MRI STEEL FRAMING LLC

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Product Category: 09.22.16 - Non-Structural Metal Framing **Product Name:** 400S125-30

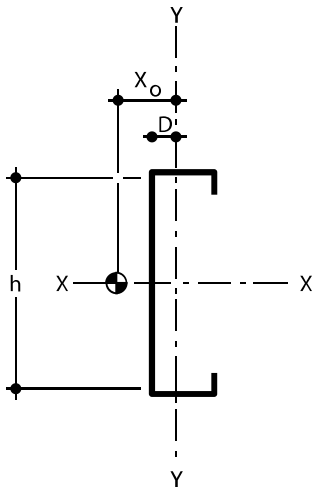
Available Finish: G40, G60
*Other standard coatings referenced in ASTM A1003

Web Depth: 4 in
Flange Width: 1-1/4 in
Design Thickness: 0.0312 in
Gauge: 30 mils or 20G
Yield stress, Fy: 33 ksi
Weight: 0.70 lb/ft

- Calculated properties are based on AISI S100-16/S2-20, 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.

Gross Section Properties

Cross sectional area (A)	0.206 in^2
Moment of inertia (Ix)	0.481 in^4
Section Modulus (Sx)	0.240 in^3
Radius of gyration (Rx)	1.529 in
Gross moment of inertia (Iy)	0.034 in^4
Gross Radius of gyration (Ry)	0.409 in



Effective Section Properties

Moment of inertia for deflection (Ix)	0.473 in^4
Section modulus (Sx)	0.174 in^3
Allowable bending moment (Ma)	3.440 In-k
Allowable bending moment from distortional buckling (Mad)	3.25 In-k
Allowable strong axis shear away from punch-out (Vag)	715 lb
Allowable strong axis shear at punch out (Vanet)	484 lb

Torsional Properties

St. Venant torsion constant (J x 1000)	0.067 in^4
Warping constant (Cw)	0.108 in^6
Distance from shear center to neutral axis (Xo)	-0.742 in
Distance from shear center to mid-plane of web (m)	0.467 in
Radii of gyration (Ro)	1.748 in
Torsional flexural constant (β)	0.820
Unbraced Length (Lu)	28.5 in

Fully Braced Non-Composite Limiting Heights Table Notes

- 5 psf, 7.5 psf, and 10 psf loads have NOT been reduced for strength or deflection checks.
- Calculated properties are based on AISI S100-16/S2-20, North American Specification for Cold-Formed Steel Structural Members and meets the requirements of the IBC 2021 Building Code.
- Limiting heights are based on continuous support of each flange over the full length of the stud.
- Limiting heights are based on steel properties only (non-composite).
- Web crippling checks are based on end-one flange loading condition using 1-inch end bearing.

Non-Composite Limiting Heights – Fully Braced

Spacing (inches)	5psf L/120	5psf L/240	5psf L/360	7.5psf L/120	7.5psf L/240	7.5psf L/360	10psf L/120	10psf L/240	10psf L/360
12	20'-9"	18'-4"	16'-0"	16'-11"	16'-0"	14'-0"	14'-8"	14'-7"	12'-8"
16	18'-0"	16'-8"	14'-7"	14'-8"	14'-7"	12'-8"	12'-8"	12'-8"	11'-6"
24	14'-8"	14'-7"	12'-8"	12'-0"	12'-0"	11'-1"	10'-4"	10'-4"	10'-1"

Interior Composite Limiting Heights

Spacing (inches)	5psf L/120	5psf L/240	5psf L/360	7.5psf L/120	7.5psf L/240	7.5psf L/360	10psf L/120	10psf L/240	10psf L/360	15psf L/120	15psf L/240	15psf L/360
12	24' 6"	19' 5"	17' 0"	21' 5"	17' 0"	14' 10"	19' 5''	15' 5''	13' 6''	13' 2"	13' 2"	11' 7"
16	22' 3"	17' 8"	15' 5"	19' 5"	15' 5"	13' 6"	17' 5''	14' 0''	12' 2''	11' 5"	11' 5"	10' 4"
24	19' 5"	15' 5"	13' 6"	16' 5"	13' 6"	11' 7"	14' 2''	12' 2''	10' 4''			

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 C645, C754, A653, and A1003.

Current LEED credits available upon request