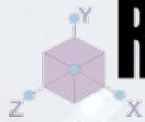


RISA Webinar

Plate Design in RISA-3D

Presenter: Matt Brown, P.E.





RISA-3D RISA-3D 9.1.1

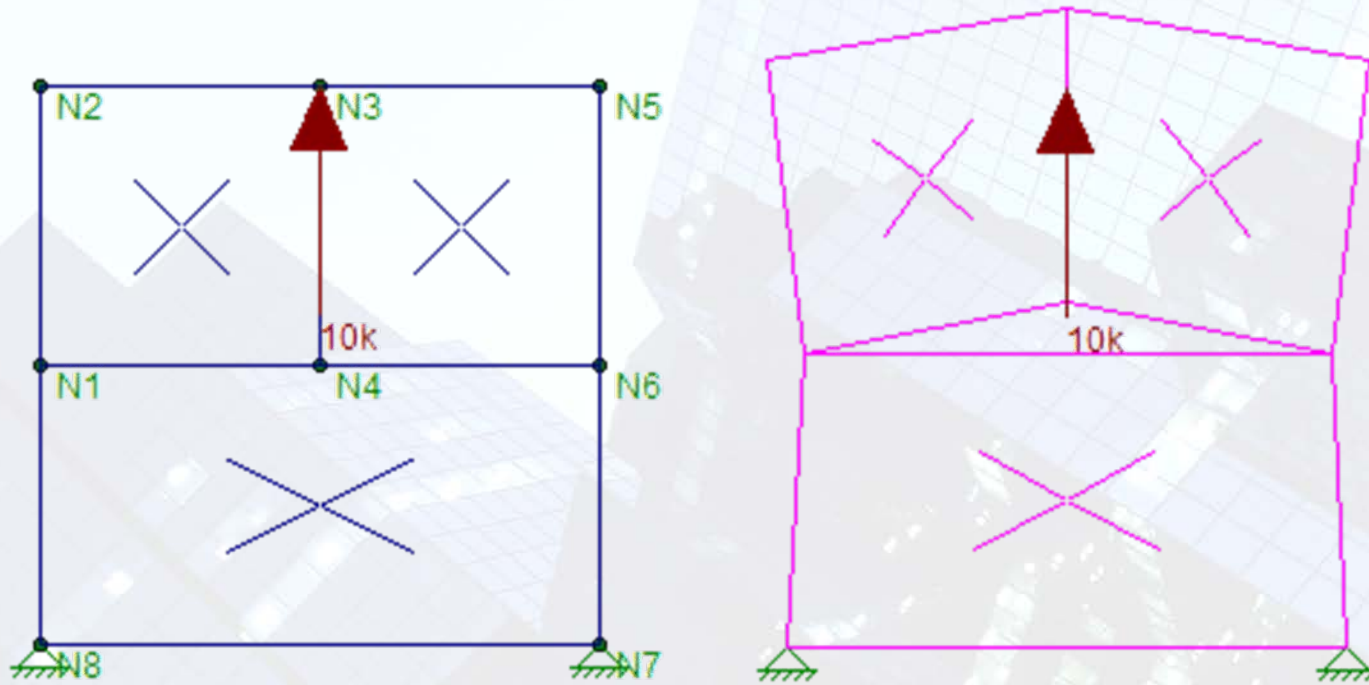
PROGRAM

Today's Topics

- Plate Connectivity
- Shape Limitations
- Submeshing and Accuracy
- Interpreting Results
- Common Uses and Modeling

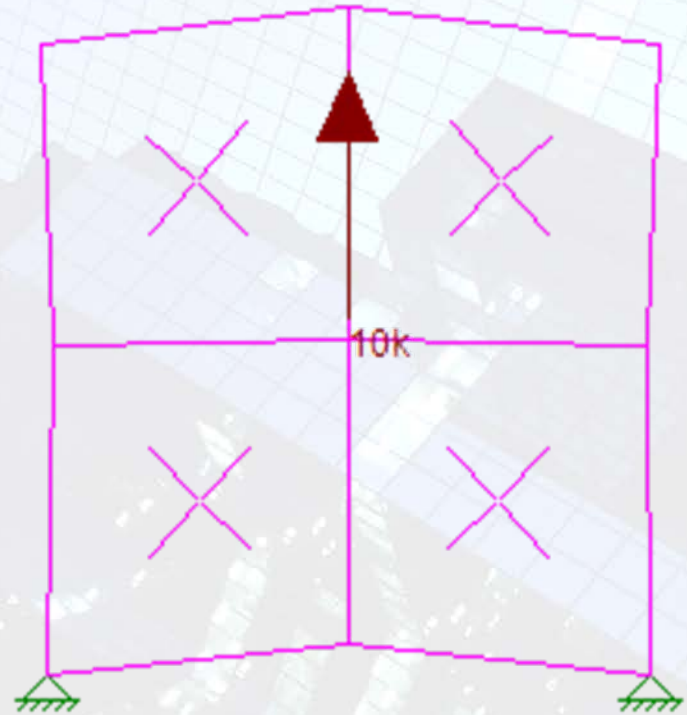
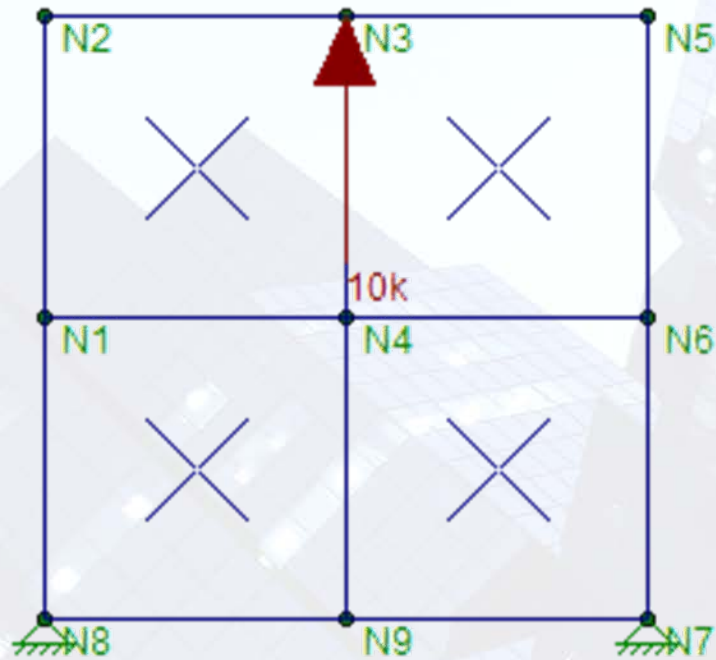
OVERVIEW

- Plates are *not* physical members
- Plates only connect to plates, members, nodes, etc *at their corners.*
- If a node falls along a plate's edge or interior it is *not* connected to that plate.



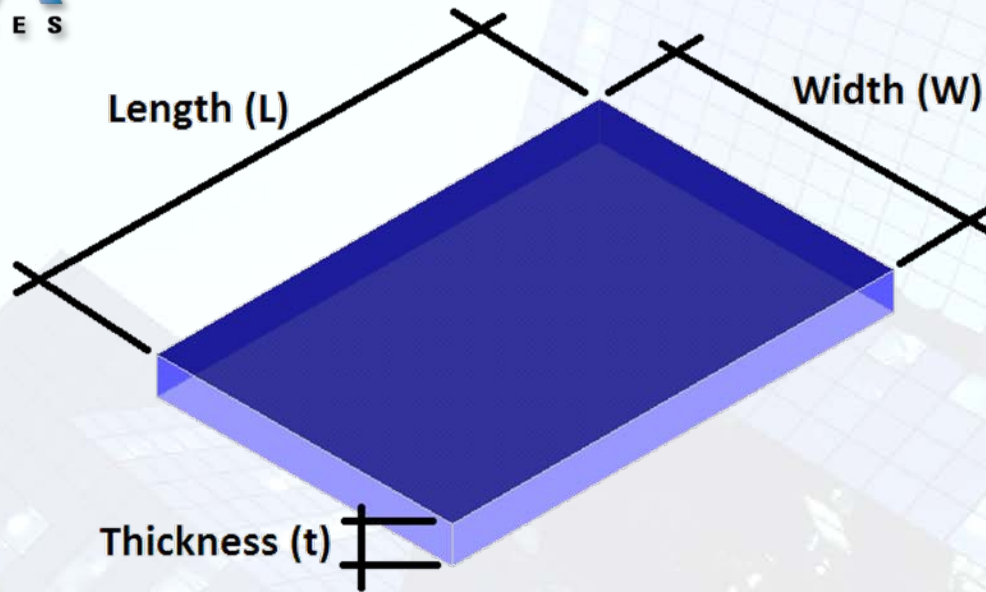
Node N4 falls along the edge of the bottom plate. Notice how a “tear” forms

PLATE CONNECTIVITY



Submesh the bottom plate so that every plate's corner connects to another corner

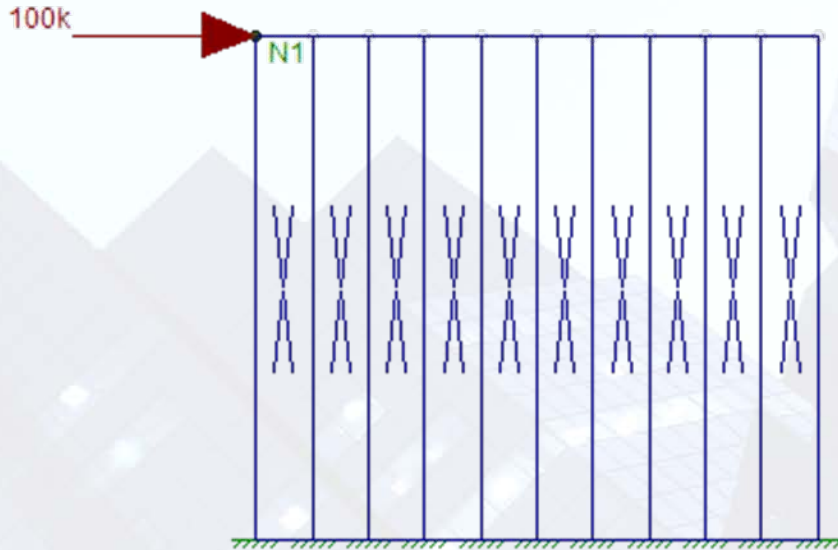
PLATE CONNECTIVITY



L/W should not exceed 9.0

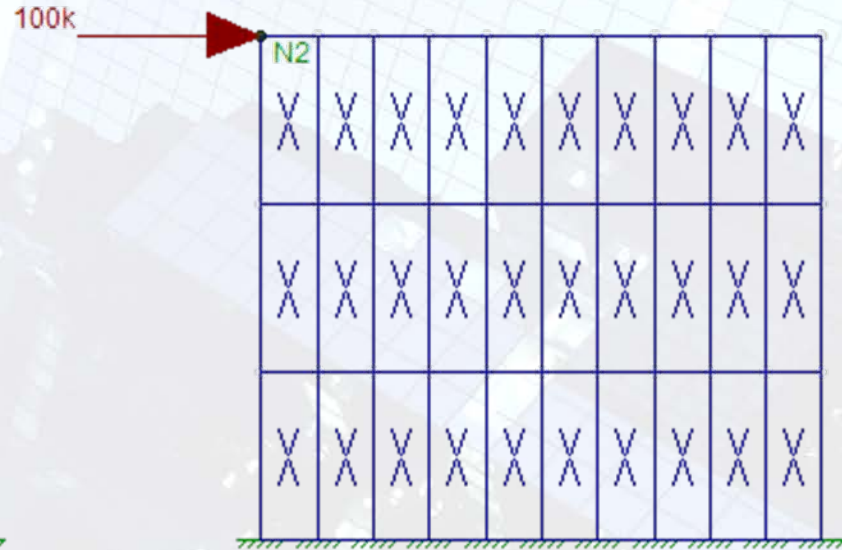
t/W should not exceed 3.0

SHAPE LIMITATIONS



L/W ratio = 9

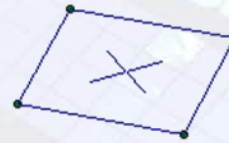
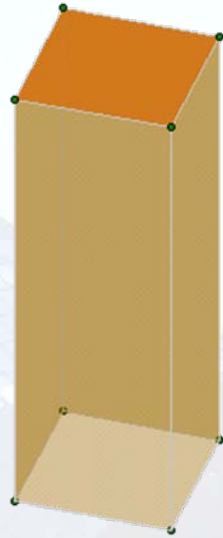
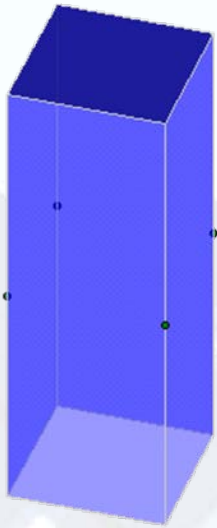
Lateral Deflection = 2.0"



L/W ratio = 3

Lateral Deflection = 3.0"

SHAPE LIMITATIONS



t/W ratio = 3

vs

8-Node Solid Element

Solid Elements are more accurate than thick plates

SHAPE LIMITATIONS



Good Plate

Relatively
Rectangular



Bad Plate

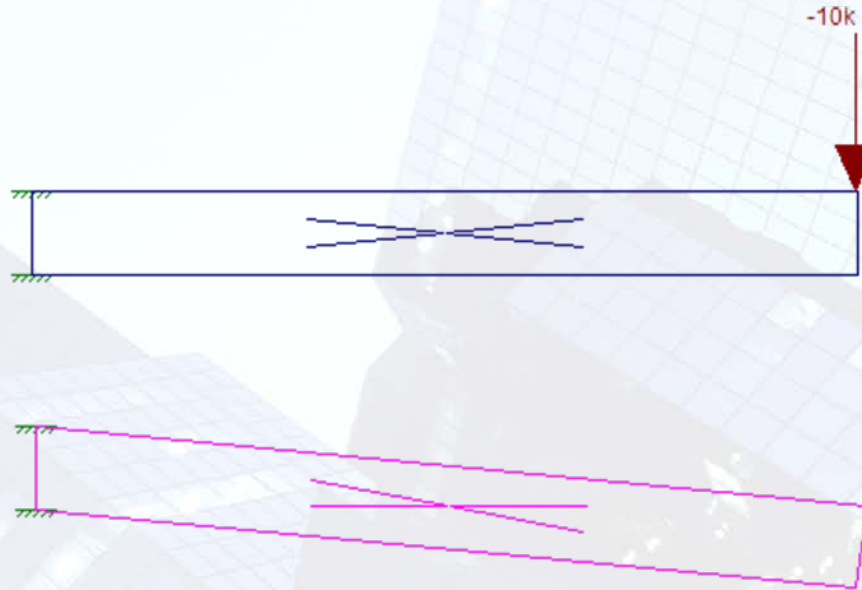
Interior Angle
Exceeds 155 Degrees



Ugly Plate

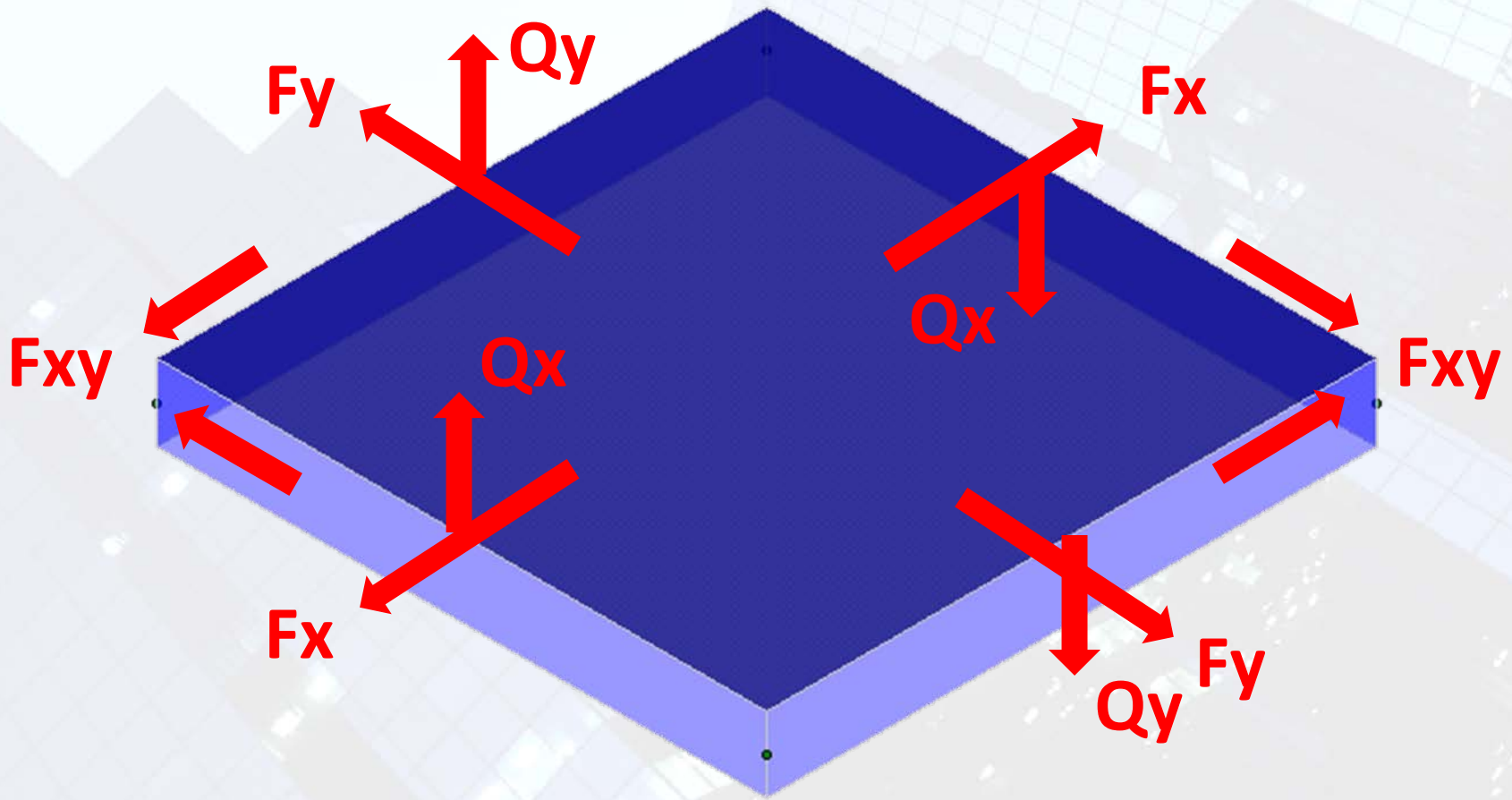
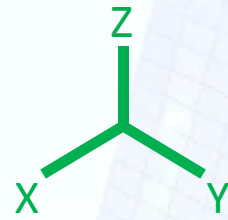
Bowtie Configuration

SHAPE LIMITATIONS

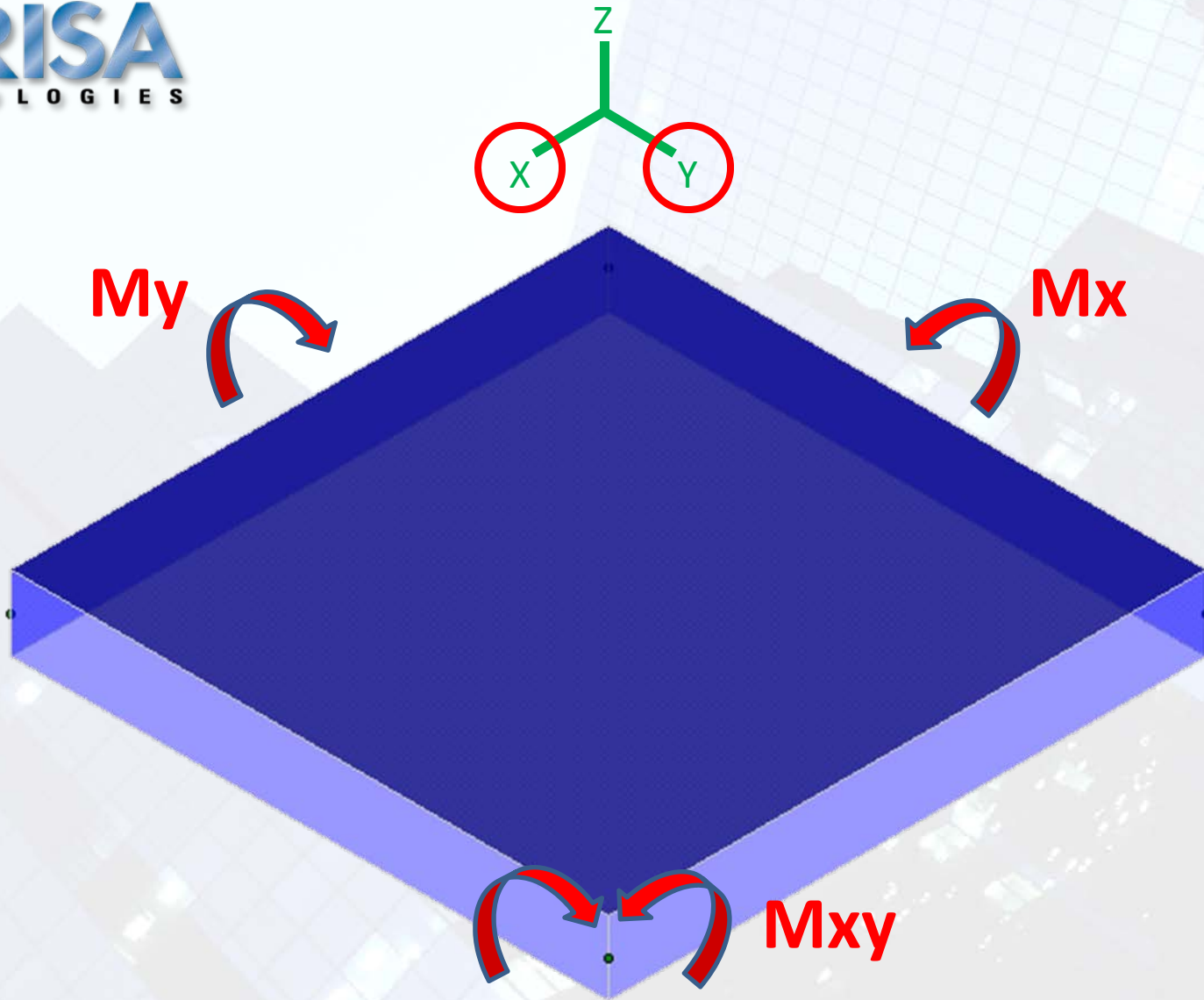


Plates only exhibit shear deflection (not flexural)

In other words, a plate's edge cannot curve



INTERPETING RESULTS



INTERPETING RESULTS

Additional Resources

- RISA-3D Help File / Manual
- www.risanews.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@risatech.com

Thank you for Attending!

