**Product Name: 1000S350-97** 



# Product Category: 05.40.00 - Cold-Formed Metal Framing

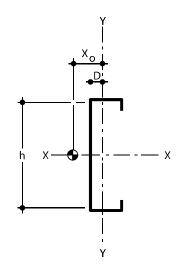
**Available Finish:** G60, G90 \*Other standard coatings referenced in ASTM A1003

Web Depth: 10 in
Flange Width: 3-1/2 in
Design Thickness: 0.1017 in
Gauge: 97 mils or 12G
Yield stress, Fy: 50 ksi
Weight: 6.31 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)  $1.855 \text{ in}^2$ Moment of inertia (Ix)  $28.154 \text{ in}^4$ Section Modulus (Sx)  $5.631 \text{ in}^3$ Radius of gyration (Rx) 3.895 inGross moment of inertia (Iy)  $2.992 \text{ in}^4$ Gross Radius of gyration (Ry) 1.270 in



## **Effective Section Properties**

Moment of inertia for deflection (Ix)	28.149 in⁴
Section modulus (Sx)	5.119 in <sup>3</sup>
Allowable bending moment (Ma)	153.260 ln-k
Allowable bending moment from distortional buckling (Mad)	135.86 In-k
Allowable strong axis shear away from punch-out (Vag)	9864 lb
Allowable strong axis shear at punch out (Vanet)	7177 lb

## **Torsional Properties**

St. Venant torsion constant (J x 1000)	6.397 in⁴
Warping constant (Cw)	62.280 in <sup>6</sup>
Distance from shear center to neutral axis (Xo)	-2.492 in
Distance from shear center to mid-plane of web (m)	1.538 in
Radii of gyration (Ro)	4.795 in
Torsional flexural constant (β)	0.730
Unbraced Length (Lu)	71.6 in

#### **Additional Information**