RISA Webinar

Component Design in RISA

Presenter: Deborah Brisbin, P.E.
RISA PROGRAMS

RISA-2D 10.1

RISA-3D 9.1
Types of Models

- Beams, Columns, & Frames
- Trusses
Feature Review - Building the Model

- Graphically drawing your model
- Using Member Types
- Section Sets vs Assign Shape Directly
- Physical Members
- Using the Drawing Grid
- Member End Releases

Component Design
Feature Review - Getting Results

- High Level Generation tools
- Assigning the Unbraced Length
- Creating Load Combinations & Using Load Categories
- Using Suggested Shapes

Component Design
Lb-out and Lb-in (RISA-2D)  
Lb-yy and Lb-zz (RISA-3D)

- **Definition:** Unbraced length for the member with respect to column type buckling out of plane and in plane.
- Used to calculate KL/r ratios for both directions
- Reference Chapter E and Section B7 of the ASD or LRFD code.

**Lcomp-top** and **Lcomp-bot**

- **Definition:** unbraced lengths of the compression flanges for flange buckling due to flexure.
- Used to calculate the allowable bending stress, or bending strength.
- Reference Chapter F - specifically the definition of "l" on page 5-47 of the ASD code or the definition of Lb on page 6-53 of the LRFD code.
Quick tools: Type “Segment” or “S”

- This places a brace point at all intermediate Joints
- Be careful to delete any extraneous joints

How do you define “Top”?
Turn on your local axis to see Local y direction

Unbraced Length
Dead Loads ➔ Rake

Live Loads, Snow Loads ➔ Projected

Projected = Applied Load x (Member Length in Horizontal Plane)
Actual Member Length

Wind Loads ➔ Perpendicular

Truss Loading
Wood Unbraced Length

Le2 = Out of Plane

Le1 = In Plane

Unbraced Length
Additional Resources

- RISA-3D and RISA-2D Help File and Reference Manual
- www.risanews.com
- support@risa.com
- User’s Guides available at www.risa.com

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Questions?

Please let us know if you have questions.

We will answer as many questions as time permits during the webinar.

Once the webinar is closed, we will post all Q&A’s, as well as the Quick Reference Guide, to our website: www.risa.com

For further information, contact us at: info@risa.com

Thank you for Attending!