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for major direction shear for members subjected only to shear or torsion. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fs3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for minor direction shear for members subjected only to shear or torsion. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Aluminum Design - AA-LRFD 2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless coefficient that depends on the moment gradient. Specifying 0 means the value is program determined.

Field: K1Comp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining slenderness limit for elements in compression. Specifying 0 means the value is program determined.

Field: K2Comp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining allowable compressive stress for elements in compression. Specifying 0 means the value is program determined.

Field: K1Bend

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining slenderness limit for elements in bending. Specifying 0 means the value is program determined.

Field: K2Bend

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining allowable compressive stress for elements in bending. Specifying 0 means the value is program determined.

Field: KT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for tension members, kt. Specifying 0 means the value is program determined.

Field: C1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral buckling coefficient, C1. Specifying 0 means the value is program determined.

Field: C2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral buckling coefficient, C2. Specifying 0 means the value is program determined.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable compressive stress for member considered as an axially loaded column. Specifying 0 means the value is program determined.

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable tensile stress for a member loaded only axially. Specifying 0 means the value is program determined.

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress for major axis bending for members subjected to bending only. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress for minor axis bending for members subjected to bending only. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fs2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for major direction shear for members subjected only to shear or torsion. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: Fs3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for minor direction shear for members subjected only to shear or torsion. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - AASHTO Concrete 97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes

Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - ACI 318-99

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - BS8110 89

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - BS8110 97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - CSA-A233-94

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DbMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DbMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - EUROCODE 2-1992

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - Indian IS 456-2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - Italian DM 14-2-92

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: OmegaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: OmegaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: CMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - Mexican RCDF 2001

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FabMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FabMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FasMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: FasMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - NZS 3101-95

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DbMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DbMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - UBC97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Sway Special, Sway Intermediate, Sway Ordinary, or NonSway. This item is used for ductility considerations in the design. The program determined value is Sway Special.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: HEQFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - AASHTO Steel 97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: DbMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: DbMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - AISC-ASD89

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced

length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes

Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - AISC-LRFD93

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: B1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - API RP2A-LRFD 97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: B1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: UserPress

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the confining pressure on the outer surface of the pipe section is defined by the user. It is No if the confining pressure is program determined based on data input in the steel preferences. If this item is Yes then the user defined pressure value is specified in the Pressure field.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The confining pressure on the outer surface of the pipe section. This item is only used if the UserPress item is Yes. If the UserPress item is

No then the confining pressure is program determined based on data input in the steel preferences.

Table: Overwrites - Steel Design - API RP2A-WSD2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced

length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes

Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: UserPress

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the confining pressure on the outer surface of the pipe section is defined by the user. It is No if the confining pressure is program determined based on data input in the steel preferences. If this item is Yes then the user defined pressure value is specified in the Pressure field.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The confining pressure on the outer surface of the pipe section. This item is only used if the UserPress item is Yes. If the UserPress item is No then the confining pressure is program determined based on data input in the steel preferences.

Table: Overwrites - Steel Design - ASCE 10-97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Pac

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: Pat

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: Ma3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Ma2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - BS5950 2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective

length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MLT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Pc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: Pt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: Mc3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: Mc2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mb

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Pv2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Pv3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - BS5950 90

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: N

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Pc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: Pt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: Mc3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mc2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: Mb

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Pv2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Pv3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - CISC 95

Field: Frame

Field is Imported: Yes
Format: Controlled by program

Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: U1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: U1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: U2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: U2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Cr

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: Tr

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: Mr3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mr2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Vr2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: Vr3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - EUROCODE 3-1993

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: KMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: KMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: C1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: KLT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Nc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: Nt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: Mc3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mc2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mb

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: V2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: V3

Field is Imported: Yes

Format: Force (Forces section of form)
Units: Force

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - Italian UNI 10011

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MeqMmaxMaj

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MeqMmaxMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: Omega

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Table: Overwrites - Steel Design - UBC97-ASD

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Ordinary MRF, Special MRF, Braced Frame, Special CBF or Eccentric BF. MRF is short for Moment Resisting Frame. CBF is short for Concentric Braced Frame. BF is short for Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: HEQFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)

Units: Force/Length2

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - UBC97-LRFD

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Ordinary MRF, Special MRF, Braced Frame, Special CBF or Eccentric BF. MRF is short for Moment Resisting Frame. CBF is short for Concentric Braced Frame. BF is short for Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: HEQFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress. Specifying 0 means the value is program determined.

Field: B1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: B2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case. Specifying 0 means the value is program determined. The program determined value is always 1.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial compressive stress. Specifying 0 means the value is program determined.

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable axial tensile stress. Specifying 0 means the value is program determined.

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in major axis bending. Specifying 0 means the value is program determined.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)

Units: Force

Allowable shear stress for major direction shear. Specifying 0 means the value is program determined.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Preferences - Aluminum Design - AA-ASD 2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: LatFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The allowable stress increase for stresses caused by wind or seismic loading. This item is only used when the Use Lateral Factor item is set to Yes.

Field: UseLatFact

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the specified Lateral Factor is to be used in the design. Otherwise it is No.

Field: Bridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the structure is a bridge-type structure. It is no if the structur is some other type of structure such as a building-type structure.

Table: Preferences - Aluminum Design - AA-LRFD 2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes

Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: PhiY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of general yield.

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of beams or elements of beams.

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of elements of columns.

Field: PhiU

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of ultimate strength.

Field: PhiCC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of columns.

Field: PhiCP

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of elastic buckling of tubes.

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of elastic shear buckling.

Field: PhiVP

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of inelastic shear buckling.

Field: PhiW

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of web crippling.

Table: Preferences - Concrete Design - AASHTO Concrete 97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Table: Preferences - Concrete Design - ACI 318-99

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: SeisZone

Field is Imported: Yes
Format: Controlled by program
Units: Text

The seismic zone representing severity of seismic force. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: PhiBendTens

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for bending and tension.

Field: PhiCompTied

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has tie reinforcement.

Field: PhiCompSpir

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has spiral reinforcement.

Field: PhiShear

Field is Imported: Yes

Format: Controlled by program
Units: Unitless

The strength reduction factor for shear.

Table: Preferences - Concrete Design - BS8110 89

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Table: Preferences - Concrete Design - BS8110 97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Table: Preferences - Concrete Design - CSA-A233-94

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PhiSteel

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for steel.

Field: PhiConc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for concrete.

Table: Preferences - Concrete Design - EUROCODE 2-1992

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: Nu

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Nu (Greek letter) factor.

Field: GammaC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaC.

Field: GammaS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaS.

Table: Preferences - Concrete Design - Indian IS 456-2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Table: Preferences - Concrete Design - Italian DM 14-2-92

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Table: Preferences - Concrete Design - Mexican RCDF 2001

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Table: Preferences - Concrete Design - NZS 3101-95

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Table: Preferences - Concrete Design - UBC97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The number of two-dimensional interaction curves used to make up the three-dimenisional interaction surface. This item must be greater than or equal to 4 and divisable by 4.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points used to define a two-dimensional interaction curve. This item must be greater than or equal to 11 and odd.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: SeisZone

Field is Imported: Yes
Format: Controlled by program
Units: Text

The seismic zone representing severity of seismic force. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: PhiBendTens

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for bending and tension.

Field: PhiCompTied

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has tie reinforcement.

Field: PhiCompSpir

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has spiral reinforcement.

Field: PhiShear

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for shear.

Table: Preferences - Dimensional

Field: MergeTol

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The auto merge tolerance (length). This is the basic tolerance value in the model. For example, when a joint is drawn within this tolerance length of another joint, the drawn joint is merged into the existing joint.

Field: FineGrid

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The plan fine grid spacing (length). When the fine grid snap option is activated this item sets the spacing of the snap grid.

Field: Nudge

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The plan nudge value (length). When the plan nudge feature is used this item sets sets the distance that an item is nudged. In plan view you can nudge an object by selecting it and then pressing the Ctrl key and an arrow key simultaneously.

Field: SelectTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The screen selection tolerance (pixels). When clicking to select an object your mouse pointer must be within this number of pixels to select the object.

Field: SnapTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The screen snap tolerance (pixels). When using the snap options and moving your mouse pointer about the model, your mouse pointer must be within this number of pixels to snap to the object.

Field: SLineThick

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The screen line thickness (pixels). The thickness of lines drawn on the screen. This item does not affect text, the bounding plane line or the aerial view.

Field: PLineThick

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The printer line thickness (pixels). The thickness of lines and fonts drawn to the printer.

Field: MaxFont

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum graphic font size (points). The default font size is based on the average size of the objects in your model shown on the screen. As you zoom into your model the font size becomes proportionately larger. However, the font size is never made larger than the specified maximum graphic font size.

Field: MinFont

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum graphic font size (points). The default font size is based on the average size of the objects in your model shown on the screen. As you zoom out of your model the font size becomes proportionately smaller. However, the font size is never made smaller than the specified minimum graphic font size.

Field: AutoZoom

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The auto zoom step (percent). This is the size of the step used for the View menu > Zoom In One Step command and the View menu > Zoom Out One Step command. Themagnification of all objects is increased or deceased by the specfied percent.

Field: ShrinkFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shrink factor (percent). This item works with the object shrink toggle which is set using the View menu > Set Display Options command or using the Object Shrink Tioggletoolbar button. When object shrinking is toggled on all objects in the model are shown this specified percentage of their actual length.

Field: TextFileLen

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This is the maximum number of characters that the program will write on a single line in the .s2k text file before using a line continuation character and moving on to the next line.

Table: Preferences - Steel Design - AASHTO Steel 97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - AISC-ASD89

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - AISC-LRFD93

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: Yes
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - API RP2A-LRFD 97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: WaveHeight

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Height of the design wave.

Field: WaveLength

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)

Units: Length

Length of the design wave.

Field: SWaterLevel

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Elevation of the still water level.

Field: SWaterDepth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Depth of still water from sea bottom to the surface.

Field: WaterSpGrav

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Specific gravity of sea water.

Field: PipeFilled

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Toggle to consider whether pipe is filled. This affects the calculation of hoops stress in pipe section. If the pipe is filled, then the hoop stress is zero because the water pressures inside and outside the pipe neutralize each other.

Table: Preferences - Steel Design - API RP2A-WSD2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program

Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: WaveHeight

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Height of the design wave.

Field: WaveLength

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Length of the design wave.

Field: SWaterLevel

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Elevation of the still water level.

Field: SWaterDepth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Depth of still water from sea bottom to the surface.

Field: WaterSpGrav

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Specific gravity of sea water.

Field: PipeFilled

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Toggle to consider whether pipe is filled. This affects the calculation of hoops stress in pipe section. If the pipe is filled, then the hoop stress is zero because the water pressures inside and outside the pipe neutralize each other.

Table: Preferences - Steel Design - ASCE 10-97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - BS5950 2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - BS5950 90

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - CISC 95

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - EUROCODE 3-1993

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: GammaM0

Field is Imported: Yes
Format: Controlled by program

Units: Unitless

The strength reduction factor GammaM0.

Field: GammaM1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaM1.

Table: Preferences - Steel Design - Italian UNI 10011

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - UBC97-ASD

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: Yes
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Preferences - Steel Design - UBC97-LRFD

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: Yes
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Table: Program Control

Field: ProgramName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The program name.

Field: Version

Field is Imported: Yes
Format: Controlled by program
Units: Text

The program version.

Field: CurrUnits

Field is Imported: Yes
Format: Controlled by program
Units: Text

The current units at the time the database tables are created. Possible values for this include:
lb, in, F
lb, ft, F
Kip, in, F
Kip, ft, F
KN, mm, C
KN, m, C
Kgf, mm, C
Kgf, m, C
N, mm, C
N, m, C
Ton, mm, C
Ton, m, C
KN, cm, C
Kgf, cm, C
N, cm, C
Ton, cm, C
Ton, cm, C
For import the letters DEG can be substituted for the degree symbol if desired.
.

Field: SteelCode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design code used for steel frame object design.

Field: ConcCode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design code used for concrete frame object design.

Field: AlumCode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design code used for aluminum frame object design.

Table: Project Information

Field: Item

Field is Imported: Yes
Format: Controlled by program
Units: Text

The project information item.

Field: Data

Field is Imported: Yes
Format: Controlled by program
Units: Text

The project information data for the associated item.

Table: Rebar Sizes

Field: RebarID

Field is Imported: Yes
Format: Controlled by program
Units: Text

ID (name) of reinforcing bar.

Field: Area

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

Area of specified reinforcing bar.

Field: Diameter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Diameter of specified reinforcing bar.

Table: Combination Definitions

Field: ComboName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the combination.

Field: ComboType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear Add, Envelope, Abs Add or SRSS indicating the type of combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Linear Static, NonLin Static, Modal, Response Spectrum, Linear Modal Hist, NonLin Modal Hist, Linear Dynamic, NonLin Dynamic, Moving Load, Buckling, Steady State, or Response Combo indicating the type of the associated analysis case.

Field: CaseName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of an analysis case or combination that is included in the combination.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor that is applied to the associated analysis case for the specified combination.

Field: SteelDesign

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the combination is selected for Steel design. Otherwise it is No.

Field: ConcDesign

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the combination is selected for Concrete design. Otherwise it is No.

Field: AlumDesign

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the combination is selected for Aluminum design. Otherwise it is No.

Field: ColdDesign

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the combination is selected for Cold Formed Steel design. Otherwise it is No.

Table: Section Cuts 1 - General

Field: CutName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the section cut.

Field: Group

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the group that defines the section cut.

Field: DefaultLoc

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the section cut forces are reported at the program default location. It is No if the forces are reported at a user-specified location.

The default location is at the average coordinates of all of the joints included in the group that is used to define the section cut.

Field: GlobalX

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X-coordinate of the point where the section cut forces are reported.

Field: GlobalY

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y-coordinate of the point where the section cut forces are reported.

Field: GlobalZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the point where the section cut forces are reported.

Field: AngleA

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the section cut local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the section cut local coordinate system with respect to the global axes.

The orientation of the section cut local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleB

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the section cut local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the section cut local coordinate system with respect to the global axes.

The orientation of the section cut local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleC

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the section cut local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the section cut local coordinate system with respect to the global axes.

The orientation of the section cut local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the section cut. Otherwise it is No meaning that the default reference vectors are used.

Table: Section Cuts 2 - Advanced Local Axes

Field: SectionCut

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the section cut.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12, 13, 21, 23, 31, or 32.

Field: AxOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the axial reference vector.

Field: AxCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the axial reference vector coordinate direction and the axial user vector.

Field: AxCoordDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axial coordinate direction taken at the output point in the specified coordinate system and used to define the axis reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: AxVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as zero then it means the specified section cut output location. If both of these items is reported as zero then this option is not used to define the axis reference vector.

Field: AxVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as zero then it means the specified section cut output location. If both of these items is reported as zero then this option is not used to define the axis reference vector.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the specified section cut output location in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the specified section cut output location in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as 0 to indicate the specified section cut output location. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as 0 to indicate the specified section cut output location. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: AxVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Solid Auto Mesh Assignments

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

False.

Field: AutoMesh

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the solid object is to be (internally) automatically meshed into Number1 by Number2 elements by the program for analysis.

Field: Number1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This the AutoMesh item is Yes, then the solid object is to be (internally) automatically meshed into Number1 by Number2 elements by the program for analysis.

Field: Number2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This the AutoMesh item is Yes, then the solid object is to be (internally) automatically meshed into Number1 by Number2 elements by the program for analysis.

Field: Number3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

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Table: Solid Loads - Gravity

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program

Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Solid Loads - Pore Pressure

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The pore pressure load applied to the specified face of the Solid object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified pressure. If no joint pattern is specified then this item is reported as None.

Table: Solid Loads - Surface Pressure

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Face

Field is Imported: Yes
Format: Controlled by program
Units: Text

The face of the Solid object to which the pressure load is applied.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The surface pressure load applied to the specified face of the Solid object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified pressure. If no joint pattern is specified then this item is reported as None.

Table: Solid Loads - Temperature

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature assignment to the Solid object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Solid Local Axes Assignments 1 - Typical

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the solid object.

Field: AngleA

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the solid local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the solid local coordinate system with respect to the global axes.

The orientation of the solid local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleB

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the solid local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the solid local coordinate system with respect to the global axes.

The orientation of the solid local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleC

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the solid local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the solid local coordinate system with respect to the global axes.

The orientation of the solid local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the solid object. Otherwise it is No meaning that the default reference vectors are used.

In the default system the solid object positive local 1, 2 and 3 axes are parallel to the global positive X, Y and Z axes, respectively.

In the advanced system the solid object local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Solid Local Axes Assignments 2 - Advanced

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the solid object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12, 13, 21, 23, 31, or 32.

Field: AxOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the axial reference vector.

Field: AxCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the axial reference vector coordinate direction and the axial user vector.

Field: AxCoordDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axial coordinate direction taken at the joint in the specified coordinate system and used to define the axis reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: AxVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as zero then it means the center of the solid object. If both of these items is reported as zero then this option is not used to define the axis reference vector.

Field: AxVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as zero then it means the center of the solid object. If both of these items is reported as zero then this option is not used to define the axis reference vector.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program

Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the joint in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the joint in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as 0 to indicate the center of the solid object. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as 0 to indicate the center of the solid object. If both PlVecJt1 and PlVecJt2 are specified as 0 then they are not used to define the plane reference vector.

Field: AxVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Solid Material Temperatures

Field: Solid

Field is Imported: Yes

Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Solid object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Solid Property Assignments

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: SolidProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the solid property assigned to the solid section.

Table: Solid Property Definitions

Field: SolidProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the solid property assigned to the solid section.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property assigned to the solid section.

Field: MatAngleA

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The material angle A assignment to the Solid object.

Field: MatAngleB

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The material angle B assignment to the Solid object.

Field: MatAngleC

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The material angle C assignment to the Solid object.

Field: InComp

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if incompatible bending modes are included in the stiffness formulation. Otherwise it is No.

In general, incompatible modes significantly improve the bending behavior of the object.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the property.

The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark

Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: TotalWt

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

Total weight of all objects in the model that are assigned the specified solid property.

Field: TotalMass

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total mass of all objects in the model that are assigned the specified solid property.

Table: Solid Reference Temperatures

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Solid object reference temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Solid Spring Assignments

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Face

Field is Imported: Yes
Format: Controlled by program
Units: Text

The face of the solid object to which the specified springs are applied.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2 or 3 indicating the solid local axes direction in which the springs are oriented.

Field: Stiffness

Field is Imported: Yes
Format: Trans Stiffness/Area (Stiffness section of form)
Units: Force/Length/Length2

Spring stiffness per unit area of the specified face of the solid object in the direction specified.

Table: Summary - Area Assignments

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: Section

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the area section property assigned to the specified area object.

Field: StiffMod

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are stiffness modifier assignments to the Area object. Otherwise it is No.

Field: LocalAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are local axes assignments to the Area object. Otherwise it is No.

Field: Springs

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are spring assignments to the Area object. Otherwise it is No.

Field: MassPerArea

Field is Imported: No
Format: Mass/Area (Mass and Weight section of form)
Units: Force-Sec2/Length3

Added mass per unit area applied to the area object.

Field: AutoMesh

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if the area object is (internally) automatically meshed by the program for analysis.

Field: MatTemp

Field is Imported: No
Format: Temperature (Forces section of form)
Units: Temp

The material temperature associated with the Area object.

Field: GravLoads

Field is Imported: No
Format: Controlled by program

Units: Yes/No

This item is Yes if there are gravity load assignments to the Area object. Otherwise it is No.

Field: UnifLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are uniform load assignments to the Area object. Otherwise it is No.

Field: UnifLoadsFr

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are uniform load to frames assignments to the Area object. Otherwise it is No.

Field: SPresLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are surface pressure load assignments to the Area object. Otherwise it is No.

Field: PPresLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are pore pressure load assignments to the Area object. Otherwise it is No.

Field: TempLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are temperature load assignments to the Area object. Otherwise it is No.

Field: RefTemp

Field is Imported: No
Format: Temperature (Forces section of form)
Units: Temp

The reference temperature associated with the Area object.

Field: RotateLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are rotate load assignments to the Area object. Otherwise it is No.

Field: WindCoeffs

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are wind pressure coefficients assignments to the Area object. Otherwise it is No.

Field: AreaArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

Area of the Area object.

Field: Perimeter

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

Perimeter of the Area object.

Field: Volume

Field is Imported: No
Format: Length3 (Section Dimensions section of form)
Units: Length3

Volume of the Area object.

Field: CentroidX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the centroid of the Area object.

Field: CentroidY

Field is Imported: No

Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the centroid of the Area object.

Field: CentroidZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the centroid of the Area object.

Table: Summary - Frame Assignments

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: AnalSect

Field is Imported: No
Format: Controlled by program
Units: Text

This is the name of the analysis section assigned to the frame object. The analysis section is the frame section property that was used in the last analysis performed. If no analysis has been performed then it is the name of the frame section originally assigned to the frame object.

Field: PropMods

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are property modifier assignments to the Frame object. Otherwise it is No.

Field: Releases

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are end release assignments to the Frame object. Otherwise it is No.

Field: LocalAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are local axes assignments to the Frame object. Otherwise it is No.

Field: InsertPoint

Field is Imported: No
Format: Controlled by program
Units: Text

This is Default if the default user insertion point (with no joint offsets) is specified. Otherwise it is User Defined.

Field: EndOffsets

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are end offset assignments to the Frame object. Otherwise it is No.

Field: MinNumSta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minimum number of output stations along the frame object. If the MaxStaSpcg item is specified for the frame object then this item is blank.

Field: MaxStaSpcg

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum spacing between output stations along the frame object. If the MinNumSta item is specified for the frame object then this item is blank.

Field: PrestresPat

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are prestress pattern assignments to the Frame object. Otherwise it is No.

Field: PrestresMul

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are prestress multiplier assignments to the Frame object. Otherwise it is No.

Field: PDeltaForce

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are p-delta force assignments to the Frame object. Otherwise it is No.

Field: CableParams

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are cable parameters assignments to the Frame object. Otherwise it is No.

Field: TCLimit

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are tension/compression limits assignments to the Frame object. Otherwise it is No.

Field: NLHinges

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are nonlinear hinge assignments to the Frame object. Otherwise it is No.

Field: Springs

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are spring assignments to the Frame object. Otherwise it is No.

Field: MassPerLen

Field is Imported: No
Format: Mass/Length (Mass and Weight section of form)
Units: Force-Sec2/Length2

Added mass per unit length applied to the frame object, if any.

Field: AutoDivide

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if the frame object is to be automatically subdivided. If the frame object is NOT to be automatically subdivided then this item is No.

Field: MatTemp

Field is Imported: No
Format: Temperature (Forces section of form)
Units: Temp

The material temperature associated with the Frame object.

Field: GravLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are gravity load assignments to the Frame object. Otherwise it is No.

Field: PointLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are point load assignments to the Frame object. Otherwise it is No.

Field: DistLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are distributed load assignments to the Frame object. Otherwise it is No.

Field: TempLoads

Field is Imported: No

Format: Controlled by program
Units: Yes/No

This item is Yes if there are temperature load assignments to the Frame object. Otherwise it is No.

Field: RefTemp

Field is Imported: No
Format: Temperature (Forces section of form)
Units: Temp

The reference temperature associated with the Frame object.

Field: SteelOWrite

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are steel frame design overwrites assignments to the Frame object. Otherwise it is No.

Field: ConcOWrite

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are concrete frame design overwrites assignments to the Frame object. Otherwise it is No.

Field: AlumOWrite

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are aluminum frame design overwrites assignments to the Frame object. Otherwise it is No.

Field: ColdOWrite

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are coldformed frame design overwrites assignments to the Frame object. Otherwise it is No.

Field: Length

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

Length of the Frame object.

Field: CentroidX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the centroid of the Frame object.

Field: CentroidY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the centroid of the Frame object.

Field: CentroidZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the centroid of the Frame object.

Table: Summary - Joint Assignments

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: Constraints

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are constraint assignments to the specified joint. Otherwise it is No.

Field: Restraints

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are restraint assignments to the specified joint. Otherwise it is No.

Field: LocalAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are joint local axes assignments to the specified joint. Otherwise it is No.

Field: Springs

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are joint spring assignments to the specified joint. Otherwise it is No.

Field: AddedMass

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are added mass assignments to the specified joint. Otherwise it is No.

Field: PanelZone

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are panel zone assignments to the specified joint. Otherwise it is No.

Field: JtPattern

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are joint pattern assignments to the specified joint. Otherwise it is No.

Field: JointForce

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are joint force assignments to the specified joint. Otherwise it is No.

Field: GroundDispl

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are ground displacement assignments to the specified joint. Otherwise it is No.

Note that the joint must be restrained, or have a spring, in the same direction (degree of freedom) as the ground displacement for the effect of the ground displacement to be included in the analysis.

Table: Summary - Link Assignments

Field: Link

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LinkType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Linear, MultiLinear, Gap, Hook, Damper, Plastic (Wen), Rubber Isolator, or Friction Isolator indicating the type of link object.

Field: LinkJoints

Field is Imported: No
Format: Controlled by program
Units: Text

This is either SingleJoint or TwoJoint indicating the type of link object.

Field: LinkProp

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a link property.

Field: LocalAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are local axes assignments to the Link object. Otherwise it is No.

Field: GravLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are gravity load assignments to the Link object. Otherwise it is No.

Field: Length

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

Length of the Link object.

Field: CentroidX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the centroid of the Link object.

Field: CentroidY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the centroid of the Link object.

Field: CentroidZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the centroid of the Link object.

Table: Summary - Solid Assignments

Field: Solid

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: SolidProp

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the solid property assigned to the solid section.

Field: Springs

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are spring assignments to the Solid object. Otherwise it is No.

Field: AutoMesh

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if the solid object is (internally) automatically meshed by the program for analysis.

Field: MatTemp

Field is Imported: No
Format: Temperature (Forces section of form)
Units: Temp

The material temperature associated with the Solid object.

Field: GravLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are gravity load assignments to the Solid object. Otherwise it is No.

Field: SPresLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are surface pressure load assignments to the Solid object. Otherwise it is No.

Field: PPresLoads

Field is Imported: No
Format: Controlled by program

Units: Yes/No

This item is Yes if there are pore pressure load assignments to the Solid object. Otherwise it is No.

Field: TempLoads

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if there are temperature load assignments to the Solid object. Otherwise it is No.

Field: RefTemp

Field is Imported: No
Format: Temperature (Forces section of form)
Units: Temp

The reference temperature associated with the Solid object.

Field: Volume

Field is Imported: No
Format: Length3 (Section Dimensions section of form)
Units: Length3

Volume of the Solid object.

Field: CentroidX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the centroid of the Solid object.

Field: CentroidY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the centroid of the Solid object.

Field: CentroidZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the centroid of the Solid object.

Table: Base Reactions

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: GlobalFX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base reaction force component in the global X direction.

Field: GlobalFY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base reaction force component in the global Y direction.

Field: GlobalFZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base reaction force component in the global Z direction.

Field: GlobalMX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The base reaction moment component about the global X axis.

Field: GlobalMY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The base reaction moment component about the global Y axis.

Field: GlobalMZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The base reaction moment component about the global Z axis.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point where the base reaction is reported.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point where the base reaction is reported.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point where the base reaction is reported.

Table: Buckling Factors

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: ScaleFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

.

Table: Element Deformations - Links

Field: Link

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Link element associated with the specified Link object. For analysis, the Link object is internally modelled using one or more Link elements.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the link object in the link local 1 axis direction.

Field: U2

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the link object in the link local 2 axis direction.

Field: U3

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the link object in the link local 3 axis direction.

Field: R1

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the link object about the link local 1 axis.

Field: R2

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the link object about the link local 2 axis.

Field: R3

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the link object about the link local 3 axis.

Table: Element Deformations - Panel Zones

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of the link element used to model the panel zone.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a joint object to which the panel zone is assigned.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the panel zone in the panel zone local 1 axis direction.

Field: U2

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the panel zone in the panel zone local 2 axis direction.

Field: U3

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the panel zone in the panel zone local 3 axis direction.

Field: R1

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the panel zone about the panel zone local 1 axis.

Field: R2

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the panel zone about the panel zone local 2 axis.

Field: R3

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the panel zone about the panel zone local 3 axis.

Table: Element Energy

Field: ObjectLabel

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an object. In the case of a panel zone this is the label of the joint object to which the panel zone is assigned.

Field: ObjectType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Frame, Area, Solid, Link or Panel Zone indicating the type of object.

Field: EENamedSet

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the element energy named set associated with this output.

Field: ForceCase

Field is Imported: No
Format: Controlled by program
Units: Text

The analysis case used for the force when computing the virtual work.

Field: DisplCase

Field is Imported: No
Format: Controlled by program
Units: Text

The analysis case used for the displacement when computing the virtual work.

Field: VirtualWork

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The virtual work computed for the associated object.

Field: Volume

Field is Imported: No
Format: Length3 (Section Dimensions section of form)
Units: Length3

The volume of the associated object.

Field: NormWork

Field is Imported: No
Format: Controlled by program
Units: Percent

The normalized virtual work for the object. This is computed as:

[(VW/Volume)/Max(VW/Volume)]*100

where VW is the virtual work for an object, Volume is the volume of an object, and Max indicates the object with the maximum VW/Volume value.

Table: Element Forces - Area Shells

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: ShellType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Shell-Thick, Shell-Thin, Plate-Thick, Plate-Thin or Membrane indicating the type of shell (area) element.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Area element forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: F11

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal F11 membrane direct force per length reported in the area element local coordinate system.

Field: F22

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal F22 membrane direct force per length reported in the area element local coordinate system.

Field: F12

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal F12 membrane shear force per length reported in the area element local coordinate system.

Field: FMax

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The maximum principal membrane force.

Field: FMin

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The minimum principal membrane force.

Field: FAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the area local 1 axis to the direction of the maximum principal membrane force.

Field: FVM

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal Von Mises membrane force per length.

Field: M11

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The area element internal M11 plate bending moment per length reported in the area element local coordinate system.

Field: M22

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The area element internal M22 plate bending moment per length reported in the area element local coordinate system.

Field: M12

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The area element internal M12 plate twisting moment per length reported in the area element local coordinate system.

Field: MMax

Field is Imported: No

Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The maximum principal plate moment.

Field: MMin

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The minimum principal plate moment.

Field: MAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the area local 1 axis to the direction of the maximum principal plate moment.

Field: V13

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal V13 plate transverse shear force per length reported in the area element local coordinate system.

Field: V23

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal V23 plate transverse shear force per length reported in the area element local coordinate system.

Field: VMax

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The maximum plate transverse shear force. It is equal to the square root of the sum of the squares of V13 and V23.

Field: VAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the area local 1 axis to the direction of Vmax .

Table: Element Forces - Frames

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Station

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

An output station location (measured from the I-end) along the frame object.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Axial force in the frame local 1 axis direction at the specified station.

Field: V2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the frame local 2 axis direction at the specified station.

Field: V3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the frame local 3 axis direction at the specified station.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Torsional moment about the frame local 1 axis at the specified station.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the frame local 2 axis at the specified station.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the frame local 3 axis at the specified station.

Table: Element Forces - Links

Field: Link

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Link element associated with the specified Link object. For analysis, the Link object is internally modelled using one or more Link elements.

Field: Station

Field is Imported: No
Format: Controlled by program
Units: Text

This is either I-End or J-End indicating the location of the reported forces.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Axial force in the link local 1 axis direction at the specified station.

Field: V2

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

Shear force in the link local 2 axis direction at the specified station.

Field: V3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the link local 3 axis direction at the specified station.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Torsional moment about the link local 1 axis at the specified station.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the link local 2 axis at the specified station.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the link local 3 axis at the specified station.

Table: Element Forces - Panel Zones

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of the link element used to model the panel zone.

Field: JointI

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the joint object at the I-End of the panel zone link element. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: JointJ

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the joint object at the I-End of the panel zone link element. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Axial force in the panel zone local 1 axis direction.

Field: V2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the panel zone local 2 axis direction.

Field: V3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the panel zone local 3 axis direction.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Torsional moment about the panel zone local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the panel zone local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)

Units: Force-Length

Bending moment about the panel zone local 3 axis.

Table: Element Joint Forces - Areas

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Area element joint forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Area joint force at the specified joint in the joint local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Area joint force at the specified joint in the joint local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Area joint force at the specified joint in the joint local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Area joint moment at the specified joint about the joint local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Area joint moment at the specified joint about the joint local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Area joint moment at the specified joint about the joint local 3 axis.

Table: Element Joint Forces - Frames

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: FrameElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Frame element associated with the specified Frame object. For analysis, the Frame object is internally modelled using one or more Frame elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Frame element joint forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: F1

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

Frame joint force at the specified joint in the joint local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Frame joint force at the specified joint in the joint local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Frame joint force at the specified joint in the joint local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Frame joint moment at the specified joint about the joint local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Frame joint moment at the specified joint about the joint local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Frame joint moment at the specified joint about the joint local 3 axis.

Table: Element Joint Forces - Links

Field: Link

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a link object, or, in the case of a panel zone, the subscript PZ followed by the label of the joint object to which the panel zone is assigned.

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Link element associated with the specified Link object. For analysis, the Link object is internally modelled using one or more Link elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Link element joint forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Link joint force at the specified joint in the joint local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Link joint force at the specified joint in the joint local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Link joint force at the specified joint in the joint local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Link joint moment at the specified joint about the joint local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Link joint moment at the specified joint about the joint local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Link joint moment at the specified joint about the joint local 3 axis.

Table: Element Joint Forces - Solids

Field: Solid

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: SolidElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Solid element associated with the specified Solid object. For analysis, the Solid object is internally modelled using one or more Solid elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Solid element joint forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Solid joint force at the specified joint in the joint local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

Solid joint force at the specified joint in the joint local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Solid joint force at the specified joint in the joint local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Solid joint moment at the specified joint about the joint local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Solid joint moment at the specified joint about the joint local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Solid joint moment at the specified joint about the joint local 3 axis.

Table: Element Stresses - Area Asolids

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint at which the Area element stresses are reportedreported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: S11

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S11 stress, at the specified joint, reported in the area element local coordinate system.

Field: S22

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the specified joint, reported in the area element local coordinate system.

Field: S33

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the specified joint, reported in the area element local coordinate system.

Field: S12

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S12 stress, at the specified joint, reported in the area element local coordinate system.

Field: SMax

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum principal stress at the specified joint.

Field: SMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element minimum principal stress at the specified joint.

Field: SAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the Area element local 1 axis to the direction of the maximum principal stress at the specified joint.

Field: SVM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The asolid (area) element Von Mises stress at the specified joint.

Table: Element Stresses - Area Planes

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint at which the Area element stresses are reportedreported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: S11

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S11 stress, at the specified joint, reported in the area element local coordinate system.

Field: S22

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the specified joint, reported in the area element local coordinate system.

Field: S33

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the specified joint, reported in the area element local coordinate system.

Field: S12

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S12 stress, at the specified joint, reported in the area element local coordinate system.

Field: SMax

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum principal stress at the specified joint.

Field: SMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element minimum principal stress at the specified joint.

Field: SAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)

Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the Area element local 1 axis to the direction of the maximum principal stress at the specified joint.

Field: SVM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The plane (area) element Von Mises stress at the specified joint.

Table: Element Stresses - Area Shells

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: ShellType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Shell-Thick, Shell-Thin, Plate-Thick, Plate-Thin or Membrane indicating the type of shell (area) element.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint at which the Area element stresses are reportedreported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: S11Top

Field is Imported: No
Format: Stress Output (Stresses section of form)

Units: Force/Length2

The area element internal S11 stress, at the top of the element, at the specified joint, reported in the area element local coordinate system.

Field: S22Top

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the top of the element, at the specified joint, reported in the area element local coordinate system.

Field: S12Top

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S12 stress, at the top of the element, at the specified joint, reported in the area element local coordinate system.

Field: SMaxTop

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum principal stress, at the top of the element, at the specified joint.

Field: SMinTop

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element minimum principal stress, at the top of the element, at the specified joint.

Field: SAngleTop

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the Area element local 1 axis to the direction of the maximum principal stress at the top of the element, at the specified joint.

Field: SVMTop

Field is Imported: No
Format: Stress Output (Stresses section of form)

Units: Force/Length2

The area element Von Mises stress, at the top of the element, at the specified joint.

Field: S11Bot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S11 stress, at the bottom of the element, at the specified joint, reported in the area element local coordinate system.

Field: S22Bot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the bottom of the element, at the specified joint, reported in the area element local coordinate system.

Field: S12Bot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S12 stress, at the bottom of the element, at the specified joint, reported in the area element local coordinate system.

Field: SMaxBot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum principal stress, at the bottom of the element, at the specified joint.

Field: SMinBot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element minimum principal stress, at the bottom of the element, at the specified joint.

Field: SAngleBot

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the Area element local 1 axis to the direction of the maximum principal stress at the bottom of the element, at the specified joint.

Field: SVMBot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element Von Mises stress, at the top of the element, at the specified joint.

Field: S13Avg

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element average S13 out-of-plane shear stress at the specified joint.

Field: S23Avg

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element average S23 out-of-plane shear stress at the specified joint.

Field: SMaxAvg

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum average out-of-plane shear stress. It is equal to the square root of the sum of the squares of S13Avg and S23Avg.

Field: SAngleAvg

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the area element local 1 axis to the direction of SMaxAvg .

Table: Element Stresses - Solids

Field: Solid

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: SolidElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Solid element associated with the specified Solid object. For analysis, the Solid object is internally modelled using one or more Solid elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint at which the Solid element stresses are reportedreported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: S11

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S11 stress at the specified joint reported in the Solid element local coordinate system.

Field: S22

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S22 stress at the specified joint reported in the Solid element local coordinate system.

Field: S33

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S33 stress at the specified joint reported in the Solid element local coordinate system.

Field: S12

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S12 stress at the specified joint reported in the Solid element local coordinate system.

Field: S13

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S13 stress at the specified joint reported in the Solid element local coordinate system.

Field: S23

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S23 stress at the specified joint reported in the Solid element local coordinate system.

Field: SMax

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element maximum principal stress at the specified joint.

Field: SMid

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element middle principal stress at the specified joint.

Field: SMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element minimum principal stress at the specified joint.

Field: SVM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element Von Mises stress at the specified joint.

Field: DirCosMax1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element maximum principal stress relative to the element local 1 axis at the specified joint.

Field: DirCosMax2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element maximum principal stress relative to the element local 2 axis at the specified joint.

Field: DirCosMax3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element maximum principal stress relative to the element local 3 axis at the specified joint.

Field: DirCosMid1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element middle principal stress relative to the element local 1 axis at the specified joint.

Field: DirCosMid2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element middle principal stress relative to the element local 2 axis at the specified joint.

Field: DirCosMid3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element middle principal stress relative to the element local 3 axis at the specified joint.

Field: DirCosMin1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element minimum principal stress relative to the element local 1 axis at the specified joint.

Field: DirCosMin2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element minimum principal stress relative to the element local 2 axis at the specified joint.

Field: DirCosMin3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element minimum principal stress relative to the element local 3 axis at the specified joint.

Table: Frame Hinge States

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: AssignHinge

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a hinge property assigned to the specified frame object.

Field: GenHinge

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the hinge property generated by the program for the specified frame object based on the assigned hinge property.

Field: RelDist

Field is Imported: No
Format: Controlled by program
Units: Unitless

The specified relative distance from the I-end of the frame object to the hinge location. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDist

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the hinge location.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The P force in the frame element at the associated hinge, for the specified step.

Field: V2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The V2 force in the frame element at the associated hinge, for the specified step.

Field: V3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The V3 force in the frame element at the associated hinge, for the specified step.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The T moment in the frame element at the associated hinge, for the specified step.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The M2 moment in the frame element at the associated hinge, for the specified step.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The M3 moment in the frame element at the associated hinge, for the specified step.

Field: U1Plastic

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The plastic translational deformation of the frame element, in the frame element local 1 direction, at the associated hinge, for the specified step.

Field: U2Plastic

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The plastic translational deformation of the frame element, in the frame element local 2 direction, at the associated hinge, for the specified step.

Field: U3Plastic

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The plastic translational deformation of the frame element, in the frame element local 3 direction, at the associated hinge, for the specified step.

Field: R1Plastic

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The plastic translational deformation of the frame element, in the frame element local 1 direction, at the associated hinge, for the specified step.

Field: R2Plastic

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The plastic translational deformation of the frame element, in the frame element local 2 direction, at the associated hinge, for the specified step.

Field: R3Plastic

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The plastic translational deformation of the frame element, in the frame element local 3 direction, at the associated hinge, for the specified step.

Field: HingeState

Field is Imported: No
Format: Controlled by program
Units: Text

This is either A to B, B to C, C to D, D to E, or >E indicating the state of the hinge for the specified step.

Field: HingeStatus

Field is Imported: No
Format: Controlled by program
Units: Text

This is either A to IO, IO to LS, LS to CP, or >CP indicating the status of the hinge for the specified step.

Table: Joint Accelerations - Absolute

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint absolute acceleration in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)

Units: Length/sec2

Joint absolute acceleration in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint absolute acceleration in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint absolute acceleration about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint absolute acceleration about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint absolute acceleration about the joint local 3 axis.

Table: Joint Accelerations - Relative

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint relative acceleration in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)

Units: Length/sec2

Joint relative acceleration in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint relative acceleration in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint relative acceleration about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint relative acceleration about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint relative acceleration about the joint local 1 axis.

Table: Joint Displacements

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint displacement (relative to the ground) in the joint local 1 axis direction.

Field: U2

Field is Imported: No

Format: Translational Displ (Displacements section of form)
Units: Length

Joint displacement (relative to the ground) in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint displacement (relative to the ground) in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint rotation (relative to the ground) about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint rotation (relative to the ground) about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint rotation (relative to the ground) about the joint local 3 axis.

Table: Joint Displacements - Absolute

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint absolute displacement in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint absolute displacement in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint absolute displacement in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint absolute rotation about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint absolute rotation about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint absolute rotation about the joint local 3 axis.

Table: Joint Displacements - Generalized

Field: GenDispl

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the generalized displacement.

Field: DisplType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Translation or Rotation indicating the type of generalized displacement.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: Translation

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Displacement of a translational-type generalized displacement.

Field: Rotation

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Rotation of a rotational-type generalized displacement.

Table: Joint Reactions

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint reaction force in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint reaction force in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint reaction force in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint reaction moment about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint reaction moment about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint reaction moment about the joint local 3 axis.

Table: Joint Reactions - Spring Forces

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint spring reaction force in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint spring reaction force in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint spring reaction force in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint spring reaction moment about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint spring reaction moment about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint spring reaction moment about the joint local 3 axis.

Table: Joint Time History Response Spectra

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: RSNamedSet

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the joint time history response spectrum named set associated with this output.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CoordSys

Field is Imported: No
Format: Controlled by program
Units: Text

The coordinate system in which the response spectrum curve is generated.

Field: Dir

Field is Imported: No

Format: Controlled by program
Units: Text

This is either UX, UY, or UZ (U1, U2 or U3 for local) indicating the direction in the specified coordinate system for which the response spectrum curve is generated.

Field: Damping

Field is Imported: No
Format: Controlled by program
Units: Unitless

The critical damping ratio for with the response spectrum.

Field: SpcWidening

Field is Imported: No
Format: Controlled by program
Units: Percent

The percent spectrum widening for the response spectrum.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

A period value for the response spectrum.

Field: Frequency

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

A frequency value for the response spectrum.

Field: SD

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

A spectral displacement value for the response spectrum.

Field: SV

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

A spectral velocity value for the response spectrum.

Field: PSV

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

A psuedo spectral velocity value for the response spectrum.

Field: SA

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A spectral acceleration value for the response spectrum.

Field: PSA

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A psuedo spectral acceleration value for the response spectrum.

Table: Joint Velocities - Absolute

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint absolute velocity in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint absolute velocity in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint absolute velocity in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint absolute velocity about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint absolute velocity about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint absolute velocity about the joint local 3 axis.

Table: Joint Velocities - Relative

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: U1

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint relative velocity in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint relative velocity in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint relative velocity in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint relative velocity about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint relative velocity about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint relative velocity about the joint local 3 axis.

Table: Modal Load Participation Ratios

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a modal case.

Field: ItemType

Field is Imported: No
Format: Controlled by program
Units: Text

This may be Load Case, Acceleration, Link or Panel Zone. It specifies the type of item for which the modal load participation is reported.

Field: Item

Field is Imported: No
Format: Controlled by program
Units: Text

If the ItemType is Load Case then this is the name of the load case.

If the ItemType is Accel then this is the acceleration direction. It is either UX, UY, UZ, RX, RY, or RZ.

If the ItemType is Link then this is the name of the link followed by the degree of freedom for which the output is reported in parenthesis. The degree of freedom is either U1, U2, U3, R1, R2, or R3.

If the ItemType is Panel Zone then this is the name of the joint towhich the panel zone is assigned followed by the degree of freedom for which the output is reported in parenthesis. The degree of freedom is either U1, U2, U3, R1, R2, or R3.

Field: Static

Field is Imported: No
Format: Controlled by program
Units: Percent

The static load participation ratio.

Field: Dynamic

Field is Imported: No
Format: Controlled by program
Units: Percent

The dynamic load participation ratio.

Table: Modal Participating Mass Ratios

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a modal case.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The period of the associated mode from the associated modal analysis case.

Field: UX

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure UX degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: UY

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure UY degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: UZ

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure UZ degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: SumUX

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure UXdegree of freedom.

Field: SumUY

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure UYdegree of freedom.

Field: SumUZ

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure UZdegree of freedom.

Field: RX

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure RX degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: RY

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure RY degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: RZ

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure RZ degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: SumRX

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure RXdegree of freedom.

Field: SumRY

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure RYdegree of freedom.

Field: SumRZ

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure RZdegree of freedom.

Table: Modal Participation Factors

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a modal case.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The period of the associated mode from the associated modal analysis case.

Field: UX

Field is Imported: No
Format: Modal Par - Trans (Modal Factors section of form)
Units: Force-s2

A modal participation factor for the structure UXdegree of freedom, for the assciated mode of the associated modal analysis case.

Field: UY

Field is Imported: No
Format: Modal Par - Trans (Modal Factors section of form)
Units: Force-s2

A modal participation factor for the structure UYdegree of freedom, for the assciated mode of the associated modal analysis case.

Field: UZ

Field is Imported: No
Format: Modal Par - Trans (Modal Factors section of form)
Units: Force-s2

A modal participation factor for the structure UZdegree of freedom, for the assciated mode of the associated modal analysis case.

Field: RX

Field is Imported: No
Format: Modal Par - Rot (Modal Factors section of form)
Units: Force-Length-s2

A modal participation factor for the structure RXdegree of freedom, for the assciated mode of the associated modal analysis case.

Field: RY

Field is Imported: No
Format: Modal Par - Rot (Modal Factors section of form)
Units: Force-Length-s2

A modal participation factor for the structure RYdegree of freedom, for the assciated mode of the associated modal analysis case.

Field: RZ

Field is Imported: No
Format: Modal Par - Rot (Modal Factors section of form)
Units: Force-Length-s2

A modal participation factor for the structure RZdegree of freedom, for the assciated mode of the associated modal analysis case.

Field: ModalMass

Field is Imported: No
Format: Modal Mass (Modal Factors section of form)
Units: Force-Length-s2

The modal mass for the specified mode. This is a measure of the kinetic energy in the structure if it is deforming in the specified mode. Modal mass is calculated as S(transpose)*M*S where S is the mode shape and M is the mass matrix.

Note that the modal period (MP), modal mass (MM) and modal stiffness (MS) are related to each other by the following equation:

MP = 2*pi*(MM/MS)^0.5.

Field: ModalStiff

Field is Imported: No
Format: Modal Stiffness (Modal Factors section of form)
Units: Force-Length

Modal stiffness for the specified mode. This is a measure of the strain energy in the structure if it is deforming in the specified mode. Modal mass is calculated as S(transpose)*K*S where S is the mode shape and K is the stiffness matrix.

Note that the modal period (MP), modal mass (MM) and modal stiffness (MS) are related to each other by the following equation:

MP = 2*pi*(MM/MS)^0.5.

Table: Modal Periods And Frequencies

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a modal case.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The period of the associated mode from the associated modal analysis case.

Field: Frequency

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The cyclic frequency of the associated mode from the associated modal analysis case.

Field: CircFreq

Field is Imported: No
Format: Controlled by program
Units: rad/sec

The circular frequency of the associated mode from the associated modal analysis case.

Field: Eigenvalue

Field is Imported: No
Format: Controlled by program
Units: rad2/sec2

The eigenvalue of the associated mode from the associated modal analysis case.

Table: Nonlinear Static Curves

Field: NLSNamedSet

Field is Imported: No
Format: Controlled by program
Units: Text

The NLStatic named set associated with this data.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a nonlinear static analysis case.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

A step number in the associated nonlinear static analysis case.

Field: BaseForce

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base force at the associated step in the nonlinear static analysis case. This force is equal to (FX^2 + FY^2 + FZ^2)^0.5.

Field: Displ

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The monitored displacement at the associated step in the nonlinear static analysis case.

Field: SaCapacity

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The spectral acceleration on the structure capacity curve at the associated step in the nonlinear static analysis case.

Field: SdCapacity

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The spectral displacement on the structure capacity curve at the associated step in the nonlinear static analysis case.

Field: SaDemand

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The spectral acceleration on the earthquake demand curve at the associated step in the nonlinear static analysis case.

Field: SdDemand

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The spectral displacement on the earthquake demand curve at the associated step in the nonlinear static analysis case.

Field: TEff

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The effective period at the associated step in the nonlinear static analysis case.

Field: BetaEff

Field is Imported: No
Format: Controlled by program
Units: Unitless

The effective damping ratio at the associated step in the nonlinear static analysis case.

Field: Alpha

Field is Imported: No
Format: Controlled by program
Units: Unitless

The modal mass coefficient at the associated step in the nonlinear static analysis case. This item is used to convert the base shear to a spectral acceleration. .

Field: PFPhi

Field is Imported: No
Format: Controlled by program
Units: Unitless

The modal participation factor times the modal amplitude at the associated step in the nonlinear static analysis caseThis item is used to convert the displacement to a spectral displacement. .

Field: Ato<=B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point A and point B on their hinge force-deformation curves.

Field: >Bto<=C

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point B and point C on their hinge force-deformation curves.

Field: >Cto<=D

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point C and point D on their hinge force-deformation curves.

Field: >Dto<=E

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point D and point E on their hinge force-deformation curves.

Field: >E

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges beyond point E on their hinge force-deformation curves.

Field: Ato<=IO

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point A and point IO on their hinge force-deformation curves.

Field: >IOto<=LS

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point IO and point LS on their hinge force-deformation curves.

Field: >LSto<=CP

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point LS and point CP on their hinge force-deformation curves.

Field: >CP

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges beyond point CP on their hinge force-deformation curves.

Field: TotalHinges

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total number of hinges in the structure.

Table: Objects And Elements - Areas

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of an area element.

Field: AreaObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the area object from which the specified area element was created.

Table: Objects And Elements - Frames

Field: FrameElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of a frame element.

Field: FrameObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the frame object from which the specified frame element was created.

Table: Objects And Elements - Joints

Field: JointElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of a joint element.

Field: JointObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object from which the specified joint element was created. If the joint element was not created from a joint object, but instead was created as a result of internal meshing by the program then this item is reported as None.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the specified joint element.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the specified joint element.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the specified joint element.

Table: Objects And Elements - Links

Field: LinkElem

Field is Imported: No

Format: Controlled by program
Units: Text

The number of a link element.

Field: LinkObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the link object from which the specified link element was created.

Table: Objects And Elements - Solids

Field: SolidElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of a solid element.

Field: SolidObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the solid object from which the specified solid element was created.

Table: Plot Function Traces

Field: PFNamedSet

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the plot function named set associated with this output.

Field: PlotFunc

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the plot function associated with this output.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: TransDispl

Field is Imported: No
Format: Translational Displ (Displacements section of form)

Units: Length

The translational displacement value for the trace at the specified step.

Field: RotDispl

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational displacement value for the trace at the specified step.

Field: Force

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The force value for the trace at the specified step.

Field: Moment

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment value for the trace at the specified step.

Field: FOverL

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The force per unit length value for the trace at the specified step.

Field: MOverL

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The moment per unit length value for the trace at the specified step.

Field: Stress

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The stress value for the trace at the specified step.

Field: Energy

Field is Imported: No
Format: Energy (Miscellaneous section of form)

Units: Force-Length

The energy value for the trace at the specified step.

Field: TransVel

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The translational velocity value for the trace at the specified step.

Field: RotVel

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

The rotational velocity value for the trace at the specified step.

Field: TransAccel

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The translational acceleration value for the trace at the specified step.

Field: RotAccel

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

The rotational acceleration value for the trace at the specified step.

Table: Response Spectrum Modal Information

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a response spectrum analysis case.

Field: ModalCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the modal analysis case used for the reponse spectrum case.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

Period of the specified mode.

Field: DampRatio

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

.

Field: U1Acc

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The response spectrum modal ground acceleration in the local U1direction of the response spectrum local axes.

Field: U2Acc

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The response spectrum modal ground acceleration in the local U2direction of the response spectrum local axes.

Field: U3Acc

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The response spectrum modal ground acceleration in the local U3direction of the response spectrum local axes.

Field: U1Amp

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The response spectrum modal amplitude in the local U1direction of the response spectrum local axes.

Field: U2Amp

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The response spectrum modal amplitude in the local U2direction of the response spectrum local axes.

Field: U3Amp

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The response spectrum modal amplitude in the local U3direction of the response spectrum local axes.

Table: Section Cut Forces

Field: SectionCut

Field is Imported: No
Format: Controlled by program

Units: Text

Name of a section cut.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Step

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.

For linear static, response spectrum, buckling and steady state analysis cases this field is not used.

For nonlinear static analysis cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For modal cases this field reports the mode number.

For buckling factors this field reports the buclkling mode number.

For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field either reports the step number for the output or it reports that the output is a Max or Min envelope value.

For double-valued combinations this field reports that the output is a Max or Min value.

For moving load cases this field reports the force correspondence if it has been requested.

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The section cut force component in the section cut local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The section cut force component in the section cut local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The section cut force component in the section cut local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The section cut moment component about the section cut local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The section cut moment component about the section cut local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The section cut moment component about the section cut local 3 axis.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point where the section cut force is reported.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point where the section cut force is reported.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point where the section cut force is reported.

Field: DirCos1X

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 1 axis relative to the positive global X axis.

Field: DirCos1Y

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 1 axis relative to the positive global Y axis.

Field: DirCos1Z

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 1 axis relative to the positive global Z axis.

Field: DirCos2X

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 2 axis relative to the positive global X axis.

Field: DirCos2Y

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 2 axis relative to the positive global Y axis.

Field: DirCos2Z

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 2 axis relative to the positive global Z axis.

Field: DirCos3X

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 3 axis relative to the positive global X axis.

Field: DirCos3Y

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 3 axis relative to the positive global Y axis.

Field: DirCos3Z

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 3 axis relative to the positive global Z axis.

Table: Total Energy Components

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Input

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total input energy.

Field: Kinetic

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total stored kinetic energy.

Field: Potential

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total stored potential energy.

Field: ModalDamp

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total dissipated modal damping energy.

Field: LinkDampers

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total energy dissipated in the damper-type link elements.

Field: LinkHystrtc

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total energy dissipated through hysteresis of link elements.

Field: Error

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total energy error. This is equal to the total input energy minus all other energies.

Table: Aluminum Design 1 - Summary Data - AA-ASD 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear, Major CBC Ratio, Minor CBC Ratio, or Other indicating the origin of the reported TotalRatio. CBC is short for column/beam capacity.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Aluminum Design 1 - Summary Data - AA-LRFD 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear, Major CBC Ratio, Minor CBC Ratio, or Other indicating the origin of the reported TotalRatio. CBC is short for column/beam capacity.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Aluminum Details 1 - Summary Data - AA-ASD 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear, Major CBC Ratio, Minor CBC Ratio, or Other indicating the origin of the reported TotalRatio. CBC is short for column/beam capacity.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Aluminum Details 1 - Summary Data - AA-LRFD 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program

Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear, Major CBC Ratio, Minor CBC Ratio, or Other indicating the origin of the reported TotalRatio. CBC is short for column/beam capacity.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program

Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design

load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No

Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No

Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program

Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No

Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No

Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No

Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a

specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design

load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a

specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program

Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No

Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program

Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program

Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No

Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No

Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No

Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program

Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No

Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No

Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design

load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design

load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a

specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program

Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No

Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program

Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No

Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No

Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No

Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No

Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No

Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No

Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a

specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No

Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program

Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that

the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DBMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DSMajor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DBMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: DSMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)

Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length.

Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length.

Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program

Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program

Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment.   Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)

Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details for Pipes - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: Fxe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic local buckling strength in stress units.

Field: Fxc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The inelastic local buckling strength in stress units.

Field: Fh

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The hoop stress due to hydrostatic pressure.

Field: PhiFhc

Field is Imported: No
Format: Stress Output (Stresses section of form)

Units: Force/Length2

The critical hoop buckling stress.

Field: Fhe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic hoop buckling stress.

Field: Fx

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The factor fx used in computing the combined axial compression, bending and hydrostatic pressure interaction ratio.

Field: A

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor A used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor B used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: Eta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor Eta (greek letter) used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: HydroPressu

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The factored confining hydrostatic pressure.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program

Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program

Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details for Pipes - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: Fxe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic local buckling stress.

Field: Fxc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The inelastic local buckling stress.

Field: Fh

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The hoop stress due to hydrostatic pressure.

Field: Fhc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The critical hoop buckling stress.

Field: Fhe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic hoop buckling stress.

Field: Fx

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The factor fx used in computing the combined axial compression and hydrostatic pressure interaction ratio.

Field: A

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor A used in computing the combined axial tension and hydrostatic pressure interaction ratio.

Field: B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor B used in computing the combined axial tension and hydrostatic pressure interaction ratio.

Field: HydroPress

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The confining hydrostatic pressure.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)

Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No

Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Pac

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial compression force.

Field: Pat

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The allowable axial tension force.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MaMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PeMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for major axis bending.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MaMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PeMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for minor axis bending.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length.

Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details for Angles - ASCE 10-97

Field: Frame

Field is Imported: No

Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No

Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PM stress ratio. The total PM stress ratio consists of the sum of the axial and resultant moment components.

Field: MRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resultant moment component of the total PM stress ratio. The total PM stress ratio consists of the sum of the axial and resultant moment components.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Pac

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial compression force.

Field: Pat

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial tension force.

Field: MDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The resultant factored moment. This moment includes applicable amplification factors, if any.

Field: Ma

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The resultant moment capacity.

Field: Pe

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for bending in the resultant moment direction.

Field: Cm

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for bending that is used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

Field: XK

Field is Imported: No
Format: Controlled by program
Units: Unitless

The effective length factor. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

Field: XL

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Myt

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that produces tensile yield at the extreme fiber.

Field: Mb

Field is Imported: No
Format: Moment (Forces section of form)

Units: Force-Length

The moment that causes lateral buckling.

Field: Myc

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that produces compressive yield at the extreme fiber.

Field: Me

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The elastic critical moment.

Field: LoadAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle between the angle section Z-axis and the resultant load.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)

Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No

Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: FtOrFcDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Pc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance.

Field: Pt

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The axial tensile force capacity.

Field: PcMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance considering buckling about the major axis only.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PcMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance considering buckling about the minor axis only.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity .

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mb

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling resistance moment.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for major axis bending.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mLT

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for lateral-torsional buckling.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: mMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for minor axis bending.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)

Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No

Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: FtOrFcDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Pc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance.

Field: Pt

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The axial tensile force capacity.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity .

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mb

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling resistance moment.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for major axis bending.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: N

Field is Imported: No
Format: Controlled by program
Units: Unitless

The slenderness corection factor.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McMinor

Field is Imported: No

Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: mMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for minor axis bending.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)

Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: CfOrCtDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Cr

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored compressive resistance.

Field: Tr

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored tensile resistance.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MrMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major moment resistance.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U1Major

Field is Imported: No
Format: Controlled by program

Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient used to determine equivalent uniform major axis bending.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega2

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient to account for increased moment resistance due to moment gradient.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MrMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor moment resistance.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length.

Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient used to determine equivalent uniform minor axis bending.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: NsdDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Ncrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: Ntrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tension resistance force.

Field: NbrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: NbrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: MsdMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending full moment resistance.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MvrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending reduced resistance moment due to shear.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MbrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending buckling resistance moment.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: kMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equations.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: klt

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equation checking for failure due to lateral-torsional buckling.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: C1

Field is Imported: No
Format: Controlled by program
Units: Unitless

A bending coefficient.

Field: MsdMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending full moment resistance.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MvrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending reduced resistance moment due to shear.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: kMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the minor design moment in the interaction equations.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)

Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: NsdDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Ncrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: Ntrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tension resistance force.

Field: NbrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: NbrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: MsdMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: McrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending full moment resistance.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MvrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending reduced resistance moment due to shear.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MbrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending buckling resistance moment.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: kMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equations.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: klt

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equation checking for failure due to lateral-torsional buckling.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: C1

Field is Imported: No
Format: Controlled by program
Units: Unitless

A bending coefficient.

Field: MsdMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending full moment resistance.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MvrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending reduced resistance moment due to shear.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: kMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the minor design moment in the interaction equations.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)

Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No

Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: HEQFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No

Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: HEQFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case.

Field: ErrMsg

Field is Imported: No

Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - AISC-ASD89

Field: Frame

Field is Imported: No

Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No

Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)

Units: Force/Length2

The design major shear stress.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No

Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details for Angles - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is used for design.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvTotalMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The total design major shear stress. This stress is calculated by summing the stresses due to major shear and torsion.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvShearMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress not including the effects of torsion.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvTorsMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The shear stress in the major direction due to torsion.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is used for design.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvTotalMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The total design minor shear stress. This stress is calculated by summing the stresses due to minor shear and torsion.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvShearMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress not including the effects of torsion.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvTorsMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The shear stress in the minor direction due to torsion.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PvMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PvMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PvMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PvMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VfMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear resistance.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VfMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear resistance.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No

Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VsdMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: VrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear resistance.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VsdMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear resistance.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VsdMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear resistance.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VsdMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear resistance.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No

Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name

of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No

Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name

of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program

Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name

of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program

Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name

of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 7 - Beam Shear Forces - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - BS5950 2000

Field: Frame

Field is Imported: No

Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 8 - Brace Max Axial Load - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program

Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 1 - Summary Data - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DBMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DSMajor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DBMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: DSMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)

Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length.

Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length.

Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program

Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program

Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)

Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details for Pipes - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: Fxe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic local buckling strength in stress units.

Field: Fxc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The inelastic local buckling strength in stress units.

Field: Fh

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The hoop stress due to hydrostatic pressure.

Field: PhiFhc

Field is Imported: No
Format: Stress Output (Stresses section of form)

Units: Force/Length2

The critical hoop buckling stress.

Field: Fhe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic hoop buckling stress.

Field: Fx

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The factor fx used in computing the combined axial compression, bending and hydrostatic pressure interaction ratio.

Field: A

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor A used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor B used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: Eta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor Eta (greek letter) used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: HydroPressu

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The factored confining hydrostatic pressure.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program

Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment.   Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program

Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details for Pipes - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: Fxe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic local buckling stress.

Field: Fxc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The inelastic local buckling stress.

Field: Fh

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The hoop stress due to hydrostatic pressure.

Field: Fhc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The critical hoop buckling stress.

Field: Fhe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic hoop buckling stress.

Field: Fx

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The factor fx used in computing the combined axial compression and hydrostatic pressure interaction ratio.

Field: A

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor A used in computing the combined axial tension and hydrostatic pressure interaction ratio.

Field: B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor B used in computing the combined axial tension and hydrostatic pressure interaction ratio.

Field: HydroPress

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The confining hydrostatic pressure.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)

Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No

Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Pac

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial compression force.

Field: Pat

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The allowable axial tension force.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MaMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PeMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for major axis bending.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MaMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PeMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for minor axis bending.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length.

Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details for Angles - ASCE 10-97

Field: Frame

Field is Imported: No

Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No

Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PM stress ratio. The total PM stress ratio consists of the sum of the axial and resultant moment components.

Field: MRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resultant moment component of the total PM stress ratio. The total PM stress ratio consists of the sum of the axial and resultant moment components.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Pac

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial compression force.

Field: Pat

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial tension force.

Field: MDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The resultant factored moment. This moment includes applicable amplification factors, if any.

Field: Ma

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The resultant moment capacity.

Field: Pe

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for bending in the resultant moment direction.

Field: Cm

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for bending that is used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

Field: XK

Field is Imported: No
Format: Controlled by program
Units: Unitless

The effective length factor. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

Field: XL

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Myt

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that produces tensile yield at the extreme fiber.

Field: Mb

Field is Imported: No
Format: Moment (Forces section of form)

Units: Force-Length

The moment that causes lateral buckling.

Field: Myc

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that produces compressive yield at the extreme fiber.

Field: Me

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The elastic critical moment.

Field: LoadAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle between the angle section Z-axis and the resultant load.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)

Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No

Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: FtOrFcDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Pc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance.

Field: Pt

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The axial tensile force capacity.

Field: PcMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance considering buckling about the major axis only.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PcMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance considering buckling about the minor axis only.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity .

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mb

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling resistance moment.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for major axis bending.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mLT

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for lateral-torsional buckling.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: mMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for minor axis bending.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)

Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No

Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: FtOrFcDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Pc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance.

Field: Pt

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The axial tensile force capacity.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity .

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mb

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling resistance moment.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for major axis bending.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: N

Field is Imported: No
Format: Controlled by program
Units: Unitless

The slenderness corection factor.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McMinor

Field is Imported: No

Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: mMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for minor axis bending.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)

Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: CfOrCtDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Cr

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored compressive resistance.

Field: Tr

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored tensile resistance.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MrMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major moment resistance.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U1Major

Field is Imported: No
Format: Controlled by program

Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient used to determine equivalent uniform major axis bending.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega2

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient to account for increased moment resistance due to moment gradient.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MrMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor moment resistance.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length.

Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient used to determine equivalent uniform minor axis bending.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: NsdDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Ncrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: Ntrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tension resistance force.

Field: NbrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: NbrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: MsdMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending full moment resistance.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MvrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending reduced resistance moment due to shear.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MbrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending buckling resistance moment.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: kMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equations.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: klt

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equation checking for failure due to lateral-torsional buckling.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: C1

Field is Imported: No
Format: Controlled by program
Units: Unitless

A bending coefficient.

Field: MsdMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending full moment resistance.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MvrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending reduced resistance moment due to shear.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: kMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the minor design moment in the interaction equations.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)

Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: NsdDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Ncrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: Ntrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tension resistance force.

Field: NbrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: NbrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: MsdMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: McrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending full moment resistance.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MvrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending reduced resistance moment due to shear.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MbrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending buckling resistance moment.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: kMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equations.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: klt

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equation checking for failure due to lateral-torsional buckling.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: C1

Field is Imported: No
Format: Controlled by program
Units: Unitless

A bending coefficient.

Field: MsdMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending full moment resistance.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MvrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending reduced resistance moment due to shear.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: kMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the minor design moment in the interaction equations.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)

Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No

Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: HEQFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program

Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No

Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.

For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No

Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: HEQFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case.

Field: ErrMsg

Field is Imported: No

Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - AISC-ASD89

Field: Frame

Field is Imported: No

Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No

Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)

Units: Force/Length2

The design major shear stress.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No

Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details for Angles - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is used for design.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvTotalMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The total design major shear stress. This stress is calculated by summing the stresses due to major shear and torsion.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvShearMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress not including the effects of torsion.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvTorsMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The shear stress in the major direction due to torsion.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The factored minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is used for design.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvTotalMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The total design minor shear stress. This stress is calculated by summing the stresses due to minor shear and torsion.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvShearMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress not including the effects of torsion.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvTorsMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The shear stress in the minor direction due to torsion.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PvMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PvMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the

bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PvMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PvMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VfMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear resistance.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VfMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear resistance.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No

Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VsdMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the

bending about the section principal axis with the larger moment of inertia.

Field: VrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear resistance.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VsdMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear resistance.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VsdMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear resistance.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VsdMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the

shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear resistance.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.

For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No

Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program

Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name

of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No

Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name

of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name

of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program

Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name

of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 7 - Beam Shear Forces - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - BS5950 2000

Field: Frame

Field is Imported: No

Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No

Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).

For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the

shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 8 - Brace Max Axial Load - AASHTO Steel 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program

Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)

Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load

combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program

Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).

A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.