MRI STEEL FRAMING LLC

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Product Category: 05.40.00 - Cold-Formed Metal Framing **Product Name:** 1400S250-118

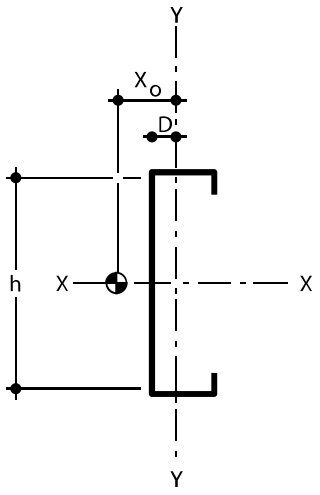
Available Finish: G60, G90
*Other standard coatings referenced in ASTM A1003

Web Depth: 14 in
Flange Width: 2-1/2 in
Design Thickness: 0.1242 in
Gauge: 118 mils or 10G
Yield stress, Fy: 50 ksi
Weight: 8.17 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 cold-work 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)	2.400 in^2
Moment of inertia (Ix)	59.697 in^4
Section Modulus (Sx)	8.528 in^3
Radius of gyration (Rx)	4.987 in
Gross moment of inertia (Iy)	1.353 in^4
Gross Radius of gyration (Ry)	0.751 in



Effective Section Properties

Moment of inertia for deflection (Ix)	59.508 in^4
Section modulus (Sx)	7.881 in^3
Allowable bending moment (Ma)	235.960 In-k
Allowable bending moment from distortional buckling (Mad)	203.26 In-k
Allowable strong axis shear away from punch-out (Vag)	12745 lb
Allowable strong axis shear at punch out (Vanet)	11287 lb

Torsional Properties

St. Venant torsion constant (J x 1000)	12.342 in^4
Warping constant (Cw)	54.927 in^6
Distance from shear center to neutral axis (Xo)	-1.203 in
Distance from shear center to mid-plane of web (m)	0.798 in
Radii of gyration (Ro)	5.185 in
Torsional flexural constant (β)	0.946
Unbraced Length (Lu)	46.2 in

Additional Information

MRI Steel Framing, LLC is an SFIA member. MRI acts in accordance with the product and quality standards required by the SFIA program.

MRI meets or exceeds ASTM C955, A653, and A1003.

Current LEED credits available upon request