

Structural Stud (s)



MATERIAL

Web (in)	4
Flange (in)	1 $\frac{3}{8}$
Lip (in)	0.375
Yield Strength Fy (KSI)	33, 50
Tensile Strength Fu (KSI)	45, 65
Design Thickness (in)	0.0451
Minimum Thickness (mil)	43
Gauge	18
Available Finish G60, G90	

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	1.10
Cross Sectional Area: A (in ²)	0.323
Moment of Inertia: Ix (in ⁴)	0.776
Section Modulus: Sx (in ³)	0.388
Radius of Gyration: Rx (in)	1.551
Moment of Inertia: Iy (in ⁴)	0.078
Radius of Gyration: Ry (in)	0.491

EFFECTIVE SECTION PROPERTIES

Yield Stress (ksi)	33	50
Moment of Inertia-Deflection: Ixe (in ⁴)	0.776	0.752
Section Modulus: Sxe (in ³)	0.371	0.368
Local Buckling Allowable Moment: Mal (in-k)	7.32	11.03
Distortional Buckling Allowable Moment: Mad (in-k)	7.08	
Allowable strong axis shear away from punch: Vag (lb)	1740	1913
Allowable strong axis shear at punch: Vanet (lb)	810	147

(check web crippling)

TORSIONAL SECTION PROPERTIES

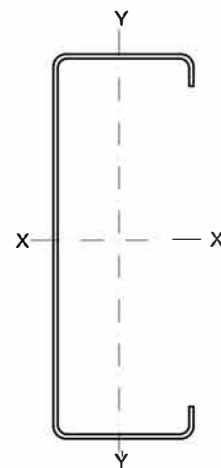
St. Venant Torsional Constant: Jx1000 (in ⁴)	0.219
Torsional Warping Constant: Cw (in ⁶)	0.257
Shear Center to Centroid on Principal X-axis: Xo (in)	-0.954
Radius of Gyration on the Centroid Principal axis: Ro (in)	1.886

PRODUCT ID

400S 137-43 (4x1 $\frac{3}{8}$ x18ga)

CODES & STANDARDS

- ASTM A 1003, A 653, & C 955
- AISI S100-16



See Hermes/Hephaistos Technical Manual
for complete design data