

**Product Category:** 09.22.16 - Non-Structural Metal Framing

**Product Name:** 250S125-33

**Available Finish:** G60

(G40/G90 coatings available upon request)

\*Other standard coatings referenced in ASTM A1003

**Web Depth:** 2-1/2 in

**Flange Width:** 1-1/4 in

**Design Thickness:** 0.0346 in

**Gauge:** 33 mils or 20G ST

**Yield stress, Fy:** 33 ksi

**Weight:** 0.60 lb/ft

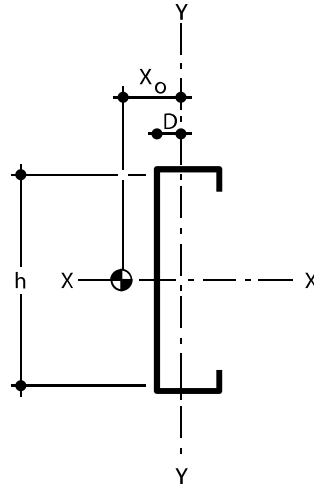
**Gross Section Properties**

Cross sectional area (A)	0.176 in <sup>2</sup>
Moment of inertia (Ix)	0.178 in <sup>4</sup>
Section Modulus (Sx)	0.142 in <sup>3</sup>
Radius of gyration (Rx)	1.007 in
Gross moment of inertia (Iy)	0.033 in <sup>4</sup>
Gross Radius of gyration (Ry)	0.431 in

**Effective Section Properties**

Moment of inertia for deflection (Ix)	0.175 in <sup>4</sup>
Section modulus (Sx)	0.126 in <sup>3</sup>
Allowable bending moment (Ma)	2.480 In-k
Allowable bending moment from distortional buckling (Mad)	2.23 In-k
Allowable strong axis shear away from punch-out (Vag)	975 lb
Allowable strong axis shear at punch out (Vanet)	399 lb

- 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.


**Torsional Properties**

St. Venant torsion constant (J x 1000)	0.070 in <sup>4</sup>
Warping constant (Cw)	0.040 in <sup>6</sup>
Distance from shear center to neutral axis (Xo)	-0.886 in
Distance from shear center to mid-plane of web (m)	0.532 in
Radius of gyration (Ro)	1.409 in
Torsional flexural constant (β)	0.604
Unbraced Length (Lu)	28.9 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	16'-7"	13'-2"	11'-6"	14'-0"	11'-6"	10'-0"	13'-2"	10'-5"	9'-1"
16	14'-11"	11'-11"	10'-5"	12'-2"	10'-5"	9'-1"	11'-11"	9'-6"	8'-3"
24	12'-2"	10'-5"	9'-1"	9'-11"	9'-1"	7'-11"	10'-4"	8'-3"	7'-3"

**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	19' 8"	15' 8"	13' 8"	17' 3"	13' 8"	11' 11"	15' 8"	12' 5"	10' 10"	11' 5"	10' 10"	9' 5"
16	17' 11"	14' 3"	12' 5"	15' 8"	12' 5"	10' 10"	14' 3"	11' 3"	9' 10"	9' 11"	9' 10"	8' 4"
24	15' 8"	12' 5"	10' 10"	13' 8"	10' 10"	9' 5"	12' 4"	9' 10"	8' 4"	8' 1"	8' 1"	

**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, C745, A653, and A1003.

Current LEED credits available upon request