SEISMIC CONNECTIONS IN RISACONNECTION

Matt Brown, S.E.

INTEGRATED PROGRAMS

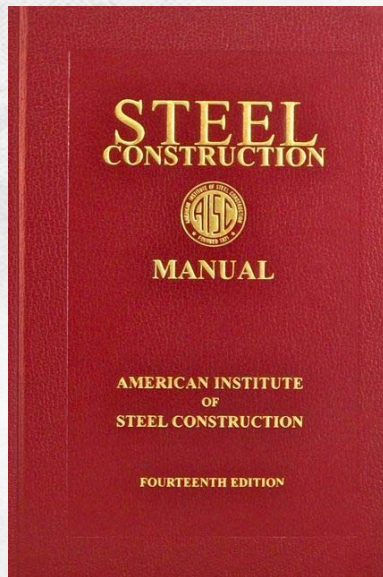**CN** | RISAConnection

3D | RISA-3D
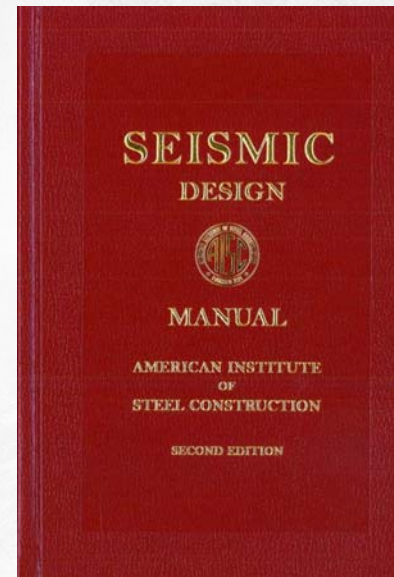
FL | RISAFloor

REFERENCED CODES

AISC 360-10

AISC 341/358-10

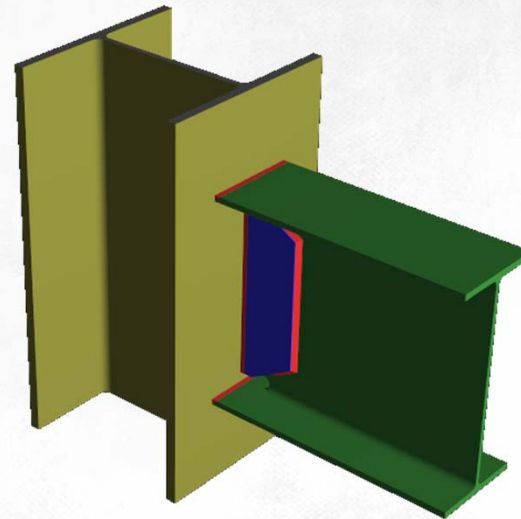risa.com

CONNECTION TYPES

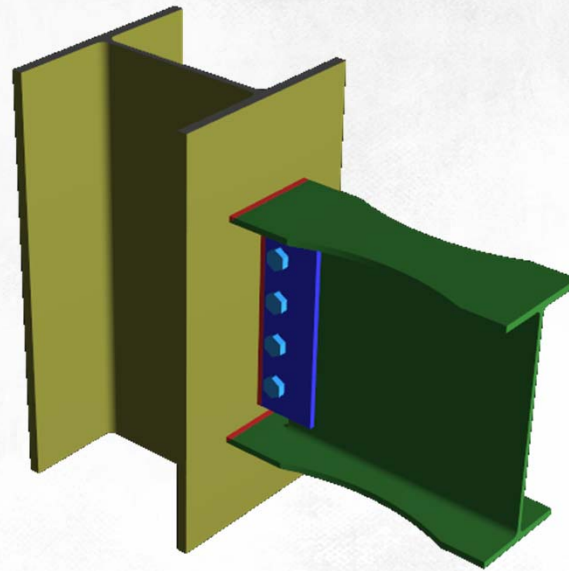WELDED UNREINFORCED FLANGE (WUF-W)

- Shear tab used for erection purposes
- CJP weld of Flanges, Web
- SMF, IMF, OMF

RISA

risa.com

CONNECTION TYPES
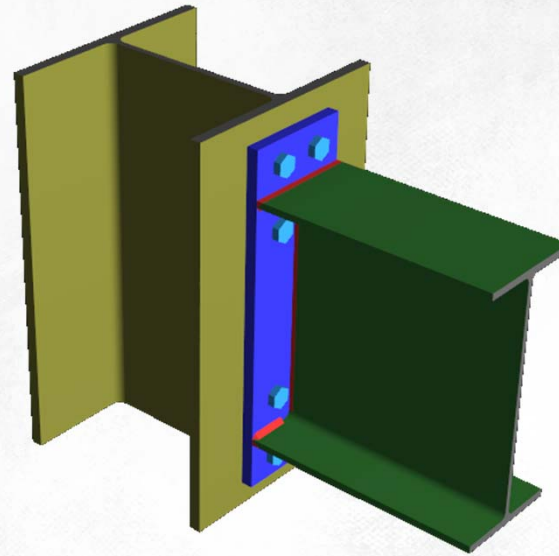
REDUCED BEAM SECTION (RBS)

- Shear tab used for erection purposes
- CJP weld of Flanges, Web
- Coped Flanges (Dogbone)
- SMF, IMF, OMF

CONNECTION TYPES

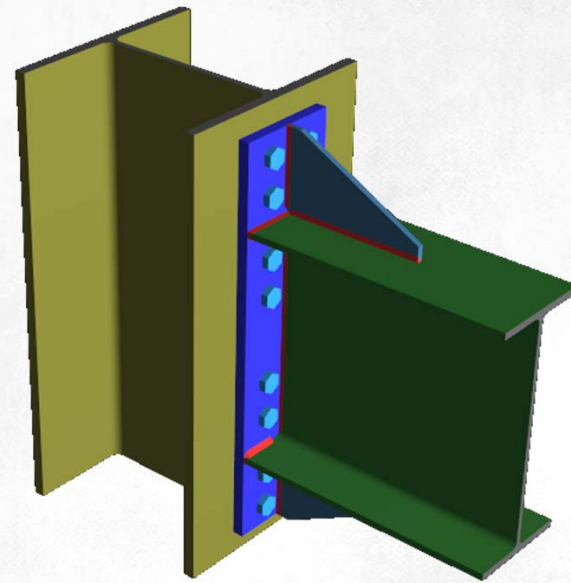BOLTED UNSTIFFENED EXTENDED END PLATE (BUEEP)

- 4 Bolts per Flange
- CJP weld of Flanges, Web
- SMF, IMF, OMF

CONNECTION TYPES

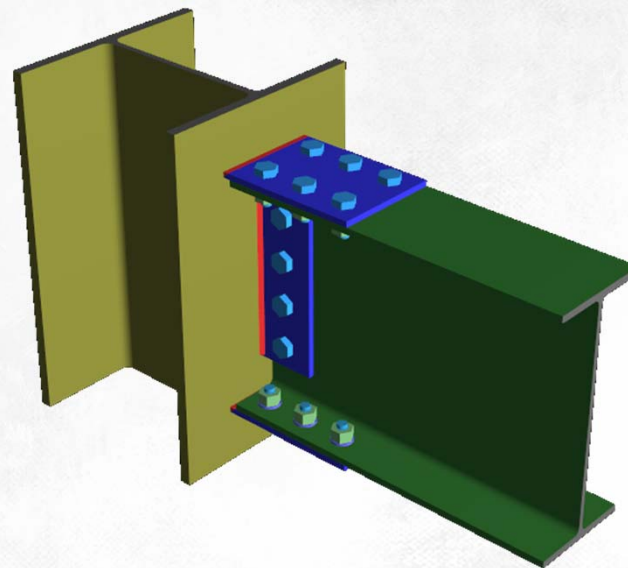## BOLTED STIFFENED EXTENDED END PLATE (BSEEP)

- 4 or 8 Bolts per Flange
- CJP weld of Flanges, Web
- SMF, IMF, OMF

CONNECTION TYPES

BOLTED FLANGE PLATE (BFP)

- Fillet, PJP, or CJP weld of Web
- CJP weld of Flanges
- SMF, IMF, OMF

NO SEISMIC DETAILING

- R = 3.0

- Not Allowed for SDC "D" and above

- Uses only AISC 360 provisions

ORDINARY MOMENT FRAME (OMF)

- R = 3.5

- Not Allowed for SDC "D" and above
    - Except certain Single Story structures

- Uses AISC 360 and AISC 341 provisions

ORDINARY MOMENT FRAME (OMF)

OPTIONS

1. Design Moment = 10% above expected beam strength

2. Design beam to remain elastic at full earthquake force (R = 1)

3. CJP Weld Everything
   - Must meet various SMF and AISC 358 provisions
   - Nearly as stringent as IMF, therefore not commonly used

INTERMEDIATE MOMENT FRAME (IMF)

- R = 4.5

- Not Allowed for SDC "E" and above
  - Except certain Single Story structures

- Not Allowed for High Rises in SDC "D"

- Uses AISC 360, 341, and 358 Provisions
  - Relaxed AISC 358 Provisions (e.g. Span to Depth Ratios)

SPECIAL MOMENT FRAME (SMF)

- R = 8.0

- Allowed for all SDC's

- Uses AISC 360, 341, and 358 Provisions
  - Most Stringent Provisions (e.g. Span to Depth Ratios, Welding)

QUESTIONS?

Please let us know if you have questions

- We will answer questions for the next 5 minutes

- Once the webinar is closed, we will post all Q&A's at risa.com

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