

RISA Webinar

Using the AISC 341/358 Seismic Provisions within RISA-3D

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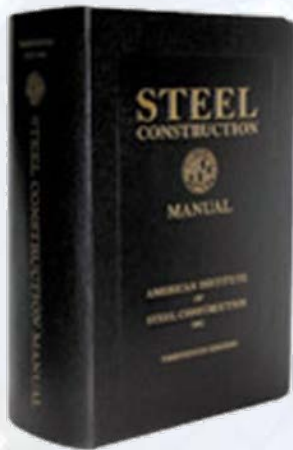
RISAFloor 5.1



RISA-3D 9.1

INTEGRATED PROGRAMS

- AISC 360-05 (13th Edition Steel Construction Manual)
- AISC 341-05 (Seismic Provisions)
- AISC 358-05 (Prequalified Moment Connections)



Images courtesy of AISC.org

REFERENCED CODES

Seismic Considerations

- Member Strength
- Connection Strength
- Drift

R (Response Modification Coefficient)

For steel systems *not* specifically detailed for Seismic Resistance:

$$\mathbf{R = 3}$$

(SDC A, B, C Only)

Ω_o (Overstrength Factor)

- Applied to Load Combinations
- For members which must remain elastic
- Seismic Provisions dictate usage

OVERSTRENGTH FACTOR

ρ (Redundancy Factor)

- Applied to Load Combinations
- For members which do *not* use Ω_o
- ASCE 7 dictates usage

AISC Frame Types

Moment Frames

Braced Frames

- Concentric
- Eccentric
- Buckling-Restrained

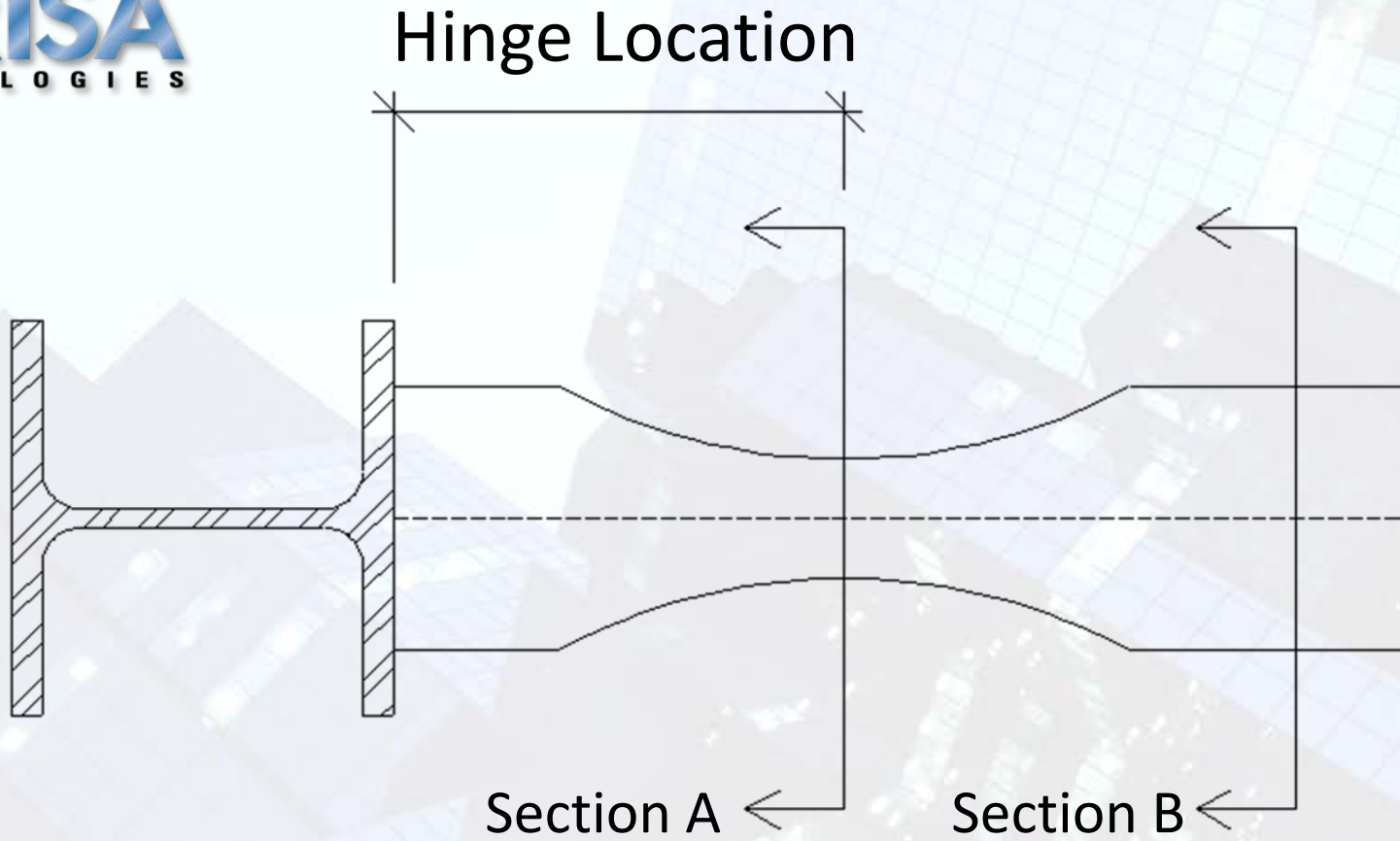
Steel Plate Shear Wall



Version 9.1



Future Releases



$$\text{Z Factor} = \frac{Z @ \text{Section A}}{Z @ \text{Section B}}$$

REDUCED BEAM SECTION

AISC Requires

RISA-3D Reports

Member Strength

Yes

Member Slenderness

Yes

Connection Strength

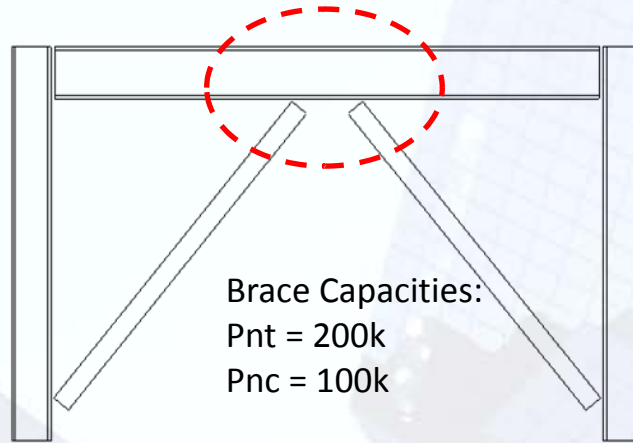
Yes

SC/WB, Span:Depth

Yes

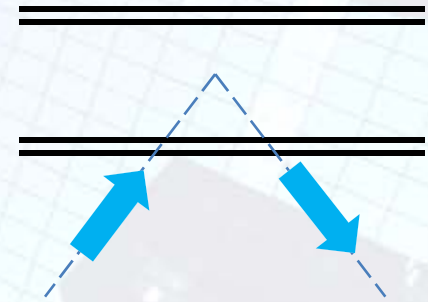
Fabrication Detailing

No

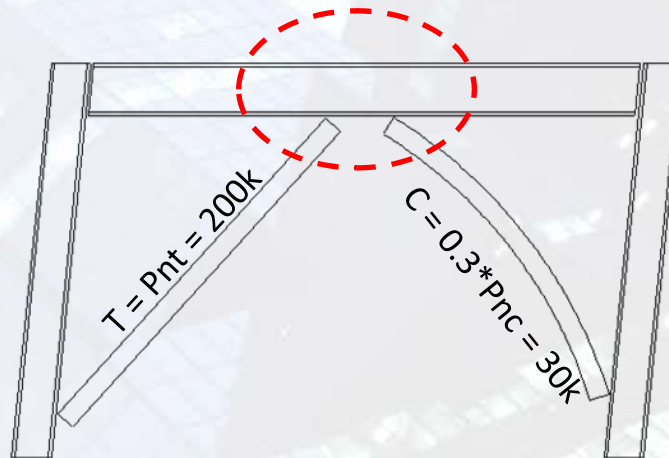


Brace Capacities:
 $P_{nt} = 200k$
 $P_{nc} = 100k$

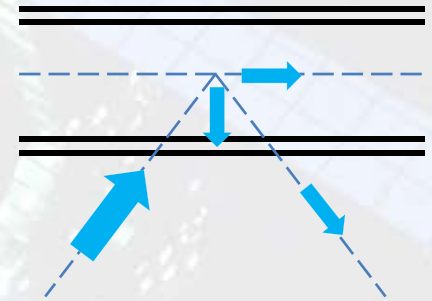
BRACED FRAME



FREE BODY DIAGRAM



COMPRESSION BRACE BUCKLED



UNBALANCED FORCE ON BEAM

UNBALANCED BEAM FORCES

Additional Resources

- AISC Seismic Design Manual
- RISA-3D Help File / Manual
- www.risanews.com

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@risatech.com

Thank you for Attending!

