**Product Name: 1000S162-118** 



# Product Category: 05.40.00 - Cold-Formed Metal Framing

**Available Finish:** G60, G90 \*Other standard coatings referenced in ASTM A1003

Web Depth: 10 in
Flange Width: 1-5/8 in
Design Thickness: 0.1242 in
Gauge: 118 mils or 10G

Yield stress, Fy: 50 ksi Weight: 5.63 lb/ft

- Calculated properties are based on AISI S100-16/S240-20, North American Specification for Design of Cold-Formed Steel Structural Members and meets the requirements of the IBC 2021 Building Code.
- The centerline bend radius is based on inside corner radii shown in thickness chart.
- Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
- Tabulated gross properties are based on full-unreduced cross section of the studs, away from punchouts.
- For deflection calculations, use the effective moment of inertia.
- Allowable moment includes coldwork of forming.
- For the steels that have both 33 and 50 ksi listing, if the design is based on 50 ksi, the 50 ksi steel needs to be specified. (ex. 3.625S137 16-50 (50 ksi))

#### **Gross Section Properties**

Cross sectional area (A) 1.655 in<sup>2</sup>

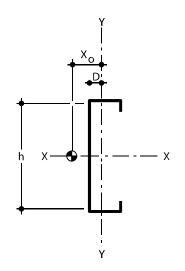
Moment of inertia (lx) 20.177 in<sup>4</sup>

Section Modulus (Sx) 4.035 in<sup>3</sup>

Radius of gyration (Rx) 3.491 in

Gross moment of inertia (ly) 0.364 in<sup>4</sup>

Gross Radius of gyration (Ry) 0.469 in



## **Effective Section Properties**

Moment of inertia for deflection (Ix)	20.171 in⁴
Section modulus (Sx)	4.034 in <sup>3</sup>
Allowable bending moment (Ma)	120.780 ln-k
Allowable bending moment from distortional buckling (Mad)	120.41 ln-k
Allowable strong axis shear away from punch-out (Vag)	16235 lb
Allowable strong axis shear at punch out (Vanet)	9536 lb

### **Torsional Properties**

St. Venant torsion constant (J x 1000)	8.511 in⁴
Warping constant (Cw)	7.924 in <sup>6</sup>
Distance from shear center to neutral axis (Xo)	-0.746 in
Distance from shear center to mid-plane of web (m)	0.502 in
Radii of gyration (Ro)	3.601 in
Torsional flexural constant (β)	0.957
Unbraced Length (Lu)	30.0 in

#### **Additional Information**