Available Connection Types

April 2020

All connections designed using the Qnect innovative iterative process that engineers each connection the most optimized way. All connections follow your preferences to match your exact requirements.

Framing Condition

- Beam to Beam
- Beam to Spandrel Beam
- Beam to Column Web
- Beam to Column Flange
- Beam to Built-up Column
- Beam to Boxed Column (with Cover Plate)
- Beam to HSS Beam
- Beam to HSS Column
- Beam to Embed Plate with plate washer provided
- Skewed Beams
- Beams framing at different elevations
- Beams groups with horizontal offset
- Sloped Beams up to 1/2:12 (less than |2.5| deg)

Available Connection Types

> Shear, Shear and Axial Connections:

- Shear Plates
- Full Depth Shear Plates
- Extended Full Depth Shear Plates
- Partial-Full Depth Shear Plates welded at top flange of support beam
- Extemded Partial-Full Depth Shear Plates welded at top flange of support beam
- Extended Shear Plate to Column Web
- Extended Shear Plate with Stabilizer Plates at Column Web
- Extended Shear Plate with Stabilizer Plate Assist
- Extended Shear Plate Beam to Beam
- Double Angles Bolted Bolted
- Double Angles Bolted Welded (knifed)
- Double Angles Welded Bolted
- Single Angles Bolted Bolted - shop bolted at support
- Single Angles Bolted Bolted - field bolted at support
- Single Angles Bolted Welded
- Single Angles Weld Bolted

> Moment Connections:

- Directly Welded Flanges with Shear Plate
- Directly Welded Flanges with Double Angles Bolted Bolted
- Directly Welded Flanges with Double Angles Welded Bolted
- Bolted Flange Plates with Shear Plate
- Bolted Flange Plates with Double Angles Bolted Bolted
- Bolted Flange Plates with Double Angles Welded Bolted

> Vertical Bracing Connections:

- HSS Brace with Middle Beam to Column Flange where HSS Brace is Field Welded at Gusset, Gusset is Shop Welded at Beam Flange, Gusset - Shear Plate Connection at Column Flange, and Shear Plate at Middle Beam to Column Flange

Available Connection Types

April 2020

Above Connection Types and Framing Conditions work with the following options:

- Shear loads
- Shear and Axial loads
- IBC Integrity loads
- NYC Integrity loads
- OSHA-Drop Angles Opposite Support Web or Eliminate Top Right Bolt
- Bolt Stagger for Bolted Bolted Angle Connections
- Web Doublers at Coped Filler Beams
- Web Doublers at Column Web at MCs
- Web Stiffeners at Girder and Column Webs
- AWS Welds Types Fillet, PJP, CJP
- ASTM Material Grades, Bolt Types, Wide Flange and HSS Shapes, Plates
- Custom Edge Distances
- Custom Iteration Control
- Custom Job Costs
- Preference Optimization - least cost connection type
- Bolt Optimization - minimum number of bolts per connection
- Doubler Optimization report capacity required to eliminate web doubler plates
- Metric AISC with imperial or metric profiles and bolts

Also includes:

- 100% modeling of each connection (welds, copes, weld access holes, cuts, bolt holes, bolt types, etc)
- Map of each plan view showing connected and not-connected connections for the CE
- Many access and erection considerations (including adjacent beam erection clearances at columns)
- Revisions capability to auto reengineer connections upon model changes
- PE stampable engineering submittal package

Other Additions:

- Down distance to first hole preference
- Cope and hole costs enhancements for POP comparison reports
- Metric AISC with imperial bolts capability
- Metric AISC with imperial profiles capability
- PJP and CJP weld types to Full Pen and Moment plate connection types
- Moment Connection Flange Plate reporting
- Moment Connection Flange Plate deck support capability (with various deck support plate attachment preferences)
- Detailed web access hole preferences for additional fabrication flexibility
- Ability to use Euro profiles with AISC engineering
- Ability to use CISC profiles with AISC engineering
- Distance to first hole and gage preferences specifically for Single Angles
- Enhanced moment reports
- Force TC bolts for angle bolts with concurrent axial and shear load at support bolts Per AISC J3.1.b
- Force SC bolts at connections with Long Slotted holes
- Complete CJP and PJP weld detailing backing and backgouge symbols in model
- Additional Shear Plate welding preferences at skewed beams to allow custom fabrication needs
- Allow use of AISC 15th Ed. bolt holes
- Improved Submittal Package with reduced number of job standards for review

Available Connection Types

April 2020

Upcoming Additions:

- Filler/Shim plates at Bolted Flange Plate moment connections
- Bolt Washer types per RCSC Section 6 Specification
- HSS Brace with Middle Beam to Column Web where HSS Brace is Field Welded at Gusset, Gusset is Shop Welded at Beam Flange, Gusset - Shear Plate Connection at Column Web, and Shear Plate at Middle Beam to Column Web
- Preference customization per beam end
- Improved system for monitoring changes in model in order to allow user to make minor changes to beam or column without impact to existing connection details
- Allow connections in groups with already connected beams
- CISC
- AISC 15th Ed.
- Single Angle bracing
- Double Angle bracing
- Wide Flange bracing
- European code