

Structural Stud (s)



MATERIAL

Web (in)	2½
Flange (in)	1⅝
Lip (in)	0.188
Yield Strength Fy (KSI)	33
Tensile Strength Fu (KSI)	45
Design Thickness (in)	0.0346
Minimum Thickness (mil)	33
Gauge	20S
Available Finish G60, G90	

GROSS SECTION PROPERTIES

Weight of Member: (lb/ft)	0.76
Cross Sectional Area: A (in ²)	0.223
Moment of Inertia: Ix (in ⁴)	0.235
Section Modulus: Sx (in ³)	0.188
Radius of Gyration: Rx (in)	1.027
Moment of Inertia: Iy (in ⁴)	0.087
Radius of Gyration: Ry (in)	0.624

EFFECTIVE SECTION PROPERTIES

Moment of Inertia-Deflection: Ixe (in ⁴)	0.235
Section Modulus: Sxe (in ³)	0.179
Local Buckling Allowable Moment: Mal (in-k)	3.54
Distortional Buckling Allowable Moment: Mad (in-k)	3.41
Allowable strong axis shear away from punch: Vag (lb)	975
Allowable strong axis shear at punch: Va net (lb)	399
(check web crippling)	

TORSIONAL SECTION PROPERTIES

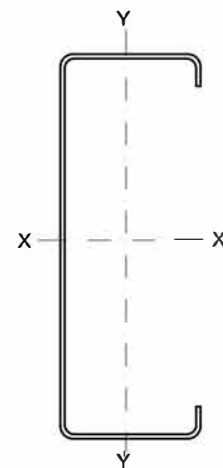
St. Venant Torsional Constant: Jx1000 (in ⁴)	0.089
Torsional Warping Constant: Cw (in ⁶)	0.146
Shear Center to Centroid on Principal X-axis: Xo (in)	-1.470
Radius of Gyration on the Centroid Principal axis: Ro (in)	1.898

PRODUCT ID

250S 162-33 (2½x1⅝x20Sga) (Grade 33)

CODES & STANDARDS

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



See Hermes/Hephaistos Technical Manual
for complete design data