MRI STEEL FRAMING LLC

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Product Category: 05.40.00 - Cold-Formed Metal Framing **Product Name:** 800S400-97

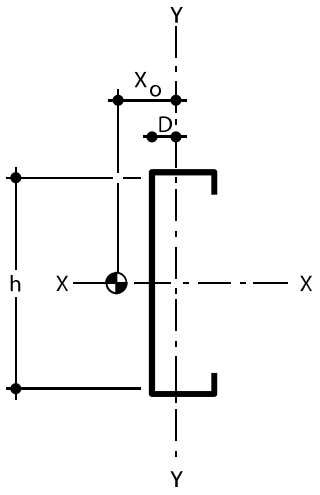
Available Finish: G60, G90
*Other standard coatings referenced in ASTM A1003

Web Depth: 8 in
Flange Width: 4 in
Design Thickness: 0.1017 in
Gauge: 97 mils or 12G
Yield stress, Fy: 50 ksi
Weight: 5.97 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)	1.754 in^2
Moment of inertia (Ix)	18.324 in^4
Section Modulus (Sx)	4.581 in^3
Radius of gyration (Rx)	3.232 in
Gross moment of inertia (Iy)	3.843 in^4
Gross Radius of gyration (Ry)	1.480 in



Effective Section Properties

Moment of inertia for deflection (Ix)	18.194 in^4
Section modulus (Sx)	3.891 in^3
Allowable bending moment (Ma)	116.480 In-k
Allowable bending moment from distortional buckling (Mad)	112.29 In-k
Allowable strong axis shear away from punch-out (Vag)	10885 lb
Allowable strong axis shear at punch out (Vanet)	5938 lb

Torsional Properties

St. Venant torsion constant (J x 1000)	6.046 in^4
Warping constant (Cw)	53.118 in^6
Distance from shear center to neutral axis (Xo)	-3.157 in
Distance from shear center to mid-plane of web (m)	1.886 in
Radii of gyration (Ro)	4.754 in
Torsional flexural constant (β)	0.559
Unbraced Length (Lu)	81.4 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