

Release Notes for RISA-2D 9.1.0

Version 9.1.0 Enhancements/Corrections

Wood Wall Panel Enhancements

- Added the ability to model wood shear walls with openings, incorporating three design options: Segmented, Perforated and Force Transfer Around Openings.
- Added a Shear Stiffness Adjustment factor for wood shear walls to allow the user to adjust the FEM stiffness of the walls to match the code equations reported in the wall detail reports.
- Added Custom Wood Species for commonly used composite lumber species.
- Application of 2w/h adjustment factors for shear capacity for seismic load combinations.
- Automated the 40% stress increase for wind load combinations (compared to seismic) for wood shear walls and diaphragms.
- Added the ability to attach wood wall panels to a beam or column via a strap.
- Improved the graphical display of hold downs and straps in the wall panel editor.
- Added option to graphically delete wall straps and hold downs for wood shear walls.
- Added undo / redo functionality to hold down and strap creation / modification.
- Changed the wall to wall connectivity of stacked segmented walls. This results in FEM deflection results that are closer to hand calculations.
- Changed default boundary condition of wood shear walls to be continuously pinned. This results in FEM deflection results that are closer to hand calculations.
- Modified the chord force and strap force calculations to more closely match typical design practice. See Wood Wall - Design for more details.
- Improved the load attribution for vertical loads applied to the "ineffective" sections of a segmented shear wall.
- Improved reporting and warning messages for straps.
- Improved reporting for situations where no panels could be found within the limits specified in **Design Rules**.
- Corrected an issue where the program was not fully accounting for a difference in the CD (load duration factor) used in the hold down database versus the one used in the load combination.
- Corrected an issue where strap forces for batch and single solutions were not consistent.
- Corrected a units conversion issue with the self weight of wood wall panels.

Code Related Enhancements/Corrections

- Added EC3 2005 Euro steel code.
- Added BSEN 2004 Euro concrete code.
- Added the 2007 edition of the Saudi concrete code (*SBC 304*).
- Added a warning message to the detail report and design results for Eurocode steel design when a shear failure causes the combined stress code checks to become infinite (i.e. ρ is greater than 1.0).
- Corrected a problem in the Canadian steel code calculations for members classified as "slender". The allowable moment capacity was being reported as negative when it should have provided an error message.
- Added a warning message to the Euro Steel detail report which reports a flaw in the Euro spec which creates moment capacities equal to zero whenever ρ approaches 1.0.
- Corrected the calculation of the Beta coefficient for Canadian Steel Code bending check.
- Adjusted the axial capacity calculation for double angles and WT's using *AISC 13th Edition* to explicitly assume C_w equals zero per the User Note / code commentary.
- Added a 3.0 upper limit to the C_b calculation for *AISC 13th Edition*. Previous versions of the LFRD code did not include this limit.
- Corrected an issue where 2001 NDS stress values were used for when doing code checks for Glu-Lam beams per 91/97 NDS.

Other Wall Enhancements/Corrections

- Added a more sophisticated 'j' calculation for masonry walls. Previous version had automatically assumed a value of 0.9.
- Corrected a problem with the units conversion of wall panel reactions.
- Corrected an issue where the self weight of walls was not included in the weight used in the automatic Seismic load generation.
- Updated the criteria for masonry lintel reinforcement spacing checks. Previously some bar arrangements would give a false warning message about the spacing.
- Corrected an issue associated with opening a model that had saved dynamic results for wall panels.
- Corrected an issue with the envelope display of wall panel reactions in the Joint Reactions spreadsheet. This could result in some joint reactions being replaced with a duplicate copy of a wall panel reaction.
- Corrected an issue where Wall Panel reactions would be erroneously removed from the Joint Reactions spreadsheet when a graphical exclude was performed.

Miscellaneous Enhancements

- Added a customizable graphic toolbar with new Plot Options button for easier graphical view of results.
- Added the ability to put a sketch number (and prefix) with graphic printing.
- Added re-design lists for newly added composite lumber Species.
- Added the ability to search for members by their Member Function in the Criteria Select dialog.
- Enhanced the error checking so that the P-Delta requirement only applies to hot-rolled steel models.
- Improved displayed F_v and F_v' values for Glu-Lam beams to better distinguish between strong and weak axes.
- Changed display of continuously free boundary conditions for wall panels to improve clarity.
- Added RSA method and damping ratio to the input file. Previously this information did not get stored with the file.
- Added ability to use Design Results spreadsheets to select or unselect members in an envelope solution.
- Continuous boundary conditions are now stored separately for wood and masonry walls. Ensures that switching back and forth between materials will not permanently change the wall data.
- Added stiffness adjustment factor (τ_b) to detail reports for AISC 13th edition.
- Added **Bending Span** results to column detail reports for members with custom rebar layouts.
- Removed option for creating new models with the "Consistent" units option.
- Modified the legend range for wireframe plate contours to more closely match the range shown for color coded contours.
- Added an automatic check for "ghost reactions." Any time the applied lateral forces are not equal to the calculated lateral reactions then a warning message will appear to alert the user.
- Modified concrete shear tie design to round to the nearest 10mm when metric units are being used.
- Improved the reporting of concrete column results designed by the PCA Load Contour Method.

Miscellaneous Corrections

- Corrected an issue where the Internal Force Summation Tool was only updating units during solution time. Therefore, switching units with an active solution could result in incorrect force display until the model was re-solved.
- Corrected issue where some spreadsheet operations (Fill block, etc) were not available in some spreadsheets (Design Rules).
- Corrected an issue where the F_v' for wood members could be incorrectly displayed in the member detail reports for Glu-Lam members.
- Corrected an issue with the reading of the Plot Options default file which could cause interface issues and/or incorrectly trigger error messages.
- Corrected a unit's conversion issue associated with the embedded RISAFoot results. No issue occurred if model was re-solved after the unit's conversion.
- Corrected a unit's conversion issue with member distributed torque loads.
- Corrected the tolerance for reporting the KL/r limit for compression member. Limit now enforced for compression members where compression demand is 1% or greater of the compression capacity.
- Corrected an issue where a dynamic solution could erroneously solve with tension only members specified. Issue was associated with reading in data from saved results that may not have been consistent with the data file.
- Corrected an issue with the plate contour plotting for models with applied plate thermal loads.
- Corrected an issue where the spacing of shear ties was not properly taking into account the **Global Parameter** setting for increments.