How to use the RISAFloor- Revit Structure Link

Starting in RISAFloor

Step 1: With a RISAFloor model open, solve the model and save.
Step 2: Select *File* -> *Export* -> *BIM Exchange File*
Step 3: Save the exchange file (*.exc format)

Then in Revit Structure

Step 4: Open a New File
Step 5: Save the File, Open a 3D view
Step 6: Tools -> External Tools -> Update Model from RISA
Step 7: Select RISAFloor file type.
Step 8: Click the Browse button for the 'Exchange File' and select the 'Exchange File'. Make sure that the path specified is correct. (Note that the 'BaseFile Name' is automatically found)
Step 9: Press OK

ROUNDTRIP RISAFloor to Revit Structure

You MUST now make the ROUNDTRIP back into RISAFloor from Revit in order to establish the link between both models, even if nothing has been changed in the Revit model.

Step 10: From Revit Structures select *Tools* → *External Tools*→ *Send Model to RISA*
Step 11: All the files will be automatically found- press OK

Once the model has been successfully transferred back to RISAFloor from Revit- you can view the model and make modifications.

Important Modeling Tips for RISAFloor

The deck needs to be explicitly assigned in RISAFloor.

Revit does not interpret the RISAFloor default deck or the slab.

Slab overhangs need to be defined by drawing the deck outside the perimeter of the Slab edge.

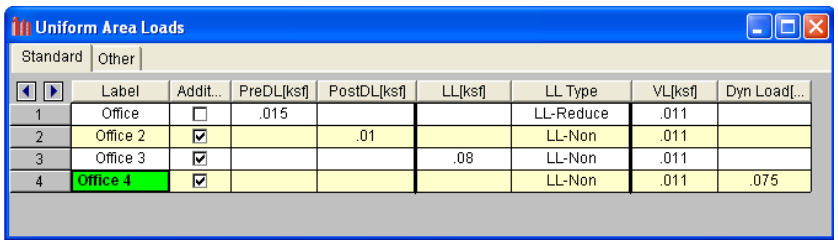
The deck needs to be defined overhanging over the slab perimeter. First add point locations outside of the slab perimeter. Then, using the Assign Deck- Point to Point, draw the deck outside the boundaries of the slab edge.

Stud design in RISAFloor needs to be Uniform Studs Only.

In RISAFloor, select "Use Uniform Studs Only" in the global parameters under the Composite tab. Revit only supports uniform stud layouts.

Revit doesn't allow multiple area loads for with one name.

You need to break up load categories giving each one a unique name. Be sure to check the "Additive" button and apply the additional loads to the floor manually in RISAFloor.



	Label	Addit...	PreDL[ksf]	PostDL[ksf]	LL[ksf]	LL Type	VL[ksf]	Dyn Load[...
1	Office	☐	.015			LL-Reduce	.011	
2	Office 2	☑		.01		LL-Non	.011	
3	Office 3	☑			.08	LL-Non	.011	
4	Office 4	☑				LL-Non	.011	.075

The model must be solved, or 'explicit shapes' must be specified in RISA Floor.

Only export the Slabs from RISAFloor into Revit once.

Then on the round-trip from RISAFloor to Revit "Uncheck" the Slabs and Openings. This would preserve the slab perimeters and openings that were already defined in RISA Floor. It would still update the deck information from REVIT to RISA Floor (properties and geometry).

How to Use the RISA–3D – Revit Structure Link

Starting in RISA-3D

Step 1: With a RISA-3D model open, save the file
Step 2: Select *File* -> *Export* -> *BIM Exchange File*
Step 3. Save an exchange file (*.exc format)

Then in Revit Structure

Step 4: Open a New File
Step 5: Save the File, Open a 3D view
Step 6: Tools -> External Tools -> Update Model From RISA
Step 7: Select RISA-3D file type
Step 8: Click the Browse button for the 'Exchange File' and select the 'Exchange File'. Make sure that the path specified is correct. (Note that the 'BaseFile Name' is automatically filled up.
Step 9: Press OK

Important Modeling Tips for RISA-3D

Load Categories are not supported in the RISA 3D link with REVIT Structure.

RISA 3D Load Cases map to REVIT Structure Load Cases and RISA 3D Combinations map to REVIT Structure Combinations. Any load combinations containing load categories would not be sent to REVIT Structure. Also, blank load combination names are not allowed in REVIT Structure.

REVIT Structure does not allow loads with Zero magnitudes.

You cannot have Zero Load magnitudes in the model that is being sent to REVIT Structure.

Member type needs to be identified.

Vertical Members should have a 'member type' of 'Column' and horizontal members should have a 'member type' of Beams. The members having different elevations at their two ends should be defined as 'HBrace' or 'VBrace'. These restrictions are imposed in RISA-3D to comply with the analytical model for these 'member types' in REVIT Structure.

Important Modeling Tips for Revit Structure Modeling

- ✓ Level Names should NEVER be more than 32 characters in REVIT Structure.
- ✓ Two levels should not have the same name or elevation in either REVIT Structure or RISAFloor.
- ✓ REVIT Structure Grid Elements need to be horizontal or vertical lines only in order to transfer to RISA.
- ✓ REVIT Structure Area Loads can have no more than 4 nodes to be transferred to RISA.
- ✓ RISA does not support Footing rotations and Rebar data at this time.