MRI STEEL FRAMING LLC

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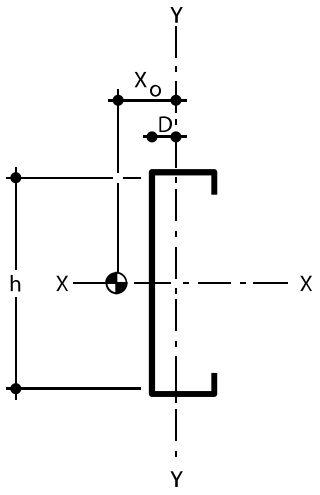
Product Category: 05.40.00 - Cold-Formed Metal Framing **Product Name:** 550S162-33

Available Finish: G60
(G40/G90 coatings available upon request)
*Other standard coatings referenced in ASTM A1003
Web Depth: 5-1/2 in
Flange Width: 1-5/8 in
Design Thickness: 0.0346 in
Gauge: 33 mils or 20G ST
Yield stress, Fy: 33 ksi
Weight: 1.11 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)	0.327 in^2
Moment of inertia (Ix)	1.459 in^4
Section Modulus (Sx)	0.530 in^3
Radius of gyration (Rx)	2.112 in
Gross moment of inertia (Iy)	0.113 in^4
Gross Radius of gyration (Ry)	0.589 in



Effective Section Properties

Moment of inertia for deflection (Ix)	1.459 in^4
Section modulus (Sx)	0.512 in^3
Allowable bending moment (Ma)	10.110 In-k
Allowable bending moment from distortional buckling (Mad)	7.92 In-k
Allowable strong axis shear away from punch-out (Vag)	699 lb
Allowable strong axis shear at punch out (Vanet)	699 lb

Torsional Properties

St. Venant torsion constant (J x 1000)	0.130 in^4
Warping constant (Cw)	0.713 in^6
Distance from shear center to neutral axis (Xo)	-1.114 in
Distance from shear center to mid-plane of web (m)	0.697 in
Radii of gyration (Ro)	2.459 in
Torsional flexural constant (β)	0.795
Unbraced Length (Lu)	41.4 in

Limiting Height Table Notes

- Lateral loads have not been modified for strength checks: full loads are applied.
- Calculated properties are based on AISI S100-16/S240-20, North American Specification for Cold-Formed Steel Structural Members and meets the requirements of the IBC 2021 Building Code.
- 15 psf and higher wind pressures have been multiplied by 0.7 for deflection determination, in accordance with footnote f of IBC table 1604.3. The 5 psf live load has not been reduced for deflection checks.
- Limiting heights are based on continuous support of each flange over the full length of the stud.
- Limiting heights are based on steel properties alone (non-composite).
- Web crippling checks are based on end-one flange loading condition using 1-inch end bearing.
- End shear and web crippling capacity have not been reduced for punchouts. Punchouts are assumed to be at least 10-inches from the end of members, in accordance with ASTM C955, section 4.6.
- Where limiting heights are followed by "e", web stiffeners are required.

Limiting Wall Heights - Curtain Wall 1-Span

Spacing (inches)	15psf L/240	15psf L/360	15psf L/600	20psf L/240	20psf L/360	20psf L/600	25psf L/240	25psf L/360	25psf L/600
12	19' 7"	18' 3"	15' 5"	17' 0" e	16' 7" e	14' 0"	15' 2" e	15' 2" e	13' 0" e
16	17' 0" e	16' 7" e	14' 0"	14' 8" e	14' 8" e	12' 8" e	13' 2" e	13' 2" e	11' 9" e
24	13' 10" e	13' 10" e	12' 3" e	12' 0" e	12' 0" e	11' 1" e	10' 9" e	10' 9" e	10' 4" e

Spacing (inches)	30psf L/240	30psf L/360	30psf L/600	35psf L/240	35psf L/360	35psf L/600	40psf L/240	40psf L/360	40psf L/600
12	13' 10" e	13' 10" e	12' 3" e	12' 10" e	12' 10" e	11' 7" e	12' 0" e	12' 0" e	11' 1" e
16	12' 0" e	12' 0" e	11' 1" e	11' 1" e	11' 1" e	10' 6" e	10' 5" e	10' 5" e	10' 1" e
24	9' 10" e	9' 10" e	9' 8" e	9' 1" e	9' 1" e	9' 1" e	8' 6" e	8' 6" e	8' 6" e

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