

## RISA Webinar Q&A

## Structural Modeling: An Essential Skill for Engineers

Jan. 25, 2011

- **Q**: We have been modeling complicated foundation systems with varying height retaining walls. One of the problems we have encountered is applying surface loads that vary over the height of the wall when modeling the wall using plate elements.
- A: If you are modeling your retaining wall as a Wall Panel then you can add a tapered surface load to it. However, we don't currently have the option to add tapered loads to plates. We plan to add this feature to a future release, hopefully later this year.
- **Q**: Can you model the Stiff Plate in RISA-3D?
- A: You can specify a reduced unbraced length due to a stiffener which would affect the beam code check. However, the stiffener itself is not modeled as that is more of a connection detail. RISA-3D performs the member design & RISAConnection performs the connection design.
- **Q:** In a truss, are all web members automatically released or will I need to specify them? Also, what is the degree of freedom for the joints?
- A: You have control over the member end releases when you model them. You can model them as fixed or pinned. There are 6 degrees of freedom at each joint; 3 translational and 3 rotational.
- Q: What does "length<9" & "thickness<3" mean?
- A: We're referring to Length to width and thickness to width ratios. We will be posting slides to our website so you can print the ratios we're recommending.
- Q: What is the next step once the model alerts me of a locked joint?
- A: RISA-3D will show you which joints it locked so you're aware of the location of the problem. However, we have some good rules of thumb for avoiding these instabilities. Please refer to **Do You Ever Get the "LOCKED" Message on a Simple Beam Model?** and/or **How to Model a Two-Dimensional Component in RISA-3D** on our **RISANews** blog for more tips on how to avoid instabilities.
- **Q:** When we Link a Revit model we find that our column length, splice length and parapet height transfers incorrectly and in turn locks the program to where we cannot change the top elevation of our columns.
- A: Are you transferring your model to RISA-3D or RISAFloor? This might be better to discuss directly so you can send us your model and trouble shoot it. Revit modeling is tricky because we only look at the analytical model. Please send your model and question directly to Technical Support via email at <a href="mailto:support@risatech.com">support@risatech.com</a>. We have Autodesk® Revit® Structure experts who can trouble shoot the issue and respond to you within an hour of receiving your model.
- Q: What is the IFC Format?
- A: IFC is a neutral file format that covers all materials. Where CIS/2 is specific to steel, IFC is for all materials.

- **Q**: Why doesn't RISAFloor offer diagonal gridlines?
- A: RISAFloor has the ability to add skewed drawing grids but does not have skewed Project Grids. We plan to add the option for diagonal Project Grids shortly.
- Q: Are there any recommendations you would make with regards to the use of rigid links?
- A: There are some really good applications for Rigid Links such as composite behavior. However, there are some good rules of thumb as well, such as don't make your I or E values greater than 1E6. We will be posting a Technical Solution topic to <a href="www.risanews.com">www.risanews.com</a> in the next month regarding this topic. We encourage you to go through the site regularly for more information on specific topics like this one. You can use the Search option to search for key words such as "rigid."
- **Q:** What is the rule of thumb for plate thickness to length?
- A: The thickness to length ratio should not exceed 3.
- Q: I'd like to participate in some of the previous seminars. Do I need to pay \$25 for each one?
- A: You can view any of the **Recorded** webinars on our website for \$20 each.
- Q: Any plans for a webinar on the AISC 13th Ed including notional loads?
- A: We did an in-person seminar on this topic a few years ago. (The presentation may be downloaded from the **Technical Papers** section of our web site.) We will add this topic as a webinar to the list of suggestions. We will definitely be having a seminar on the AISC 341 Seismic Provisions later in Spring as this is part of the RISA-3D spring release.
- Q: Can we have a RISA to SDS2 seminar?
- A: We've worked closely with Design Data so ensure that models can transfer back and forth. The integration with SDS2 is done using a CIS/2 file. To do this you need to export your SDS/2 model as a CIS/2 file. You can then import the CIS/2 file to RISA. It's actually very simple so we don't think we could come up with an hour's worth of material. You can download the RISA CIS/2 Translator from our website and then use it to import the SDS2 file into RISA. For specific questions on importing or exporting a CIS/2 file please contact our Technical Support department at support@risatech.com.
- Q: I use DataCad as my drafting software. Can modeled structures in DataCad be brought into RISA?
- A: Absolutely! As long as DataCad can export a dxf file, then RISA-3D and RISAFloor can import it.

To view the webinar or download a copy, please visit www.risa.com/webinar