

Structural Stud (s)



MATERIAL

Web (in)	2½
Flange (in)	1¾
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)	0.87
Cross Sectional Area: A (in²)	0.255
Moment of Inertia: Ix (in⁴)	0.261
Section Modulus: Sx (in³)	0.208
Radius of Gyration: Rx (in)	1.011
Moment of Inertia: Iy (in⁴)	0.067
Radius of Gyration: Ry (in)	0.511

EFFECTIVE SECTION PROPERTIES

Yield Stress (ksi)	33 ksi	50 ksi
Moment of Inertia-Deflection: Ixe (in⁴)	0.261	0.252
Section Modulus: Sxe (in³)	0.207	0.196
Local Buckling Allowable Moment: Mal (in-k)	4.25	5.87
Distortional Buckling Allowable Moment: Mad (in-k)	4.14	5.45
Allowable strong axis shear away from punch: Vag (lb)	1266	1917
Allowable strong axis shear at punch: Vanet (lb)	394	599

(check web crippling)

TORSIONAL SECTION PROPERTIES

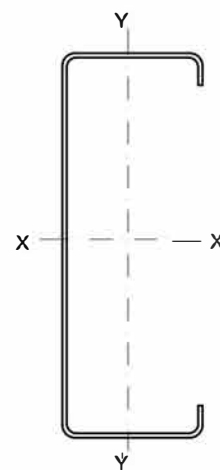
St. Venant Torsional Constant: Jx1000 (in⁴)	0.173
Torsional Warping Constant: Cw (in⁶)	0.096
Shear Center to Centroid on Principal X-axis: Xo (in)	-1.129
Radius of Gyration on the Centroid Principal axis: Ro (in)	1.599

PRODUCT ID

250S 137-43 (2½x1¾x18ga)

CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual
for complete design data