



RISA Software Update

Designing Your Next Building in Wood Just Got Easier

As part of an agreement with WoodWorks, RISA has expanded its popular design software to reflect growing interest in non-residential wood buildings. Now it's easier than ever to lower the cost of your next building project while also choosing sustainably—and benefiting from wood's other attributes such as design flexibility and speed of construction.

Summary of Wood Features: RISA-3D v8.1 and RISAFloor v4.1

The following features have been added to the software package combination of RISA-3D and RISAFloor to provide for the gravity and lateral design of complete buildings using wood materials.

Gravity Loading

- RISAFloor allows complete gravity analysis and design using wood members.
- By allowing users to specify custom wood properties, the program accommodates unlimited wood material choices, including proprietary products.
- It takes just minutes to complete the layout of an entire building.

Lateral Force Design

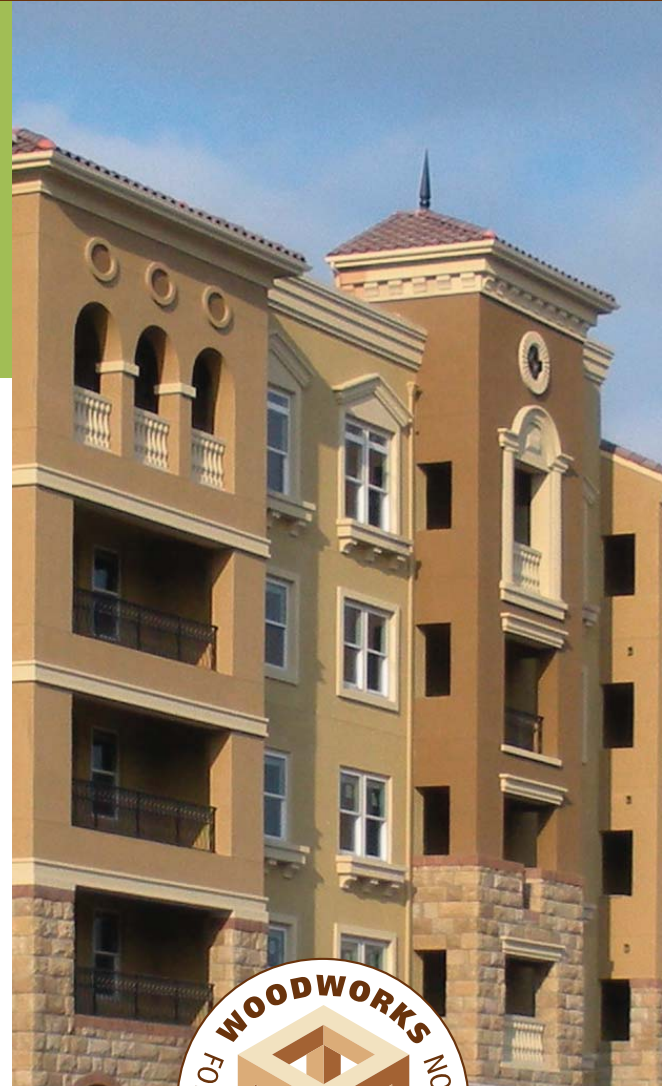
- RISA-3D automatically generates wind and seismic loads per *ASCE 7-05 Minimum Design Loads for Buildings and Other Structures*.
- Seismic force calculations are provided for regular and irregular structures (per response spectrum analysis).
- Lateral analysis of non-rectangular buildings is provided.
- Open front buildings are calculated using rigid analysis.
- Portal frames are provided.

Hybrid Structure Design

- Users can design structures made from wood and concrete, wood and steel, and wood and masonry.

Code Compatibility

- RISA is integrated with the *National Design Specification for Wood Construction® (NDS®) 2005*, *International Building Code 2006* and *California Building Code 2007*.



WoodWorks

Design and building support for the non-residential marketplace

WoodWorks provides free resources that can help you design and build non-residential structures out of wood more easily and at less cost. For technical support, upcoming educational events, wood design awards and more, visit us at woodworks.org.



Shear Wall Design

- RISA-3D accommodates three approaches to shear wall design: Segmented Design (traditional, no opening within the shear wall segment), Force Transfer Around Openings, and Perforated Shear Wall Approach.
- For Segmented Design, the shear and chord forces for each segment are reported for each direction.
- For Force Transfer Around Openings, compression forces for blocking, tension forces for straps and the shear in each element are calculated and reported. The unit shear demand for each region and the entire wall panel is also reported.
- Code checks are done for the entire wall panel based on nail size, spacing, pattern and sheathing specifications, and for header sizes over openings.
- Optimization suggestions are provided.
- With the use of design rules within the software, users have the flexibility to control how shear walls are grouped for the shear wall schedule.
- Studs are checked for vertical forces per the NDS.
- Hold downs for vertical forces are checked against the manufacturer's stated capacity.
- Continuous tie-down systems can be used for the design of multi-story wood structures with stacking shear walls.
- Shear wall deflection calculations are provided.
- Users can manually envelope wall design based on rigid and flexible diaphragm assumptions.

Diaphragm Design

- RISA-3D includes flexible and rigid diaphragm analysis.
- An enveloped analysis can be easily completed.
- Moment and shear diagrams for each diaphragm are generated and reported.
- Rectangular diaphragms can be designed, including zone nailing.
- Code checks are done for chord members and collector members.
- Diaphragm deflection calculations are provided.

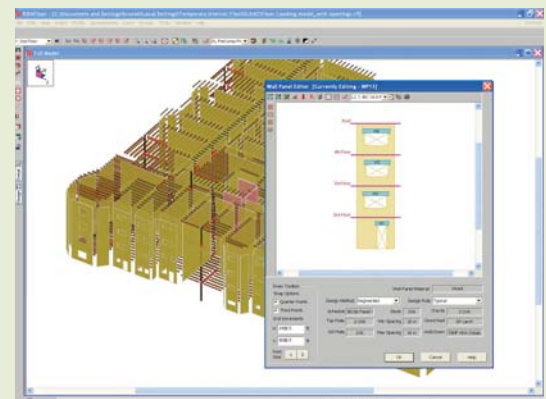


Current RISA license holders will receive the update automatically as well as information on training opportunities. If you have a non-residential project in development that could benefit from the RISA update, support is also available in the three regions covered by the WoodWorks program. Visit woodworks.org and contact a technical director in your area.

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USING RISA TO DESIGN WOOD BUILDINGS

RISA offers three software programs—RISA-2D, RISAFloor and RISA-3D—all of which incorporate new wood features. RISAFloor and RISA-3D together comprise the “building system” software used to design a complete structure. RISAFloor is used first for gravity analysis and design, and RISA-3D is then used for lateral analysis. (This is where shear walls and diaphragms are analyzed and designed.) RISA-2D is generally used for single component design, including multiple shear walls in one wall line.



COMPATIBLE WITH REVIT STRUCTURE

As a premier partner with Autodesk, RISA provides a high degree of design compatibility with Revit Structure.

- New models can be created in Revit Structure or RISAFloor/RISA-3D and transferred seamlessly between programs.
- All geometry, loads and reaction information is shared.
- Users have the option of transferring the entire model or specific sections.

RISAFloor and RISA-3D can also import and export DXF files (simplifying interaction with AutoCAD and other drafting packages) and SDS/2 files (for interaction with steel detailing software such as SDS/2 and Tekla Structures as well as plant software such as Smartplant 3D and PDS). SDFN and STAAD. Pro files can also be imported.

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WoodWorks is an initiative of the Wood Products Council, which includes all of the major North American wood associations.