MRI
STEEL FRAMING LLC

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BUILDSMART℠

GREEN Benefits & Recycled Content

March 18, 2024

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.

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Production Facility: 201 Mississippi St, Dock #Q40, Gary, IN 46402 **P:** 630-616-1850 **F:** 219-886-3341

Product Category: 05.40.00 - Cold-Formed Metal Framing **Product Name:** 1400S200-54

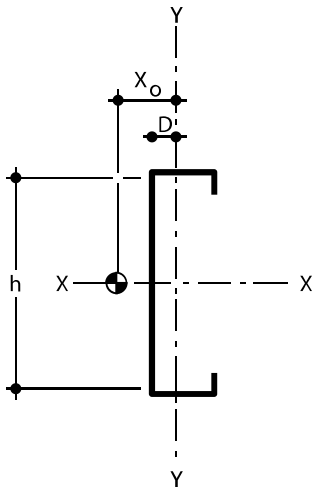
Available Finish: G60, G90
*Other standard coatings referenced in ASTM A1003

Web Depth: 14 in
Flange Width: 2 in
Design Thickness: 0.0566 in
Gauge: 54 mils or 16G
Yield stress, Fy: 50 ksi
Weight: 3.63 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)	1.066 in^2
Moment of inertia (Ix)	25.961 in^4
Section Modulus (Sx)	3.709 in^3
Radius of gyration (Rx)	4.936 in
Gross moment of inertia (Iy)	0.406 in^4
Gross Radius of gyration (Ry)	0.617 in



Effective Section Properties

Moment of inertia for deflection (Ix)	23.201 in^4
Section modulus (Sx)	2.440 in^3
Allowable bending moment (Ma)	73.060 In-k
Allowable bending moment from distortional buckling (Mad)	59.92 In-k
Allowable strong axis shear away from punch-out (Vag)	1177 lb
Allowable strong axis shear at punch out (Vanet)	1177 lb

Torsional Properties

St. Venant torsion constant (J x 1000)	1.138 in^4
Warping constant (Cw)	16.355 in^6
Distance from shear center to neutral axis (Xo)	-0.946 in
Distance from shear center to mid-plane of web (m)	0.633 in
Radii of gyration (Ro)	5.063 in
Torsional flexural constant (β)	0.965
Unbraced Length (Lu)	38.2 in

Floor Joist Tables

10 psf Dead Load and 20 psf Live Load

Live Load Deflection L/360						Live Load Deflection L/480					
Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.			Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.		
12	16	24	12	16	24	12	16	24	12	16	24
37' 0" e	32' 1" e	26' 2" e	37' 0" a	32' 1" a	24' 5" a	33' 8" e	30' 7" e	26' 2" e	37' 0" a	32' 1" a	24' 5" a

10 psf Dead Load and 30 psf Live Load

Live Load Deflection L/360						Live Load Deflection L/480					
Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.			Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.		
12	16	24	12	16	24	12	16	24	12	16	24
32' 1" e	27' 9" e	22' 8" e	32' 1" a	26' 6" a	19' 10" a	29' 5" e	26' 8" e	22' 8" e	32' 1" a	26' 6" a	19' 10" a

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Product Category: 05.40.00 - Cold-Formed Metal Framing **Product Name:** 1400S200-54

10 psf Dead Load and 40 psf Live Load

Live Load Deflection L/360						Live Load Deflection L/480					
Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.			Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.		
12	16	24	12	16	24	12	16	24	12	16	24
28' 8" e	24' 10" e	20' 3" e	27' 9" a	22' 8" a	16' 9" a	26' 8" e	24' 3" e	20' 3" e	27' 9" a	22' 8" a	16' 9" a

10 psf Dead Load and 50 psf Live Load

Live Load Deflection L/360						Live Load Deflection L/480					
Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.			Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.		
12	16	24	12	16	24	12	16	24	12	16	24
26' 2" e	22' 8" e	18' 6" e	24' 5" a	19' 10" a	14' 7" a	24' 9" e	22' 6" e	18' 6" e	24' 5" a	19' 10" a	14' 7" a

15 psf Dead Load and 125 psf Live Load

Live Load Deflection L/360						Live Load Deflection L/480					
Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.			Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.		
12	16	24	12	16	24	12	16	24	12	16	24
16' 10" e	12' 7" e	8' 5" e	12' 11" a	10' 1" a	6' 9" a	16' 10" e	12' 7" e	8' 5" e	12' 11" a	10' 1" a	6' 9" a

40 psf Dead Load and 125 psf Live Load

Live Load Deflection L/360						Live Load Deflection L/480					
Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.			Single Span Spacing (in) o.c.			Two Equal Spans Spacing (in) o.c.		
12	16	24	12	16	24	12	16	24	12	16	24
14' 3" e	10' 8" e	7' 2" e	11' 3" a	8' 7" a	5' 8" a	14' 3" e	10' 8" e	7' 2" e	11' 3" a	8' 7" a	5' 8" a

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