

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)	0.566
Minimum Thickness (mil)	54
Gauge	16
Available Finish G60, G90	

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	1.51
Cross Sectional Area: A (in ²)	0.443
Moment of Inertia: Ix (in ⁴)	1.098
Section Modulus: Sx (in ³)	0.549
Radius of Gyration: Rx (in)	1.574
Moment of Inertia: Iy (in ⁴)	0.159
Radius of Gyration: Ry (in)	0.600

EFFECTIVE SECTION PROPERTIES

Yield Stress (ksi)	30	50
Moment of Inertia-Deflection: Ixe (in ⁴)	1.098	1.098
Section Modulus: Sxe (in ³)	0.538	0.513
Local Buckling Allowable Moment: Mal (in-k)	10.62	15.35
Distortional Buckling Allowable Moment: Mad (in-k)	9.86	14.4
Allowable strong axis shear away from punch: Vag (lb)	2604	3372
Allowable strong axis shear at punch: Vanet (lb)	944	1223

(check web crippling)

TORSIONAL SECTION PROPERTIES

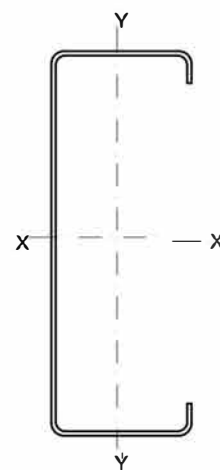
St. Venant Torsional Constant: Jx1000 (in ⁴)	0.473
Torsional Warping Constant: Cw (in ⁶)	0.560
Shear Center to Centroid on Principal X-axis: Xo (in)	-1.238
Radius of Gyration on the Centroid Principal axis: Ro (in)	2.090

PRODUCT ID

400S 162-54 (4x1 $\frac{5}{8}$ x16ga)

CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual
for complete design data