Product Name: 1200S300-97



Product Category: 05.40.00 - Cold-Formed Metal Framing

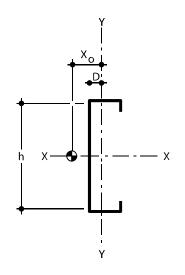
Available Finish: G60, G90 *Other standard coatings referenced in ASTM A1003

Web Depth: 12 in
Flange Width: 3 in
Design Thickness: 0.1017 in
Gauge: 97 mils or 12G
Yield stress, Fy: 50 ksi
Weight: 6.40 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)	1.881 in ²
Moment of inertia (Ix)	37.627 in⁴
Section Modulus (Sx)	6.271 in ³
Radius of gyration (Rx)	4.473 in
Gross moment of inertia (ly)	1.787 in⁴
Gross Radius of gyration (Rv)	0.975 in



Effective Section Properties

Moment of inertia for deflection (Ix)	37.087 in⁴
Section modulus (Sx)	5.831 in ³
Allowable bending moment (Ma)	174.580 ln-k
Allowable bending moment from distortional buckling (Mad)	136.41 ln-k
Allowable strong axis shear away from punch-out (Vag)	8147 lb
Allowable strong axis shear at punch out (Vanet)	7411 lb

Torsional Properties

St. Venant torsion constant (J x 1000)	6.484 in⁴
Warping constant (Cw)	50.853 in ⁶
Distance from shear center to neutral axis (Xo)	-1.691 in
Distance from shear center to mid-plane of web (m)	1.085 in
Radii of gyration (Ro)	4.880 in
Torsional flexural constant (β)	0.880
Unbraced Length (Lu)	56.7 in

Additional Information