

Structural Stud (s)



MATERIAL	
Web (in)	2½
Flange (in)	1⅝
Lip (in)	0.500
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)	0.98
Cross Sectional Area: A (in ²)	0.289
Moment of Inertia: Ix (in ⁴)	0.302
Section Modulus: Sx (in ³)	0.242
Radius of Gyration: Rx (in)	1.022
Moment of Inertia: Iy (in ⁴)	0.111
Radius of Gyration: Ry (in)	0.620

EFFECTIVE SECTION PROPERTIES		
Yield Stress (ksi)	33	50
Moment of Inertia-Deflection: Ixe (in ⁴)	0.302	0.286
Section Modulus: Sxe (in ³)	0.24	0.22
Local Buckling Allowable Moment: Mal (in-k)	5.15	6.55
Distortional Buckling Allowable Moment: Mad (in-k)	5.01	6.55
Allowable strong axis shear away from punch: Vag (lb)	1266	1725
Allowable strong axis shear at punch: Vanet (lb)	394	1025

(check web crippling)

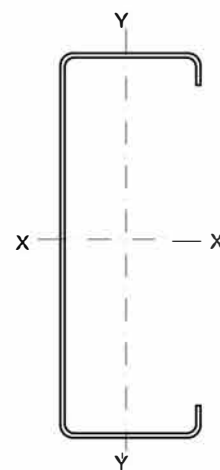
TORSIONAL SECTION PROPERTIES	
St. Venant Torsional Constant: Jx1000 (in ⁴)	0.196
Torsional Warping Constant: Cw (in ⁶)	0.184
Shear Center to Centroid on Principal X-axis: Xo (in)	-1.457
Radius of Gyration on the Centroid Principal axis: Ro (in)	1.885

PRODUCT ID

250S 162-43 (2½x1⅝x18ga)

CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual
for complete design data