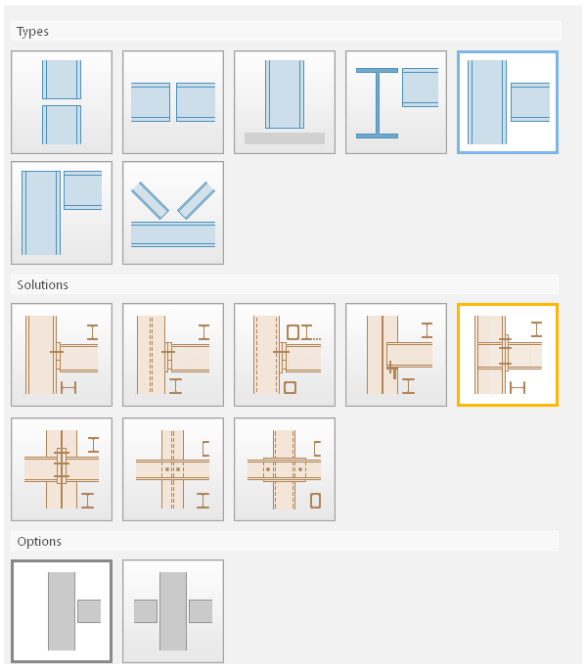


Steel Joints

New opportunities with FEM-Design Steel Joints!

- Total of 51 solutions and 7 types (according to the Swedish Institute of Steel Construction).
- Use predefined solutions and design the connection using bolt and/or welds.
- Define the load and steel sections in the stand-alone version, or get automatic import of the geometry and load combination results from FEM-Design 3D model.
- Easy and clear overview of the result and utilizations.
- Save your solution in a collection for future use.
- Get a documentation of both drawings, but also welds and bolts needed.

Joint



Design

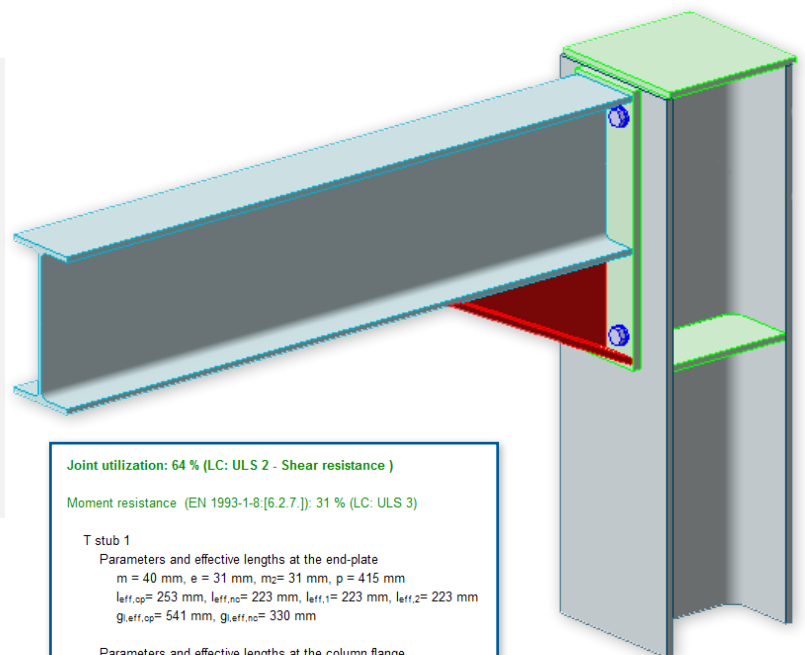
Column

- End-plate
- Top stiffener
- Bottom stiffener
- Diagonal stiffener

Beam

- Haunch
- End-plate
- Bolts
- Welds
- Stiffener

Data	Value
Apply	Yes
Material	S 355
tw [mm]	8
hh [mm]	210
lh [mm]	420
Flange	Yes
bf [mm]	150
tf [mm]	12



Joint utilization: 64 % (LC: ULS 2 - Shear resistance)

Moment resistance (EN 1993-1-8:[6.2.7.]); 31 % (LC: ULS 3)

T stub 1
 Parameters and effective lengths at the end-plate
 $m = 40 \text{ mm}$, $e = 31 \text{ mm}$, $m_2 = 31 \text{ mm}$, $p = 415 \text{ mm}$
 $l_{eff,op} = 253 \text{ mm}$, $l_{eff,nc} = 223 \text{ mm}$, $l_{eff,1} = 223 \text{ mm}$, $l_{eff,2} = 223 \text{ mm}$
 $g_{i,eff,op} = 541 \text{ mm}$, $g_{i,eff,nc} = 330 \text{ mm}$

Parameters and effective lengths at the column flange
 $m = 23 \text{ mm}$, $e = 101 \text{ mm}$, $m_2 = 31 \text{ mm}$, $p = 415 \text{ mm}$
 $l_{eff,op} = 144 \text{ mm}$, $l_{eff,nc} = 213 \text{ mm}$, $l_{eff,1} = 144 \text{ mm}$, $l_{eff,2} = 213 \text{ mm}$
 $g_{i,eff,op} = 487 \text{ mm}$, $g_{i,eff,nc} = 311 \text{ mm}$

Through-thickness requirements (EN 1993-1-10 [3.2.(2)])
 $Z_a = 3.00$, $Z_b = 0.00$, $Z_c = 4.00$, $Z_d = 0.00$, $Z_e = 0.00$
 $Z_{Ed} = 7.00$

Welds

aw [mm]	6.0
aw [mm]	4.0
aw [mm]	6.0
awh [mm]	4.0
awh [mm]	6.0
awh [mm]	4.0

Bolt arrangement

Placed relative to...	n [-]	e [mm]
Bottom haunch	2	50
Top flange	2	45

