

Structural Stud (s)



MATERIAL	
Web (in)	4
Flange (in)	1 $\frac{5}{8}$
Lip (in)	0.500
Yield Strength Fy (KSI)	33, 50
Tensile Strength Fu (KSI)	45, 65
Design Thickness (in)	0.451
Minimum Thickness (mil)	43
Gauge	18
Available Finish G60, G90	

GROSS SECTION PROPERTIES	
Weight of Member: (lb/ft)	1.21
Cross Sectional Area: A (in ²)	0.357
Moment of Inertia: Ix (in ⁴)	0.892
Section Modulus: Sx (in ³)	0.446
Radius of Gyration: Rx (in)	1.581
Moment of Inertia: Iy (in ⁴)	0.131
Radius of Gyration: Ry (in)	0.606

EFFECTIVE SECTION PROPERTIES		
Yield Stress (ksi)	33	55
Moment of Inertia-Deflection: Ixe (in ⁴)	0.892	0.842
Section Modulus: Sxe (in ³)	0.428	0.405
Local Buckling Allowable Moment: Mal (in-k)	8.47	12.12
Distortional Buckling Allowable Moment: Mad (in-k)	7.96	
Allowable strong axis shear away from punch: Vag (lb)	1740	2141
Allowable strong axis shear at punch: Vanet (lb)	810	997

(check web crippling)

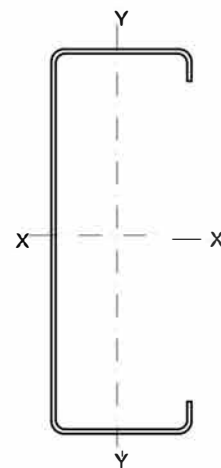
TORSIONAL SECTION PROPERTIES	
St. Venant Torsional Constant: Jx1000 (in ⁴)	0.242
Torsional Warping Constant: Cw (in ⁶)	0.460
Shear Center to Centroid on Principal X-axis: Xo (in)	-1.252
Radius of Gyration on the Centroid Principal axis: Ro (in)	2.106

PRODUCT ID

400S 162-43 (4x1 $\frac{5}{8}$ x18ga)

CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual
for complete design data