

Corporate Headquarters

15 Salt Creek Lane, Suite 412 Hinsdale, IL 60521 Phone: 1.630.616.1850 Fax: 1.630.568.5979 info@mristeelframing.com

Produciton Facility

201 Mississippi St Dock #Q40 Gary, IN 46402 Phone: 1.630.616.1850 Fax: 1.219.886.3341 info@mristeelframing.com

GREEN Benefits & Recycled Content

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Project:

MRI Steel Framing is committed to supplying quality products that contribute to developing greener building projects as well as sustainability and environmental management.

MRI Steel Framing has an Environmental Product Declaration (EPD), Number SCS-EPD-08959, covering our Cold-Formed Steel Framing Products, which conforms to ISO 14025, 14040, 14044, and ISO 21930. This EPD is a Product Specific Type III and has a Cradle to Gate scope. More specifically, this Type III EPD has been externally reviewed following ISO 14071 and externally verified, and as such, is eligible to contribute 150% of a product for the purposes of LEED® credits under the LEED® v4.1 standard.

The MRI Steel Framing Environmental Product Declaration (EPD) can help your building project qualify for the following LEED® v4.1 for BD+C points:

MATERIALS AND RESOURCES CREDIT (MR)

- Environmental Product Declarations Up to 2 Points
- Sourcing of Raw Materials Up to 2 Points
- Material Ingredients Up to 2 Points
- Construction and Demolition Waste Management Up to 2 Points

INDOOR ENVIRONMENTAL QUALITY CREDIT (EQ)

- Low-Emitting Materials Up to 3 Points
- Construction Indoor Air Quality Management Plan Up to 1 Point
- Indoor Air Quality Assessment Up to 2 Points

MRI Steel Framing products and accessories are manufactured from steel coil (100% by weight) containing 19.8% post-consumer recycled content and 14.4% post-industrial/pre-consumer recycled content for a total of 34.2% recycled content. These calculations are based upon information provided by the Steel Recycling Institute on minimum BOF (Basic Oxygen Furnace) steel recycled content.

In addition to the above mentioned EPD and LEED® information, MRI Steel Framing also has a Health Product Declaration (HPD) with a Unique Identifier Number of 27459 covering our full line of Interior Framing, Structural Framing, Slotted Deflection Track and Accessories; MasterSpec 05.40.00 and 09.22.16.



Product Name: 400S250-43



Product Category: 05.40.00 - Cold-Formed Metal Framing

Available Finish: G60, G90

*Other standard coatings referenced in ASTM A1003

Web Depth: 4 in

Flange Width: 2-1/2 in

Design Thickness: 0.0451 in

Gauge: 43 mils or 18

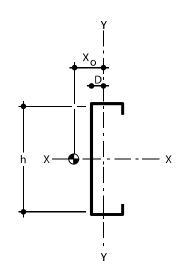
Yield stress, Fy: 50 ksi

Weight: 1.52 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 coldwork 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)	0.447 in ²	
Moment of inertia (Ix)	1.224 in⁴	
Section Modulus (Sx)	0.612 in ³	
Radius of gyration (Rx)	1.655 in	
Gross moment of inertia (ly)	0.399 in⁴	
Gross Radius of gyration (Ry)	0.945 in	



Effective Section Properties

Moment of inertia for deflection (Ix)	in⁴
Section modulus (Sx)	in³
Allowable bending moment (Ma)	In-k
Allowable bending moment from distortional buckling (Mad)	In-k
Allowable strong axis shear away from punch-out (Vag)	lb
Allowable strong axis shear at punch out (Vanet)	lb

Torsional Properties

St. Venant torsion constant (J x 1000)	0.303 in ⁴
Warping constant (Cw)	1.486 in ⁶
Distance from shear center to neutral axis (Xo)	-2.139 in
Distance from shear center to mid-plane of web (m)	1.252 in
Radii of gyration (Ro)	2.865 in
Torsional flexural constant (β)	0.443
Unbraced Length (Lu)	63.7 in

Additional Information