

RISA TECHNOLOGIES WEBINAR

Design of Stiffeners and Non-Concentric Brace Connections

Matt Brown, S.E.

Integrated Programs

- **RISAFloor v7.0.2**
- **RISA-3D v11.0.2**
- **RISACONNECTION 3.0.1**

Referenced Codes

AISC 360-10 (14th Edition Manual)



Image courtesy of AISC.org

OVERVIEW

Referenced Codes

AISC Design Guide 13

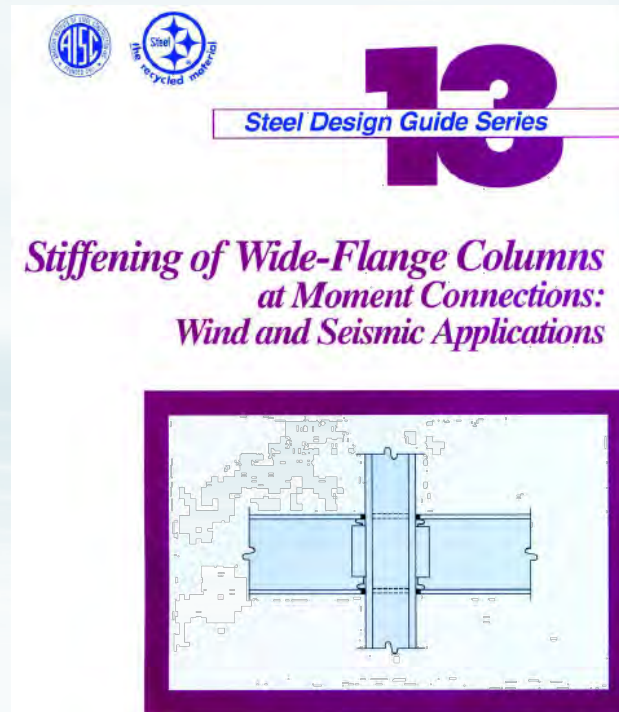
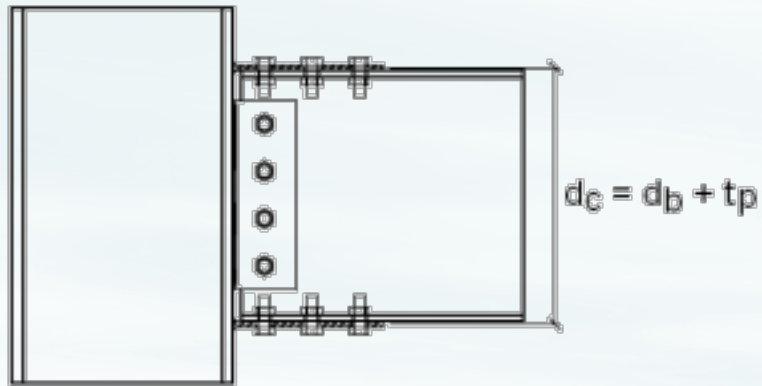


Image courtesy of AISC.org

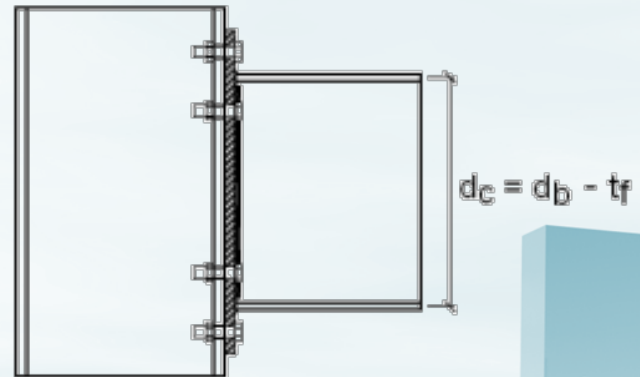
OVERVIEW

Moment Arm

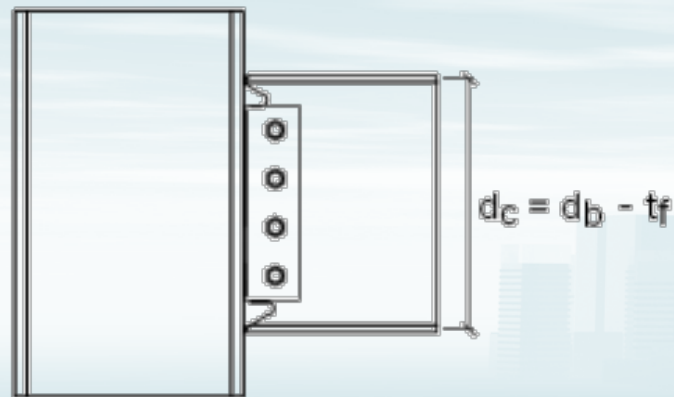
Flange Plate Moment Connection



End Plate Moment Connection



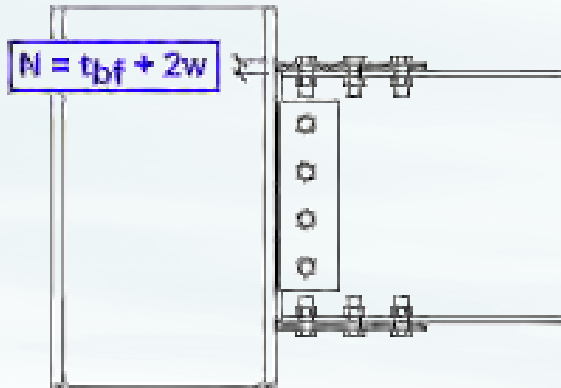
Direct Weld Moment Connection



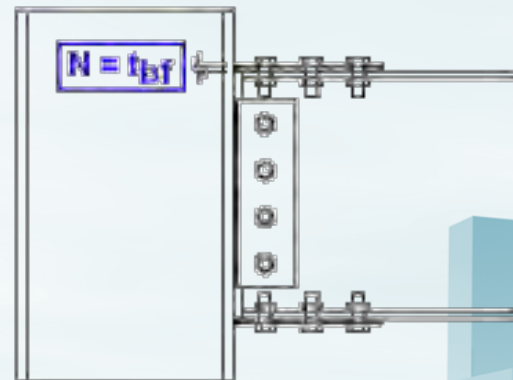
MOMENT CONNECTIONS

Flange Bearing

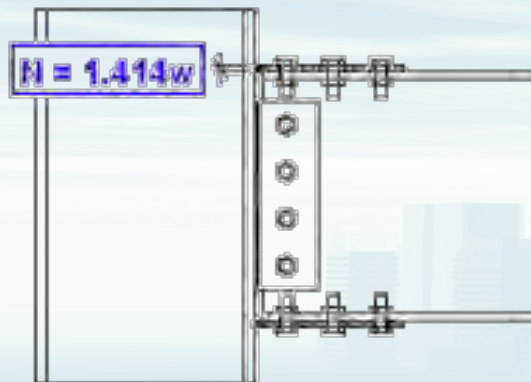
A. Fillet weld of specified size w



B. CJP weld



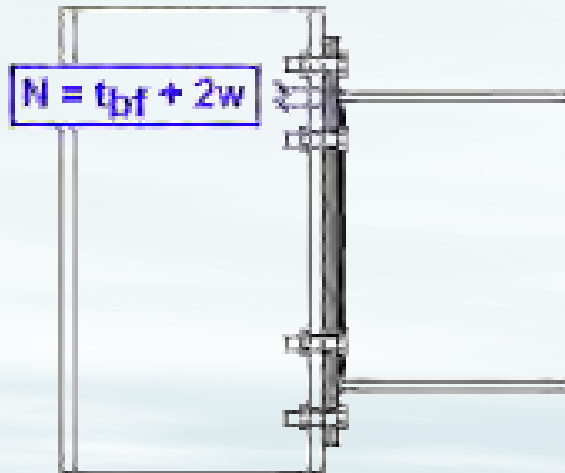
C. PJP weld with an effective throat thickness of w



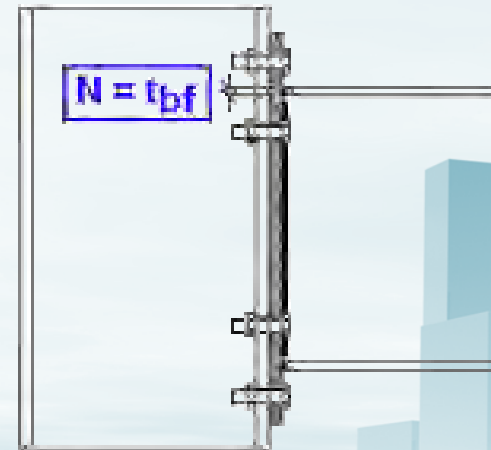
MOMENT CONNECTIONS

Flange Bearing

A. Fillet weld of specified size w

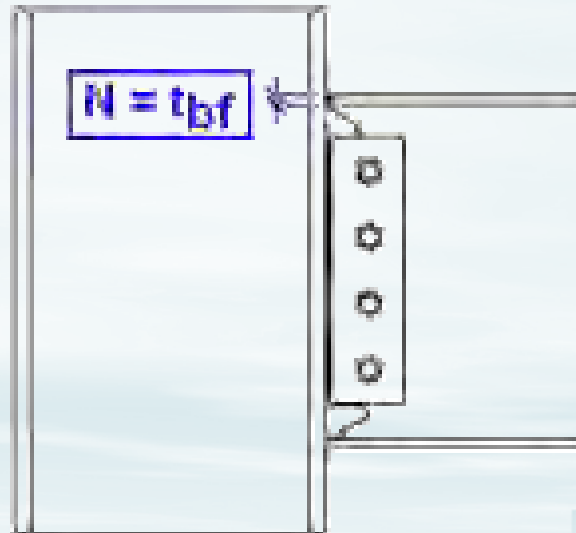


B. CJP weld



Flange Bearing

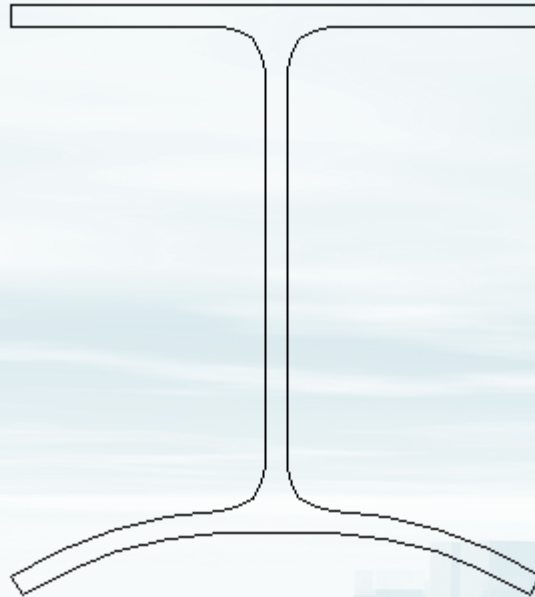
A. CJP weld



MOMENT CONNECTIONS

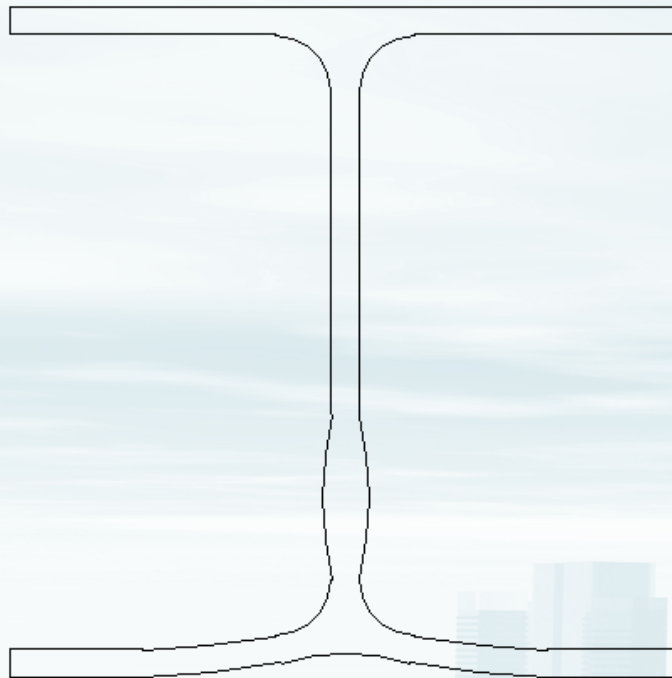
Column Limit States

- Column Flange Local Bending



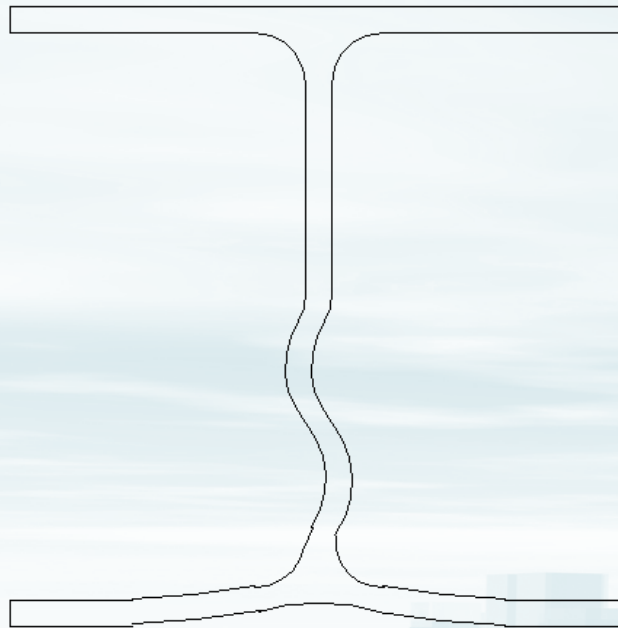
Column Limit States

- Column Web Local Yielding



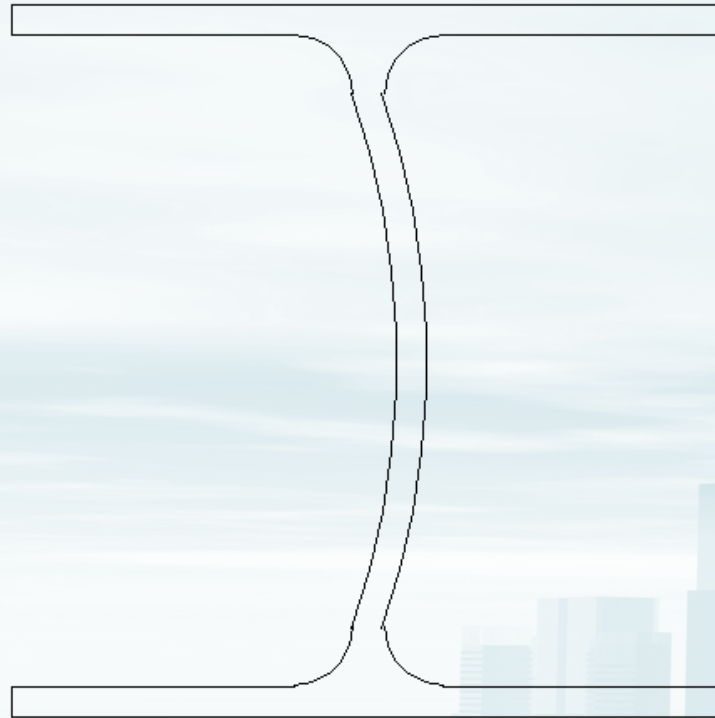
Column Limit States

- Column Web Crippling



Column Limit States

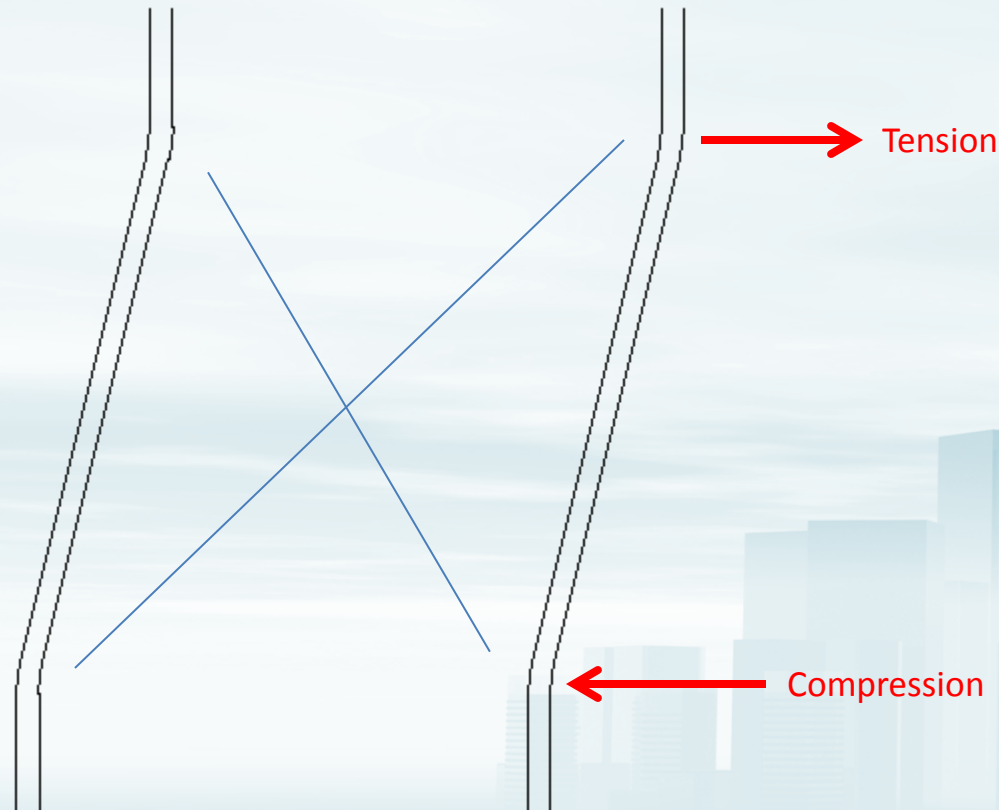
- Column Web Buckling



MOMENT CONNECTIONS

Column Limit States

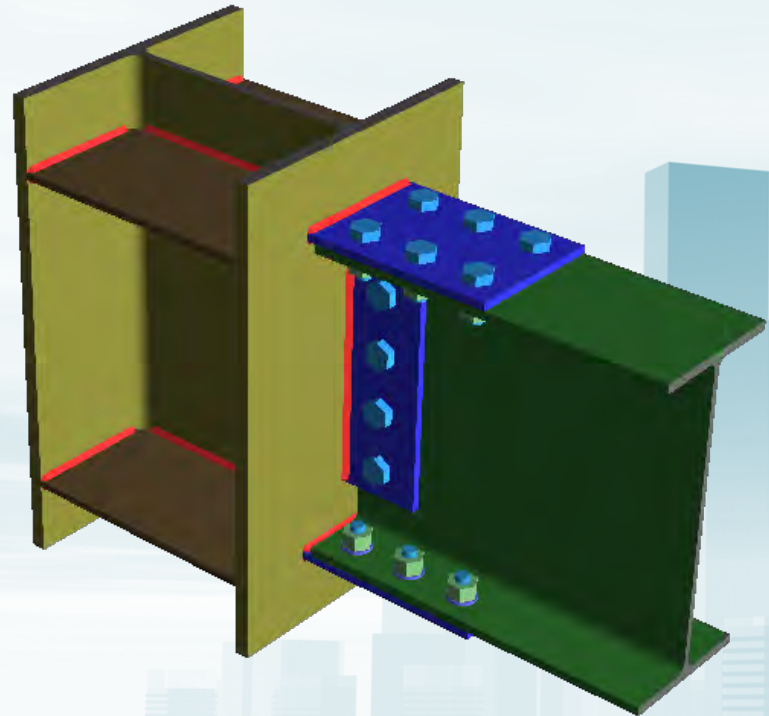
- Panel Zone Shear Failure



MOMENT CONNECTIONS

Flange Stiffeners

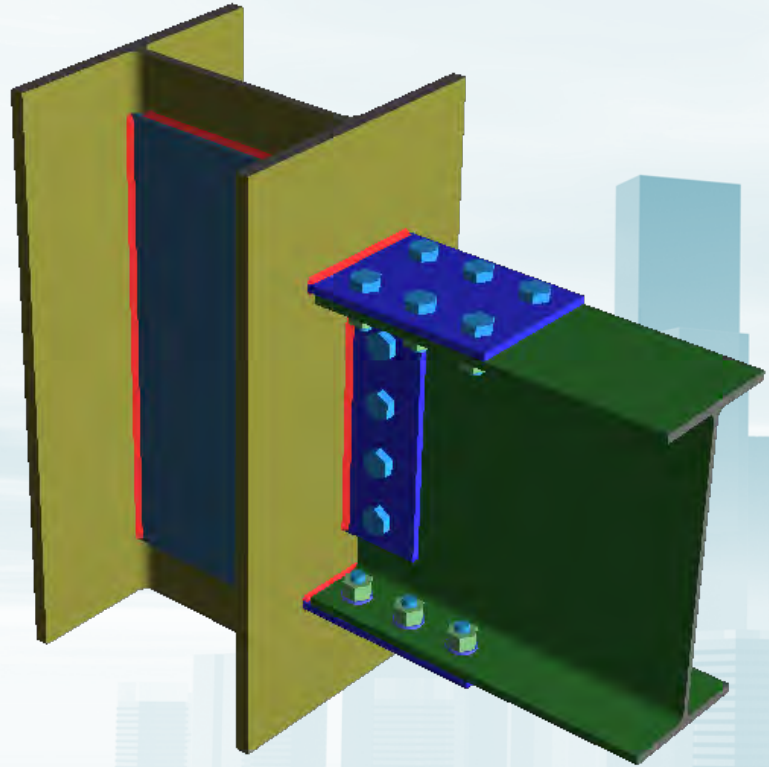
- Flange Buckling
- Web Yielding
- Web Crippling
- Web Buckling



MOMENT CONNECTIONS

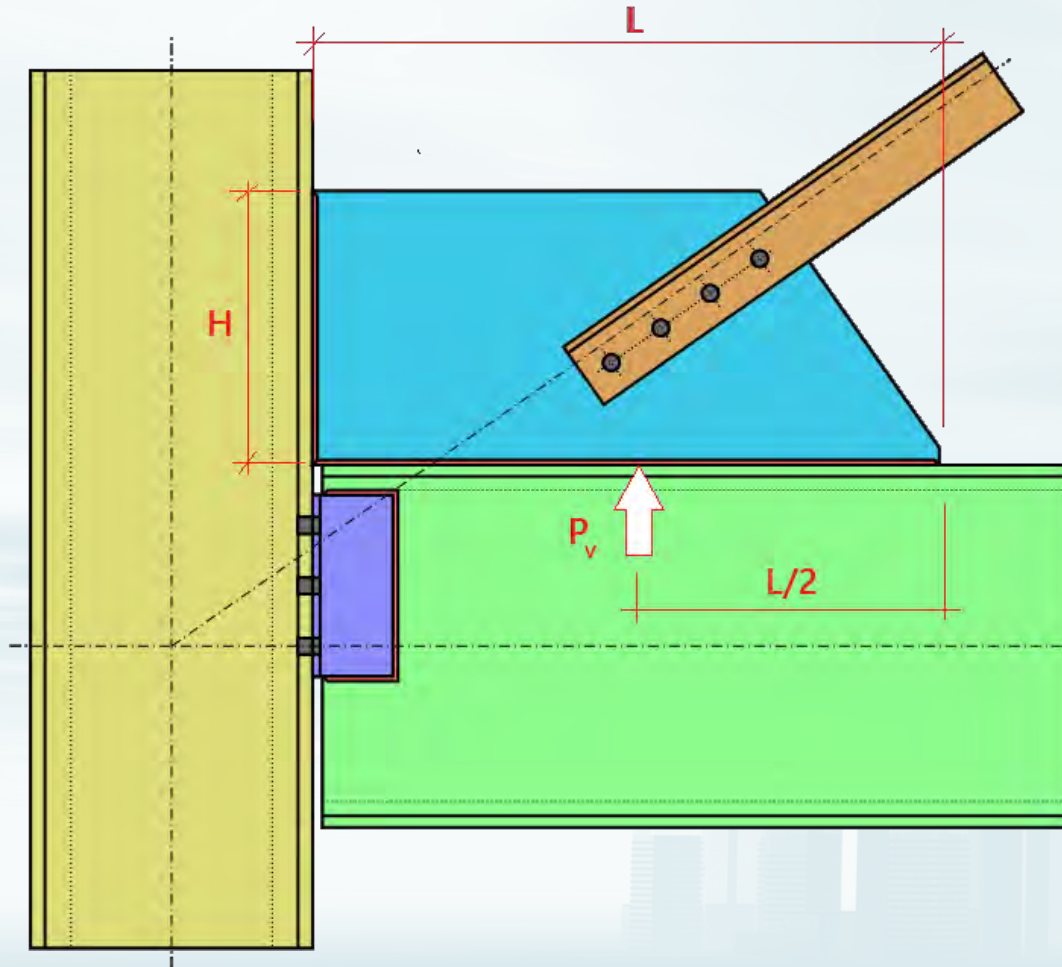
Web Stiffeners

- Panel Zone Shear



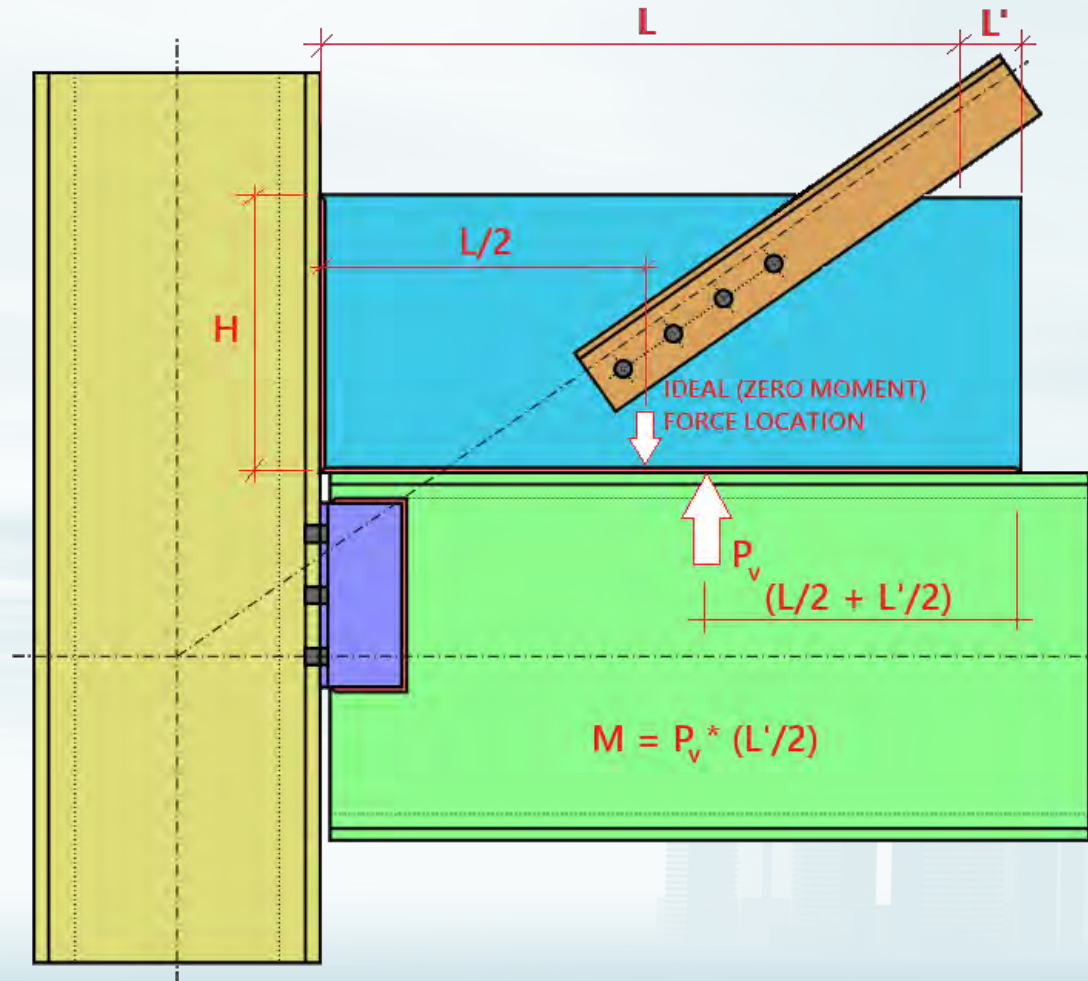
MOMENT CONNECTIONS

Plate Aspect Ratio



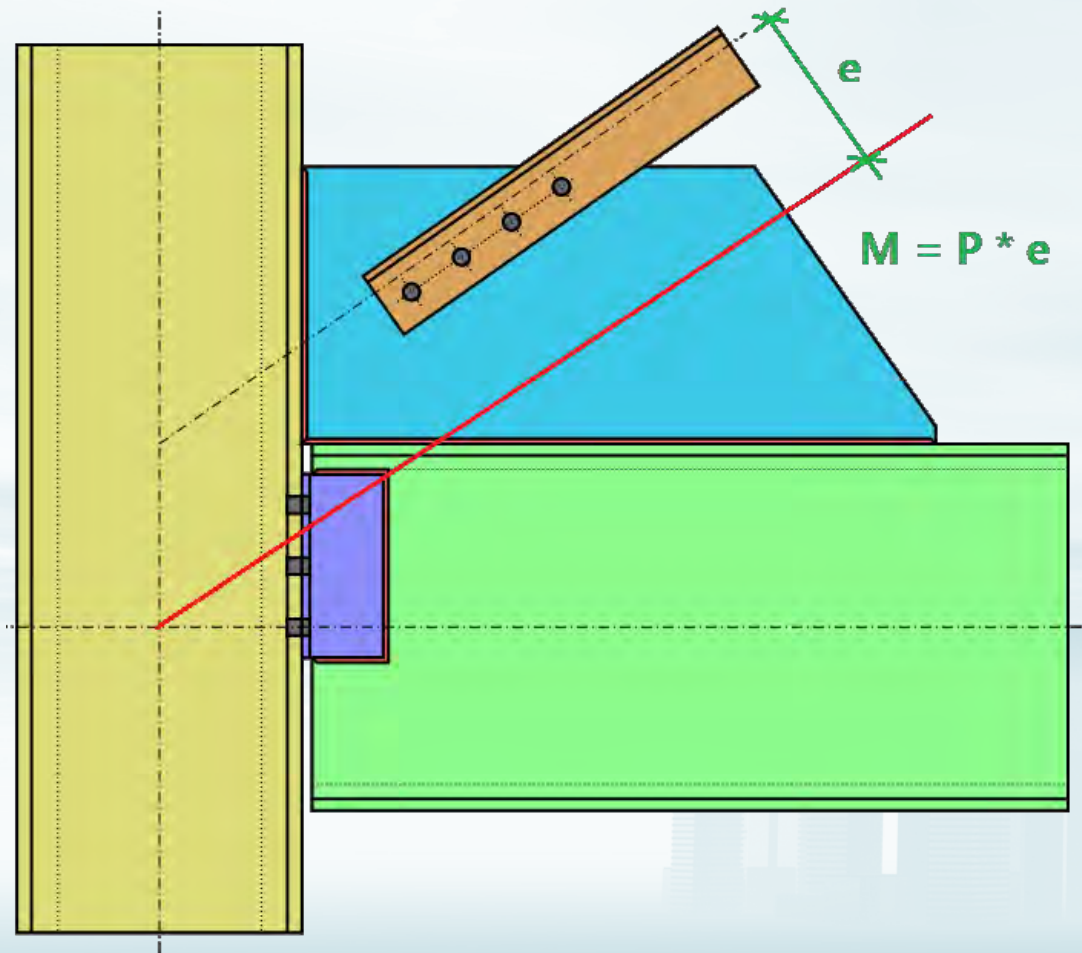
BRACE CONNECTIONS

Plate Aspect Ratio



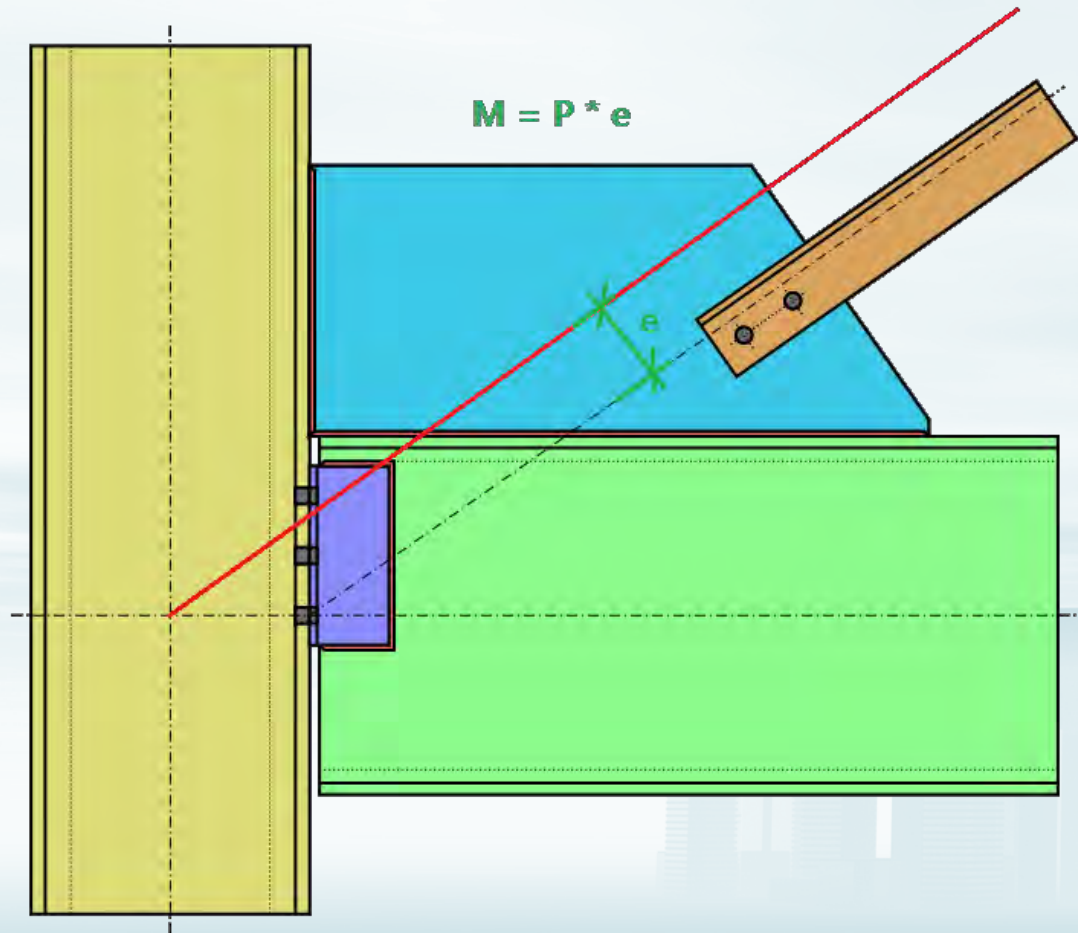
BRACE CONNECTIONS

Non-Concentric Workpoints



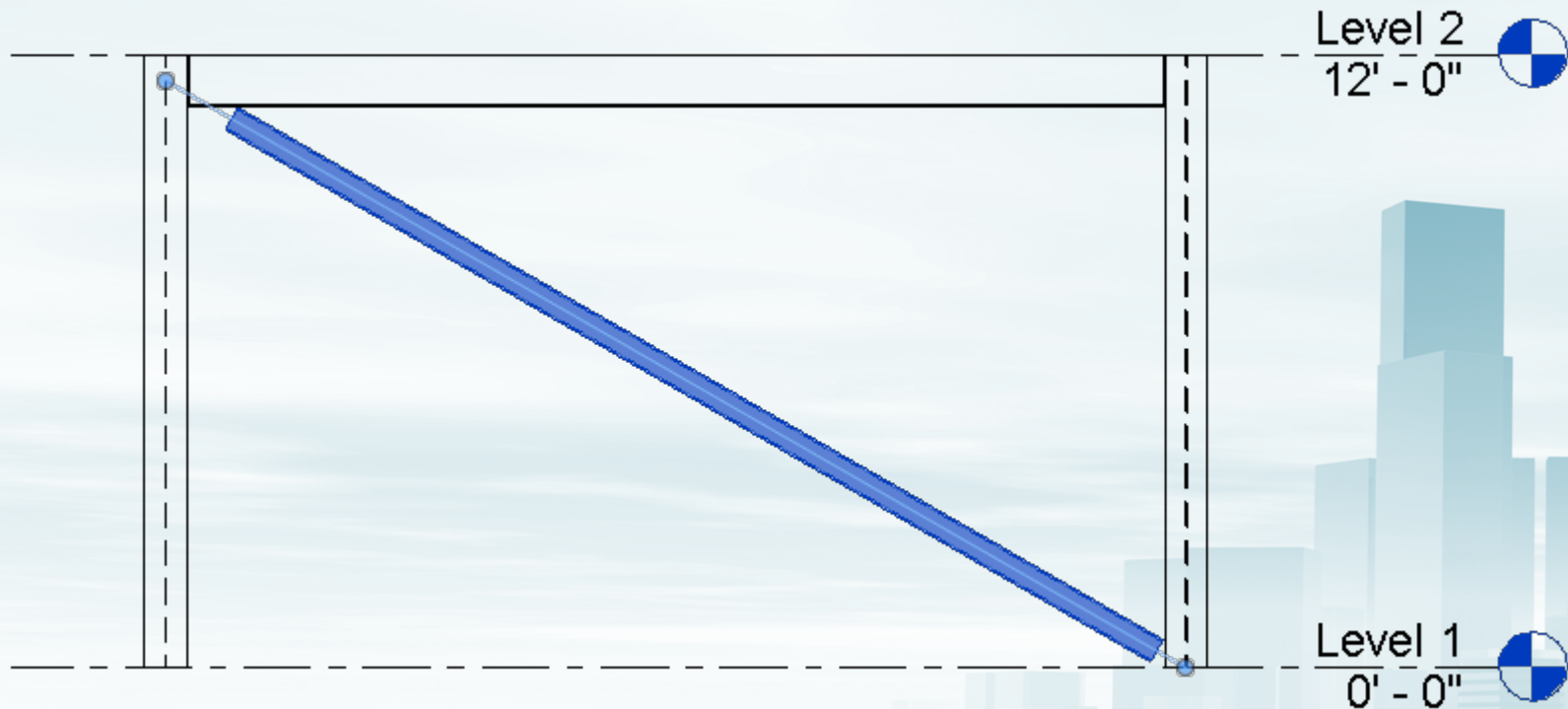
BRACE CONNECTIONS

Non-Concentric Workpoints



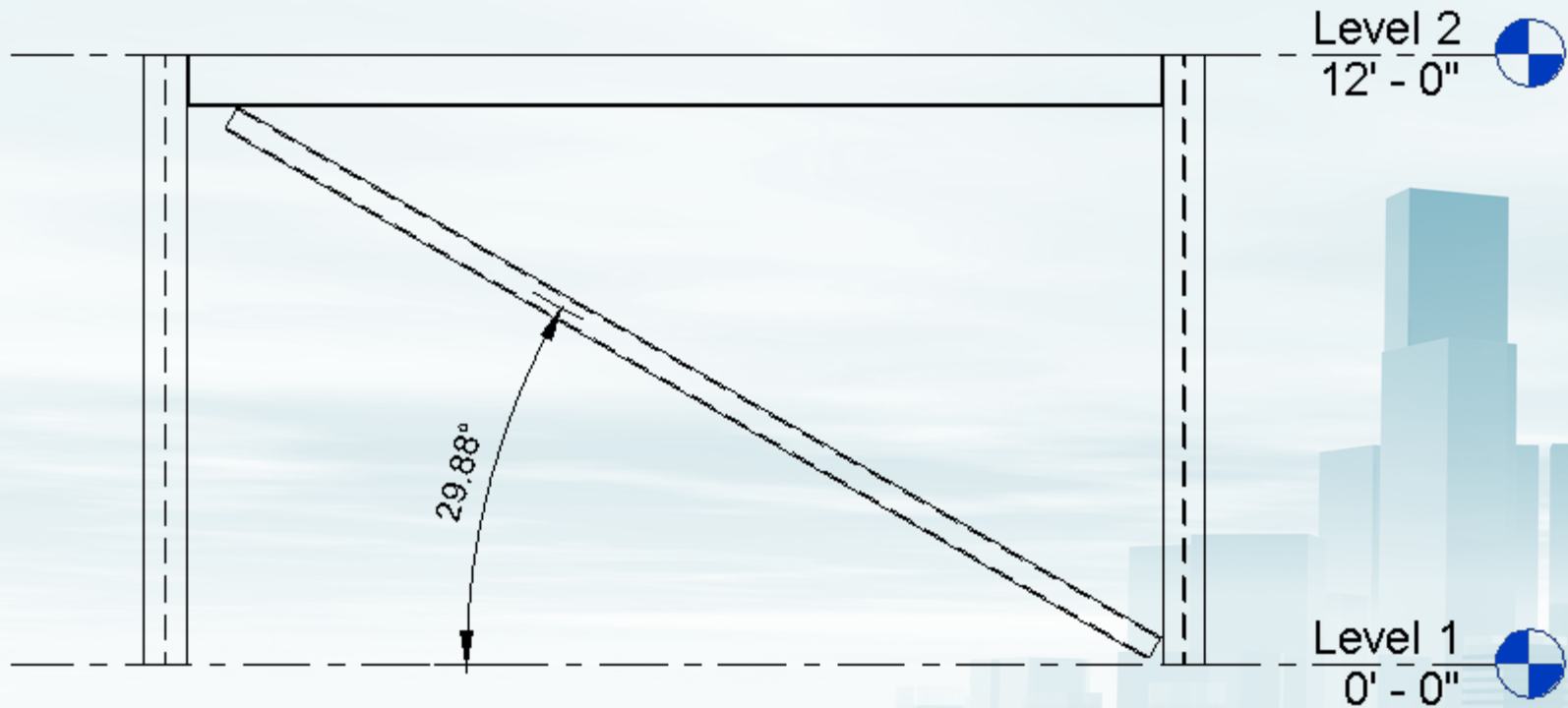
BRACE CONNECTIONS

Physical Geometry



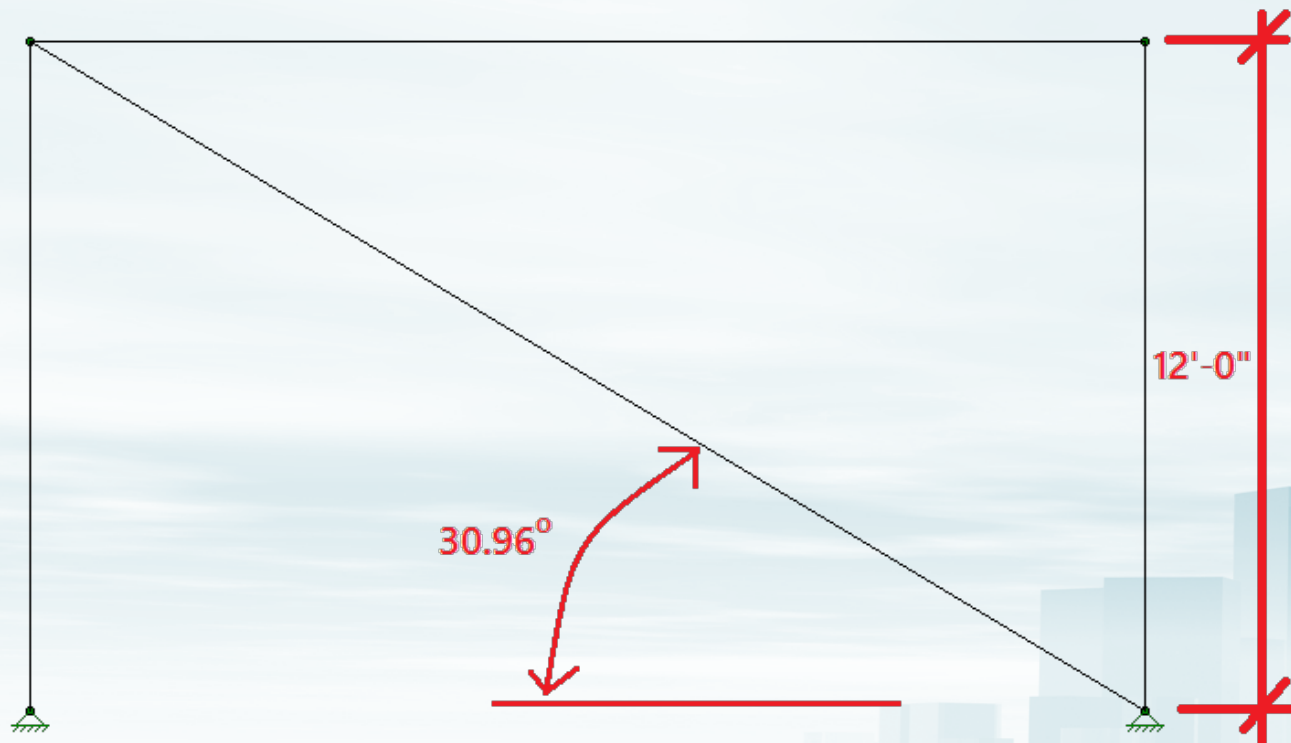
BRACE CONNECTIONS

Physical Geometry



BRACE CONNECTIONS

Physical Geometry



BRACE CONNECTIONS

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 any supporting materials to our website:

www.risa.com

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

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