

# Release Notes for RISA-2D 10.0

## Version 10 Enhancements/Corrections

### *Enhancements*

- Added Aluminum member design
  - Added all shapes in the 2005 Aluminum Design Manual.
  - Added code checks per the AA ADM1-05 ASD for both buildings and bridges.
- Updated the names assigned to all design code options to match ANSI naming convention.
- Added drawing of flexural reinforcement in the column cross section to concrete column detail reports.
- Added the ability to apply distributed and point loads oriented along the wall panel local axes.
- Improved the design of headers and studs within wall panels so that only gravity load combinations are considered.
- Reduced input file size by eliminating nailing schedules and hold down schedules from all but explicitly defined wood walls and diaphragms.
- Added the multi-ply wood column design adjustment factor per NDS 15.3.2.
- Added a Tools - Preferences option to turn off the Sum of Reactions check.
- Added equation C-F9-1 from steel code commentary (AISC 360-05) to account for the bending capacity of a fully braced WT with stems in compression
- Added an option to use a non-iterative ( $\tau = 1.0$ ) method for the AISC 360-05 / 13th edition Direct Analysis method.
- Modified the AISC direct analysis method to ignore the sway flags. See the Limitations – Stiffness Adjustment section of the help file for more information.
- Modified the Concrete Column detail reports so that they always show the interaction diagram regardless of what loading is applied to them.
- RISA-2D no longer includes internal wall panel joints when checking against the program limits for maximum number of joints.
- Reduced the memory usage associated with envelope results for wall panels.
- Added network file security to prevent multiple users from opening / editing the same file at once.

### *Corrections*

- Corrected a database issue where some HSS round members had an incorrect wall thickness listed.
- Corrected a display issue with the Canadian steel code where the  $KL/r$  shown in the detail report was based on the user entered K value rather than the value of 1.0 required by the clause which governed the code check.
- Corrected an issue associated with P-Delta analysis in the AISC 13th edition (ASD only) for members subjected to thermal loads. The 1.6 amplification factor on P-Delta effects was not being taken into account for the thermal loads.
- Corrected the allowable shear stress calculations for the Indian steel code per section 6.4.2
- Corrected a unit's conversion issue within the bar strain calculation for concrete. This could cause ACI code checks to use an incorrect phi factor.
- Corrected an issue where the  $C_b$  value was being over-conservatively taken as 1.0 for cases where the user defined both the  $L_{comp}$  and the  $C_b$ .
- Corrected an issue where Canadian code checks were not being performed on single angles designated as Euler buckling members.
- Corrected issues where program could erroneously report that input forces did not equal the sum of reactions.
- Corrected a problem where header/ lintel design above wood or masonry wall openings was being skipped for headers / lintels close to the top of a wall.
- For masonry bending the nominal wall thickness (instead of the actual wall thickness) is now used per provision 2.3.3.3b of ACI-530.
- Corrected an issue where the use of design lists with tapered members could cause the code check to be based on an incorrect gamma value. This could also result in an incorrect error message.
- Corrected a problem with batch solutions for wood walls that caused a non-controlling chord force to be reported as controlling.
- Corrected an issue with masonry shear walls which could cause the moment capacity to be reported as zero.
- Corrected an issue in wall panel forces that caused random sign reversal of internal wall forces.
- Corrected an issue with tapered members which could cause them to ignore member point loads applied at 100% of the member length.
- Corrected an issue where some report printing sections were printing out the wrong sections.
- Corrected a Euro code issue where the program calculated a zero moment capacity for one direction of a tube shape.

- Corrected an issue with the append command where materials with non-unique labels could cause the wrong material to be assigned to members from the appended model.
- Updated notation for design coefficients for EuroCode. Previously, the EC3 2004 code was mistakenly using the naming convention from the 1992 version of the code.
- Corrected an issue with the  $F_c$  (allowable compression stress) value for the "Western Cedar" species in the wood material database.
- Corrected an issue where the program was refusing to do a code check (because  $f_b > F_bE$ ) even though the member was in tension.
- Corrected an issue where rigid end offsets and custom rebar layouts could result in an overly conservative shear check.
- Fixed a units conversion issue where code checks for wood wall panels could be overly conservative.
- Fixed an issue where hard-coded wood wall panels would always give a seismic load combination as the governing load combination, even if a non-seismic load combination controlled.