

Release Notes for RISA-2D 11.0

Version 11.0 Enhancements/Corrections

Enhancements

- Added AISC 360-10 (14th Edition) ASD and LRFD code checks for hot rolled steel members.
- The AISC Database has been updated to include new shapes in the 14th Edition AISC Manual.
- Added ACI 318-11 code checks for concrete members and walls.
- Added ability to assign openings in concrete wall panels.
- Added Canadian Parametric Design Spectra per NBC 2005 to the Response Spectra Library.
- Added CSA S136-04 and CSA S136-07 code checks for cold formed steel members.
- Added the location of demand and capacity points on interaction diagrams for concrete walls.
- Added Load Combination Generation files for the Saudi SBC 301-2007 code.
- Added the ability to print Response Spectra and Moving Load input data.
- Added tension code checks for aluminum single angles.
- Added the ability to flip the opening locations of wall panels.
- Added the ability to print section properties from the Shape Database dialogs.
- Added optional ability to copy headers with spreadsheet data. (Optional based on a Tools-Preference setting.)
- Expanded the Torsional Buckling / Flexural Torsional Buckling code checks for AISC 360-05 (13th Edition) and AISC 360-10 (14th Edition) to apply to shapes other than WT's and LL's.
- Modified the treatment of masonry and wood Wall Panels to automate stiffness updates within the optimization / Suggested Shapes results.
- Improved masonry Wall Panel definitions to be based on Wall Design Rules so that it will be easier to change multiple walls at the same time.
- Improved reporting of Overturning Moment Safety Factors when RISAFoot runs from within RISA-2D. (This affects Load Combinations built with Basic Load Case numbers rather than load Categories).
- Improved / reorganized the Solution tab of Global Parameters to be more user-friendly and easier to read.
- Updated properties in the Cold Formed Steel Database (based on bend radius changes).
- Improved the code checks for concrete columns for cases where the column is subjected to net tension plus bending.
- Removed the obsolete Trade Arbed database from the installation routines.
- Enhanced performance on 64-bit operating systems to allow use of up to 4 GB of memory.
- Added spacing and minimum steel reinforcement area checks for concrete walls.
- Added the calculation of Cv for shear capacity of single angles for the AISC 14th Edition.
- Principal axis notation was added to the detail report for aluminum single angles.
- Enhanced spreadsheet behavior so that column widths will be remembered when they are updated.
- Simplified database shape comparisons to reduce program start-up time.
- Updated the Draw Wall Panels dialog to remember a previous action.
- Added validation to confirm that all Design Rules are valid upon opening a model.
- Changed member detail reports to show AISC-style report when AISC design is used. This happens when foreign codes are unclear on provisions.
- Updated wood wall header output to state whether the header is controlled by bending or shear.
- Added a restriction on single angles such that "depth" leg cannot be shorter than "width" leg.
- Renamed AISI NAS-07 to S100-07 based on code naming conventions.
- Removed the upper limit of 3.0 on Cb for bending capacity for the AISC 14th Edition.
- Removed moment magnification for the ACI 318-08 code, as a P-Delta analysis is required.
- Removed a limitation on the entry of Fy values on the Concrete tab of the Materials spreadsheet. Added a warning log message for ACI codes when code limits for Fy are exceeded.
- User-defined wall panel boundary conditions are now consistent across masonry, concrete, and general wall types.
- Updated shear panel optimization and hold-down selection in wood walls to be based on wall design rule's Max Shear Check and Max Bending Check respectively. Previously this value was always taken as 1.0.

- Updated masonry design for both ASD and Strength so that the Wall Design Rules - Max Shear Check column works properly. Previously it was assumed that the maximum shear check was always 1.0.
- Updated Chilean Steel database per Acero Diseño Estructural Manual – Segunda Edición

Corrections

- Corrected an issue where shapes from older RISASection files (version 1.1 and earlier) had issues with shear deformation.
- Corrected a bug that caused the weak-axis bending strength of wide flanges members with slender flanges to be overestimated in the AISC 360-05 (13th Edition) code.
- Corrected an issue with distributed loads on tapered Wide Flange steel members where a portion of the distributed load could get ignored.
- Corrected an issue with Canadian design of single angles where compression code checks were reporting a value of 0.0 rather than 'No Calc'.
- Corrected an issue related to aluminum databases and single angle flexural-torsional buckling code checks.
- Corrected an issue with the aluminum code related to the allowable bending stresses for rectangular tubes subjected to a minor axial force.
- Corrected a units conversion issue related to rebar strength for custom rebar layouts.
- Corrected a units conversion issue related to thermal loading on plate elements.
- Eliminated Lateral-Torsional Buckling code checks for cold formed HU sections bent about their y-y axis.
- Fixed a units conversion problem with RISASection shape properties used in RISA-2D
- Corrected a display issue where envelope solutions for cold formed steel members were not properly showing phi and omega values.
- Corrected an issue where the Replace and Resolve function was not properly interacting with the graphical Exclude feature.
- Corrected an issue with the shear code check of multi-span concrete columns where the controlling shear location was always assumed to be at the end of the member.
- Corrected an issue where the 'j' value displayed in a masonry wall detail report could be erroneously shown as 1.0. (This was a display issue only; the calculations were correct.)
- Corrected an issue with the calculation of A_s_{max} for the IS456 Indian concrete design code.
- Corrected an issue where the Gupta modal combination method would cause a wall panel model to crash during Response Spectra Analysis solution.
- Fixed a unit conversion issue with the Material Take Off output so that the volume of concrete is only based on the density unit.
- Corrected a problem where wall panel stiffness was incorrectly overestimated when using metric units due to a unit conversion error.
- Fixed a metric units problem with masonry lintels where the "check to make sure that the reinforcement fits within the member geometry" was not working correctly.
- Corrected an issue where concrete columns in tension would not design shear reinforcement spacing in the center span region.
- Fixed the display of incorrect governing equation numbers for bending capacities on flat aluminum plates in the detail reports.
- Updated an issue with wood wall panel optimization where having multiple design rules could cause an individual wall to be designed to a different wall design rule.
- Fixed an issue with masonry walls where the stiffness was not being reset when you make a change in the Wall Design Rules spreadsheet.