MRI STEEL FRAMING LLC

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Product Category: 05.40.00 - Cold-Formed Metal Framing **Product Name:** 800S400-43

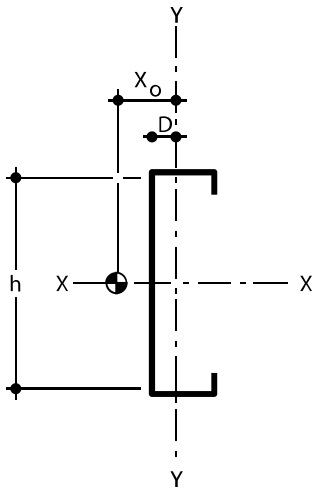
Available Finish: G60, G90
*Other standard coatings referenced in ASTM A1003

Web Depth: 8 in
Flange Width: 4 in
Design Thickness: 0.0451 in
Gauge: 43 mils or 18
Yield stress, Fy: 33 ksi
Weight: 2.71 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)	0.796 in^2
Moment of inertia (Ix)	8.500 in^4
Section Modulus (Sx)	2.125 in^3
Radius of gyration (Rx)	3.267 in
Gross moment of inertia (Iy)	1.824 in^4
Gross Radius of gyration (Ry)	1.513 in



Effective Section Properties

Moment of inertia for deflection (Ix)	7.655 in^4
Section modulus (Sx)	1.264 in^3
Allowable bending moment (Ma)	20.860 In-k
Allowable bending moment from distortional buckling (Mad)	24.50 In-k
Allowable strong axis shear away from punch-out (Vag)	1051 lb
Allowable strong axis shear at punch out (Vanet)	1051 lb

Torsional Properties

St. Venant torsion constant (J x 1000)	0.540 in^4
Warping constant (Cw)	25.191 in^6
Distance from shear center to neutral axis (Xo)	-3.228 in
Distance from shear center to mid-plane of web (m)	1.923 in
Radii of gyration (Ro)	4.836 in
Torsional flexural constant (β)	0.554
Unbraced Length (Lu)	100.6 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