MRI

STEEL FRAMING

BUILDSMART®

Interior Framing Products Catalog

Equivalent Stud and Track

Equivalent Framing Products Catalog

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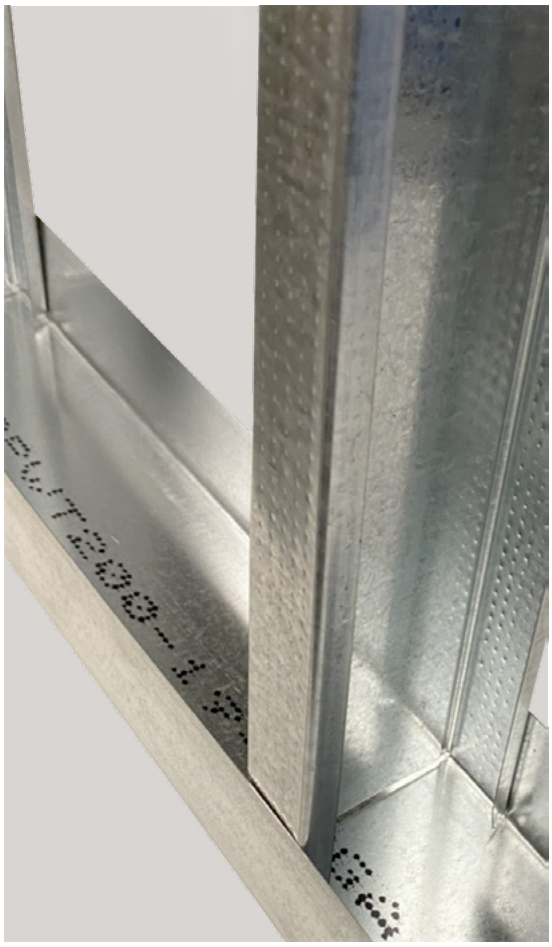
Equivalent Framing Products



Product Overview

MRI Steel Framing produces two lines of "Equivalent" products in 27mil and 19/21mil versions. On projects accepting "EQ" products, contractors now can choose from our **27mil MRI Smart® 20ga EQ Stud** or our **19/21mil PrimeWall® 20ga EQ Stud**.

Both "EQ" products are excellent choices that outperform our competitors' "EQ" studs in many interior applications.

MRI Steel Framing also makes full weight non-equivalent interior drywall products.

We produce Standard drywall products (30mil, 27mil and 18mil) that are manufactured true to gauge for all the strength you need, the performance you expect, and the safe, proven, functionality your project demands.

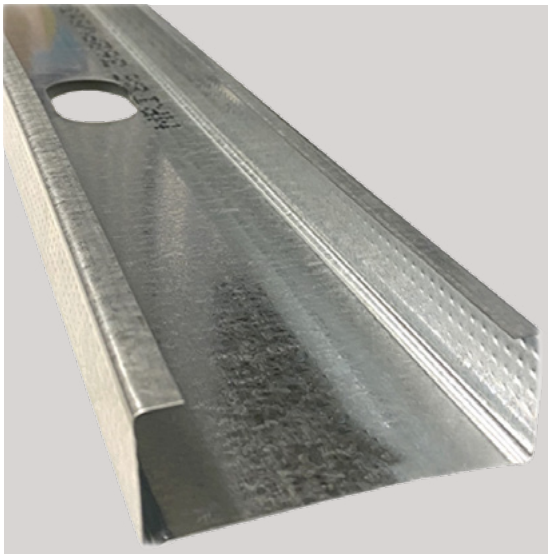
The MRI 30mil product is the flagship of our interior drywall product line and is the product of choice for contractors looking for an interior stud that does it all.

MRI has made a concerted effort to ensure the **accuracy of the information** represented in this catalog.

However, this information should not be used in design or construction without an independent evaluation by a qualified engineer or architect.

This publication contains **the latest information** available at the time of printing.

MRI reserves the right to make modifications and/or change materials of any product without prior notice or obligation.



Product Certifications

MRI STEEL FRAMING

VERIFIED by SCS Global Services — ENVIRONMENTAL PRODUCT DECLARATION — BASED ON LCA

Find us in MasterSpec® Powered by Deltek Specpoint®

RIB | SpecLink

SFIA — STEEL FRAMING INDUSTRY ASSOCIATION

MRI Steel Framing building products are manufactured to meet or exceed all applicable standards including:

AISI S100-2016. North American Specification for the Design of Cold-Formed Steel Structural Members.

IBC 2018. International Building Code – 2018.

AISI S220-2015. North American Standard for Cold-Formed Steel Framing – Nonstructural Members.

ASTM A1003. Standard Specification for Steel Sheet, Carbon, Metallic and Nonmetallic Coated for Cold Formed Framing Members.

ASTM A653. Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

ASTM C645. Standard Specification for Nonstructural Steel Framing Members.

ASTM C754. Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

ASTM E72. Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.

ASTM E90. Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

LEED® v4 Information:

- **EPD (SCS-EPD-07103)**
- **HPD (27459)**
- **SDS Sheets**

For more Leed® details contact MRI Customer Service.

MRI Steel Framing products are also listed in the following:

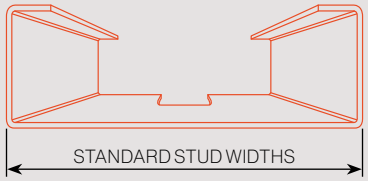
- **ICC ES Evaluation Report ESR-4205**
- **CCRR-0224 (through association with SFIA)**
- **UL Fire Listed through the SFIA**

MRI Steel Framing Products are Certified

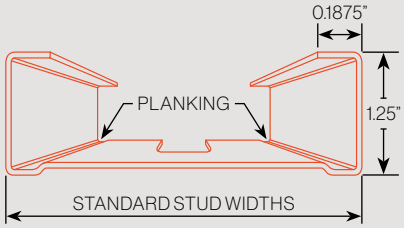
MRI Steel Framing is a proud member of the SFIA (Steel Framing Industry Association) and the products included in the catalog are certified by the SFIA to ensure consistent quality and compliance to all applicable industry standards via unannounced 3rd party independent testing.

MRI Steel Framing Stud Profiles

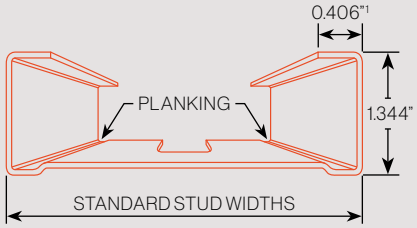
Standard Non-Structural Stud



MRI Smart® 20 EQ Stud



PrimeWall® 20 EQ Stud



[1] 0.25" RETURN ON 1.625" STUDS

General Product Type Information

Member/Web Measurement	Product Style	Flange/Leg Measurement	Material Thickness
600	S	125	- 30

Web Measurement	Product Style	Flange/Leg Measurement	(Mils)	Material Thickness	
				Design Thickness (in)	Minimum Thickness (in)
162 = 1.625"	**S** = Stud	**125** = 1.25"	**18**	0.0188	0.0179
250 = 2.5"	**SES** = MRI Smart® 20 EQ Stud	**150** = 1.5"	**19**	0.0200	0.0190
350 = 3.5"	**PWS** = PrimeWall® 20 EQ Stud	**200** = 2.0"	**21**	0.0221	0.0210
362 = 3.625"	**T** = Track	**300** = 3.0"	**27**	0.0283	0.0269
400 = 4.0"	**SET** = MRI Smart® 20 EQ Track		**30**	0.0312	0.0296
550 = 5.5"	**PWT =** PrimeWall® 20 EQ Track		**33**	0.0346	0.0329
600 = 6.0"	**SLT** = Slotted Track				

General Product Types

Product Type	Gauge Requirements	Yield (Fy) (KSI)	Designation Thickness (mils)	Design Thickness (in)	Minimum Thickness (in)	Design Inside Corner Radii (in)	Color
PrimeWall® 20 EQ	20ga EQ	55	19/21	0.020/0.022	0.019/0.021	0.0680	Brown
MRI Smart® 20 EQ	20ga EQ	43	27	0.0283	0.0269	0.0796	Black
Standard NS	25ga	33	18	0.0188	0.0179	0.0844	(none)
Standard NS	22ga	33	27	0.0283	0.0269	0.0796	Black
Standard NS	20ga	33	30	0.0312	0.0296	0.0782	Pink
Standard NS	20ga ST	33	33	0.0346	0.0329	0.0765	White

- MRI nonstructural framing products have a G40 coating or a minimum standard coating that complies with the requirements of IBC 2018 and ASTM A1003/ A1003M. G60 and G90 coatings are available upon request.
- MRI nonstructural framing products will comply with the manufacturing tolerances listed in ASTM C645. (Table 1 Manufacturing Tolerances for non-structural members).
- Groups of like members will be color-coded during the manufacturing process and each framing member will be marked appropriately so that products can be easily identified in the field.

Equivalent Products

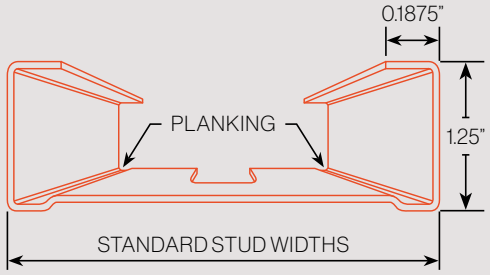
MRI "EQ" Product Information

MRI Steel Framing produces two lines of "Equivalent" products in 27mil and 19/21mil versions.

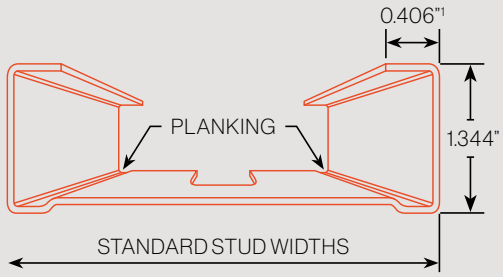
Our **MRI Smart® 20ga EQ Stud** product line was originally designed for contractors that did not fully accept "Equivalent" products because of their limitations in many applications. The **MRI Smart® Stud (27mil)** has 50% more steel than the 18mil and 19mil equivalent studs on the market today and only 10% less steel than our Standard 30mil products. On projects where "EQ" products are accepted, contractors can choose our **MRI Smart® Stud** products and save 10% from our standard 30mil products without sacrificing quality and thereby avoiding the limitations of lower mil equivalent products. We guarantee this is the best performing "EQ" product on the market today in non-composite wall applications where "EQ" products are accepted.

Our **MRI PrimeWall® 20ga EQ (19/21mil)** product line is the latest new product introduction by **MRI Steel Framing**. This product line outperforms the major 19mil or less "EQ" products on the market today. The comparison chart on the next page clearly shows how the **PrimeWall®** differs from the other "EQ" products currently available.

MRI Smart® 20 EQ Stud



PrimeWall® 20 EQ Stud



[1] 0.25" RETURN ON 1.625" STUDS

MRI Recommended Nonstructural Products by Application (3 5/8" Wall, 5PSF, L/240)

Condition	19/21mil PrimeWall EQ	Smart Stud EQ	30mil Nonstructural
Non-composite (<14' WH)	✓	✓	✓
Non-composite (>14' WH)		✓	✓
Composite (<17' WH)	✓	✓	✓
Door jambs			✓
Walls with heavy attachments (casework, etc.)			✓

Notes:

- These are intended to serve as general guidelines. Confirm product limitations in limiting height tables against project conditions.
- Attachment of casework to EQ studs is often feasible but depends on design condition. The table presented above is meant to be a conservative guideline.

Comparison of Equivalent Products

Comparison Chart of Significant EQ Technical Data

	20 ga Equivalent Products			
Manufacturer	**MRI EQ Products**		**Clark Dietrich***	**Marino/Ware****
Product Description	**Smart®**	**PrimeWall®**	**ProStud® 20**	**ViperStud® 20**
Minimum Thickness in MILS	**27**	***19/21***	**18**	**18**
Yield Strength - KSI	**43**	***55***	**70**	**70**
Limiting Heights:				
Non-Composite - Fully Braced - 5 PSF,L/240, 16" Spacing:				
162xxxxxx	8' 2"	**7' 9"**	7' 0"	6' 11"
250xxxxxx	11' 3"	**10' 7"**	9' 11"	9' 8"
362xxxxxx	15' 0"	**14' 0"**	13' 2"	12' 10"
400xxxxxx	16' 2"	**15' 2"**	14' 1" [1]	13' 10"
600xxxxxx	22' 2" [1]	**18' 11" [1]**	18' 9" [1]	18' 6"
Composite -5 PSF, L/240, 16" Spacing:				
162xxxxxx	10' 7"		11' 1"	10' 0"
250xxxxxx	13' 11"		14' 0"	13' 1"
362xxxxxx	16' 6"	**16' 11"**	16' 10"	16' 4"
400xxxxxx	17' 8"		17' 7"	17' 3"
600xxxxxx	24'4"	**24' 3"**	23' 8"	23' 7"
Allowable Ceiling Spans:				
Unsupported Joist Spacing - 4 PSF, L/240, 16" Spacing:				
162xxxxxx	7' 11"	**7' 9"**	7' 3"	7' 3"
250xxxxxx	8' 11"	**9' 2"**	8' 5"	8' 1"
362xxxxxx	9' 10"	**9' 11"**	9' 2"	8' 11"
400xxxxxx	10' 1"	**10' 2"**	9' 5"	9' 2"
600xxxxxx	11' 6"	**11' 10"**	10' 11"	10' 4"
Torsional Section Properties:				
Jx1000 (in⁴):				
162xxxxxx	0.032	**0.016**	0.010	
250xxxxxx	0.039	**0.015**	0.013	
362xxxxxx	0.047	**0.018**	0.015	
400xxxxxx	0.050	**0.019**	0.016	
600xxxxxx	0.065	**0.033**	0.021	
Lu (in):				
162xxxxxx	25.40	**25.1**	24.8	21.2
250xxxxxx	25.20	**27.6**	24.5	21.9
362xxxxxx	25.10	**26.9**	24.3	21.5
400xxxxxx	25.00	**26.8**	24.2	21.5
600xxxxxx	24.30	**29.5**	23.6	21.5

[1] Web-height to thickness ratio exceeds 200. Web stiffeners are required.

* Information obtained from the ClarkDietrich catalog effective 1/3/2024.

** Information obtained from the Marino\Ware catalog effective 9/17/2024.

PrimeWall® 20 EQ (19/21mil)

General 19/21mil EQ Product Information

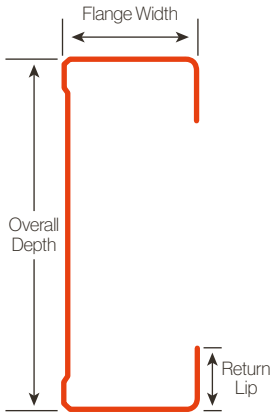
The PrimeWall® 20 EQ studs are used in non-load-bearing wall systems that support gypsum board construction. PrimeWall® 20 EQ studs are equivalent to 20 gauge (30mil) standard non-structural drywall studs.

The PrimeWall® stud is manufactured with web planking.

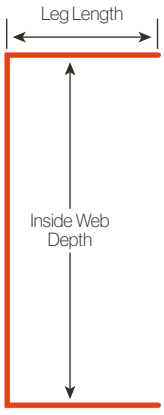
PrimeWall® framing products have a G40 or a minimum standard coating that complies with the requirements of IBC 2018 and ASTM A1003/ A1003M. G60 and G90 coatings are available upon request.

PrimeWall® framing products are produced with steel that meets or exceeds a 55 KSI yield strength. The 1-5/8" and 6" stud products have a design thickness of 0.0221" (21mil). All other stud and track products have a design thickness of 0.020" (19mil).

All products comply with the manufacturing tolerances listed in ASTM C645. (Table 1 Manufacturing Tolerances for non-structural members).



Stud



Track

Advantages of this Product:

- 14' limiting height in non-composite wall applications – highest in class.
- 16' 11" limiting height in composite wall applications – highest in class.
- Longer leg – 1.34" for larger area for fastening.
- Lower yield strength than competitors – quicker fastener attachment.
- Consumes 35% less steel than standard products.

PrimeWall® 20 EQ Stud

- Nominal Web/Depth: 1-5/8", 2-1/2", 3-5/8", 4", 6"
- Flange Width: 1-11/32"
- Return/Lip: 13/32" (1/4" on 1-5/8" studs)
- Design Thickness: 0.020" (2-1/2", 3-5/8", 4" studs) and 0.0221" (6" and 1-5/8" studs)

PrimeWall®20 EQ Track

- Nominal Web/Depth: 1-5/8", 2-1/2", 3-5/8", 4", 6"
- Leg Length: 1-1/4", 1-1/2", 2", 3"
- Design Thickness: 0.020"

PrimeWall® 20 EQ (19/21mil)

General Product Information

PrimeWall ® 20 EQ (19/21mil) • Drywall Framing Stud

MRI Smart Stud	Material Requirements				Product Measurements						Color Coding
	Yield (KSI)	Mil Thickness	Design Thickness	Base Metal Thickness	Web (nominal)		Leg / Flange		Return / Lip		
					Decimal	Fraction	Decimal	Fraction	Decimal	Fraction	
162PWS134-21	55	21	0.0221	0.0210	1.625"	1-5/8"	1.344"	1-11/32"	0.250"	1/4"	Brown
250PWS134-19	55	19	0.0200	0.0190	2.5"	2-1/2"	1.344"	1-11/32"	0.406"	13/32"	Brown
362PWS134-19	55	19	0.0200	0.0190	3.625"	3-5/8"	1.344"	1-11/32"	0.406"	13/32"	Brown
400PWS134-19	55	19	0.0200	0.0190	4.0"	4"	1.344"	1-11/32"	0.406"	13/32"	Brown
600PWS134-21	55	21	0.0221	0.0210	6.0"	6"	1.344"	1-11/32"	0.406"	13/32"	Brown

PrimeWall ® 20 EQ (19/21mil) • Drywall Framing Track

MRI Smart Stud	Material Requirements				Product Measurements				Color Coding
	Yield (KSI)	Mil Thickness	Design Thickness	Base Metal Thickness	Web (nominal)		Leg / Flange		
					Decimal	Fraction	Decimal	Fraction	
162PWT125-19	55	19	0.0200	0.0190	1.625"	1-5/8"	1.25"	1-1/4"	Brown
162PWT150-19	55	19	0.0200	0.0190	1.625"	1-5/8"	1.50"	1-1/2"	Brown
162PWT200-19	55	19	0.0200	0.0190	1.625"	1-5/8"	2.00"	2"	Brown
250PWT125-19	55	19	0.0200	0.0190	2.5"	2-1/2"	1.25"	1-1/4"	Brown
250PWT150-19	55	19	0.0200	0.0190	2.5"	2-1/2"	1.50"	1-1/2"	Brown
250PWT200-19	55	19	0.0200	0.0190	2.5"	2-1/2"	2.00"	2"	Brown
250PWT300-19	55	19	0.0200	0.0190	2.5"	2-1/2"	3.00"	3"	Brown
362PWT125-19	55	19	0.0200	0.0190	3.625"	3-5/8"	1.25"	1-1/4"	Brown
362PWT150-19	55	19	0.0200	0.0190	3.625"	3-5/8"	1.50"	1-1/2"	Brown
362PWT200-19	55	19	0.0200	0.0190	3.625"	3-5/8"	2.00"	2"	Brown
362PWT300-19	55	19	0.0200	0.0190	3.625"	3-5/8"	3.00"	3"	Brown
400PWT125-19	55	19	0.0200	0.0190	4.0"	4"	1.25"	1-1/4"	Brown
400PWT150-19	55	19	0.0200	0.0190	4.0"	4"	1.50"	1-1/2"	Brown
400PWT200-19	55	19	0.0200	0.0190	4.0"	4"	2.00"	2"	Brown
400PWT300-19	55	19	0.0200	0.0190	4.0"	4"	3.00"	3"	Brown
600PWT125-19	55	19	0.0200	0.0190	6.0"	6"	1.25"	1-1/4"	Brown
600PWT150-19	55	19	0.0200	0.0190	6.0"	6"	1.50"	1-1/2"	Brown
600PWT200-19	55	19	0.0200	0.0190	6.0"	6"	2.00"	2"	Brown
600PWT300-19	55	19	0.0200	0.0190	6.0"	6"	3.00"	3"	Brown

MRI Smart® 20 EQ (27mil)

General 27mil EQ Product Information

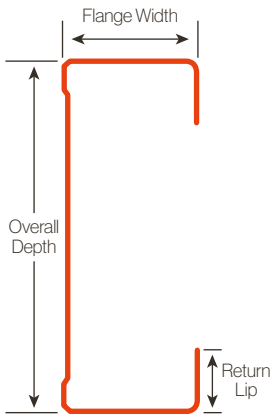
The MRI Smart® 20 EQ studs are used in non-load-bearing wall systems that support gypsum board construction. MRI Smart ® 20 EQ studs can be used on projects where EQ products are accepted.

The MRI Smart ® stud is manufactured with web planking.

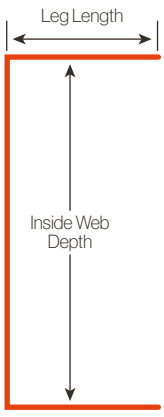
MRI Smart ® framing products have a G40 or a minimum standard coating that complies with the requirements of IBC 2018 and ASTM A1003/ A1003M. G60 and G90 coatings are available upon request.

MRI Smart ® framing products are produced with steel that meets or exceeds a 43KSI yield strength.

All products comply with the manufacturing tolerances listed in ASTM C645. (Table 1 Manufacturing Tolerances for non-structural members).



Stud



Track

Advantages of this Product:

- Our 27mil products are designed for applications where "EQ" products are accepted but the wall is considered noncomposite. This product provides better overall performance in such applications.
- Higher limiting heights than other "EQ" products on the market in non-composite wall applications.
- Higher Lu than other "EQ" products on the market.
- 50% more steel than the 18mil and 19mil "EQ" studs on the market.

MRI Smart® 20 EQ Stud

- Nominal Web/Depth: 1-5/8", 2-1/2", 3-1/2", 3-5/8", 4", 5-1/2", 6"
- Flange Width: 1-1/4"
- Return/Lip: 3/16"
- Design Thickness: 0.0283"

MRI Smart® 20 EQ Track

- Nominal Web/Depth: 1-5/8", 2-1/2", 3-1/2", 3-5/8", 4", 5-1/2", 6"
- Leg Length: 1-1/4", 1-1/2", 2", 2-1/2", 3"
- Design Thickness: 0.0283"

MRI Smart® 20 EQ (27mil)

General Product Information

SMART ® 20 EQ (27mil) • Drywall Framing Stud

MRI Smart Stud	Material Requirements				Product Measurements						Color Coding
	Yield (KSI)	Mil Thickness	Design Thickness	Base Metal Thickness	Web (nominal)		Leg / Flange		Return / Lip		
					Decimal	Fraction	Decimal	Fraction	Decimal	Fraction	
162SES125-27	43	27	0.0283	0.0269	1.625"	1-5/8"	1.25"	1-1/4"	0.188"	3/16"	Black
250SES125-27	43	27	0.0283	0.0269	2.5"	2-1/2"	1.25"	1-1/4"	0.188"	3/16"	Black
350SES125-27	43	27	0.0283	0.0269	3.5"	3-1/2"	1.25"	1-1/4"	0.188"	3/16"	Black
362SES125-27	43	27	0.0283	0.0269	3.625"	3-5/8"	1.25"	1-1/4"	0.188"	3/16"	Black
400SES125-27	43	27	0.0283	0.0269	4"	4"	1.25"	1-1/4"	0.188"	3/16"	Black
550SES125-27	43	27	0.0283	0.0269	5.5"	5-1/2"	1.25"	1-1/4"	0.188"	3/16"	Black
600SES125-27	43	27	0.0283	0.0269	6"	6"	1.25"	1-1/4"	0.188"	3/16"	Black

SMART ® 20 EQ (27mil) • Drywall Framing Track

MRI Smart Stud	Material Requirements				Product Measurements				Color Coding
	Yield (KSI)	Mil Thickness	Design Thickness	Base Metal Thickness	Web (nominal)		Leg / Flange		
					Decimal	Fraction	Decimal	Fraction	
162SET125-27	43	27	0.0283	0.0269	1.625"	1-5/8"	1.25"	1-1/4"	Black
162SET150-26	43	27	0.0283	0.0269	1.625"	1-5/8"	1.50"	1-1/2"	Black
162SET200-27	43	27	0.0283	0.0269	1.625"	1-5/8"	2.00"	2"	Black
162SET250-28	43	27	0.0283	0.0269	1.625"	1-5/8"	2.50"	2-1/2"	Black
250SET125-27	43	27	0.0283	0.0269	2.5"	2-1/2"	1.25"	1-1/4"	Black
250SET150-27	43	27	0.0283	0.0269	2.5"	2-1/2"	1.50"	1-1/2"	Black
250SET200-27	43	27	0.0283	0.0269	2.5"	2-1/2"	2.00"	2"	Black
250SET250-27	43	27	0.0283	0.0269	2.5"	2-1/2"	2.50"	2-1/2"	Black
350SET125-27	43	27	0.0283	0.0269	3.5"	3-1/2"	1.25"	1-1/4"	Black
350SET150-27	43	27	0.0283	0.0269	3.5"	3-1/2"	1.50"	1-1/2"	Black
350SET200-27	43	27	0.0283	0.0269	3.5"	3-1/2"	2.00"	2"	Black
350SET250-27	43	27	0.0283	0.0269	3.5"	3-1/2"	2.50"	2-1/2"	Black
350SET300-27	43	27	0.0283	0.0269	3.5"	3-1/2"	3.00"	3"	Black
362SET125-27	43	27	0.0283	0.0269	3.625"	3-5/8"	1.25"	1-1/4"	Black
362SET150-27	43	27	0.0283	0.0269	3.625"	3-5/8"	1.50"	1-1/2"	Black
362SET200-27	43	27	0.0283	0.0269	3.625"	3-5/8"	2.00"	2"	Black
362SET250-27	43	27	0.0283	0.0269	3.625"	3-5/8"	2.50"	2-1/2"	Black
362SET300-27	43	27	0.0283	0.0269	3.625"	3-5/8"	3.00"	3"	Black
400SET125-27	43	27	0.0283	0.0269	4.0"	4"	1.25"	1-1/4"	Black
400SET150-27	43	27	0.0283	0.0269	4.0"	4"	1.50"	1-1/2"	Black
400SET200-27	43	27	0.0283	0.0269	4.0"	4"	2.00"	2"	Black
400SET250-27	43	27	0.0283	0.0269	4.0"	4"	2.50"	2-1/2"	Black
400SET300-27	43	27	0.0283	0.0269	4.0"	4"	3.00"	3"	Black
550SET125-27	43	27	0.0283	0.0269	5.5"	5-1/2"	1.25"	1-1/4"	Black
550SET150-27	43	27	0.0283	0.0269	5.5"	5-1/2"	1.50"	1-1/2"	Black
550SET200-27	43	27	0.0283	0.0269	5.5"	5-1/2"	2.00"	2"	Black
550SET250-27	43	27	0.0283	0.0269	5.5"	5-1/2"	2.50"	2-1/2"	Black
550SET300-27	43	27	0.0283	0.0269	5.5"	5-1/2"	3.00"	3"	Black
600SET125-27	43	27	0.0283	0.0269	6.0"	6"	1.25"	1-1/4"	Black
600SET150-27	43	27	0.0283	0.0269	6.0"	6"	1.50"	1-1/2"	Black
600SET200-27	43	27	0.0283	0.0269	6.0"	6"	2.00"	2"	Black
600SET250-27	43	27	0.0283	0.0269	6.0"	6"	2.50"	2-1/2"	Black
600SET300-27	43	27	0.0283	0.0269	6.0"	6"	3.00"	3"	Black

Notes / Definitions

General Notes for All Tables

1. Calculations are based on AISI Standard, North American Specification for the Design of Cold-Formed Steel Structural Members, 2016 edition (AISI S100-2016) unless otherwise noted. All calculations are based on allowable strength design (ASD).
2. The strength increase from cold work of forming has been incorporated for flexural strength per AISI S100, A7.2
3. When provided, factory punchouts will be located along the centerline of the webs of the members and will have a minimum center-to-center spacing of 24 inches. Punchouts for members > 2.5 inches deep are a maximum of 1.5 inches wide x 4 inches long. Members with depths 2.5" and smaller are maximum 3/4" wide x 4 inches long.

Definitions of Structural Property Symbols

Gross Properties

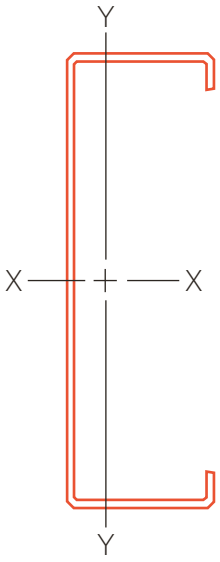
I_{xx}: Moment of inertia of the gross section about the X-X axis (strong axis).

S_{xx}: Section modulus of the gross section about the X-X axis (strong axis).

R_x: Radius of gyration of the gross section about the X-X axis (strong axis).

I_{yy}: Moment of inertia of the gross section about the Y-Y (weak axis).

R_y: Radius of gyration of the gross section about the Y-Y axis (weak axis).



Effective Properties X-X

I_{xx}: Effective Moment of inertia for deflection about the X-X axis (strong axis).

S_{xx}: Effective Section modulus about the X-X axis (strong axis).

$M_{a\text{-}L}$: Allowable moment at yield, based on local buckling.

$M_{a\text{-}D}$: Allowable moment based on distortional buckling (AISI S100 F4 and Appendix 2.3.4.3).

V_{ag}: Allowable strong axis shear away from punchouts, per AISI S100 G2.1

V_{aNet}: Allowable strong axis shear at a punchout, per AISI S100 G3

Torsional Properties

J: St. Venant torsional constant.

C_w: Torsional warping constant.

Xo: Distance from shear center to the centroid along the principal X-axis.

m: Distance from shear center to the mid-plane of the web.

Ro: Polar radius of gyration about the centroidal principal axis.

β: $1-(Xo/Ro)^2$

L_u: The longest weak axis (Ly) and torsional (Lt) unbraced length at which lateral-torsional buckling need not be considered for flexure in accordance with AISI S100 (Commentary F2.1).

Section Properties

Section Properties • PrimeWall ® 20 EQ (19/21mil) Drywall Framing Stud

Section	Design Thickness (in)	F_y (ksi)	Area (in^2)	Weight (lb/ft)	Gross Properties					Effective Properties						Torsional Properties						L_u (in)
					I_{xx} (in^4)	S_{xx} (in^3)	R_x (in)	I_{vy} (in^4)	R_y (in)	I_{xx} (in^4)	S_{xx} (in^3)	$M_{a\text{-}L}$ (in-k)	$M_{a\text{-}D}$ (in-k)	V_{ag} (lb)	V_{aNet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	m (in)	R_o (in)	β	
162PWS134-21	0.0221	55	0.101	0.34	0.048	0.059	0.688	0.024	0.491	0.043	0.037	1.22	1.17	539	150	0.016	0.015	-1.167	0.669	1.441	0.344	25.1
250PWS134-19	0.0200	55	0.115	0.39	0.119	0.095	1.017	0.031	0.515	0.111	0.075	2.48	2.02	311	222	0.015	0.047	-1.152	0.685	1.621	0.495	27.6
362PWS134-19	0.0200	55	0.138	0.47	0.280	0.155	1.427	0.035	0.502	0.269	0.097	3.20	3.02	208	185	0.018	0.100	-1.013	0.622	1.821	0.690	26.9
400PWS134-19	0.0200	55	0.145	0.49	0.353	0.176	1.559	0.036	0.497	0.340	0.108	3.54	3.35	188	188	0.019	0.123	-0.975	0.603	1.905	0.738	26.8
600PWS134-21[e]	0.0221	55	0.204	0.70	1.020	0.340	2.233	0.044	0.465	0.689	0.136	4.49	5.94	133	133	0.033	0.327	-0.813	0.523	2.422	0.857	29.5

Section Properties • PrimeWall ® 20 EQ (19mil) Drywall Framing Track

Section	Design Thickness (in)	F_y (ksi)	Gross Properties							Effective Properties				Torsional Properties					
			Area (in^2)	Weight (lb/ft)	I_{xx} (in^4)	S_{xx} (in^3)	R_x (in)	I_{vy} (in^4)	R_y (in)	I_{xx} (in^4)	S_{xx} (in^3)	$M_{a\text{-}L}$ (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	m (in)	R_o (in)	β
162PWT125-19	0.0200	55	0.082	0.28	0.043	0.050	0.725	0.014	0.411	0.029	0.024	0.80	442	0.011	0.007	-0.877	0.504	1.210	0.475
162PWT150-19	0.0200	55	0.092	0.31	0.051	0.059	0.740	0.023	0.496					0.012	0.012	-1.106	0.626	1.420	0.394
162PWT200-19	0.0200	55	0.112	0.38	0.065	0.076	0.761	0.049	0.662					0.015	0.026	-1.575	0.871	1.870	0.291
250PWT125-19	0.0200	55	0.100	0.34	0.109	0.084	1.045	0.016	0.399	0.079	0.038	1.25	292	0.013	0.019	-0.768	0.460	1.357	0.680
250PWT150-19	0.0200	55	0.110	0.37	0.126	0.097	1.069	0.026	0.488					0.015	0.031	-0.982	0.578	1.531	0.589
250PWT200-19	0.0200	55	0.130	0.44	0.159	0.122	1.106	0.057	0.661					0.017	0.067	-1.428	0.818	1.923	0.449
250PWT300-19	0.0200	55	0.170	0.58	0.226	0.174	1.152	0.168	0.995					0.023	0.204	-2.359	1.307	2.807	0.294
362PWT125-19	0.0200	55	0.122	0.42	0.251	0.135	1.431	0.018	0.380	0.186	0.055	1.81	200	0.016	0.044	-0.665	0.414	1.623	0.832
362PWT150-19	0.0200	55	0.132	0.45	0.285	0.153	1.467	0.029	0.470					0.018	0.071	-0.862	0.527	1.765	0.762
362PWT200-19	0.0200	55	0.152	0.52	0.354	0.190	1.523	0.064	0.647					0.020	0.154	-1.279	0.759	2.091	0.626
362PWT300-19	0.0200	55	0.192	0.66	0.491	0.264	1.597	0.190	0.994					0.026	0.463	-2.168	1.239	2.870	0.430
400PWT125-19	0.0200	55	0.130	0.44	0.315	0.153	1.556	0.018	0.374	0.226	0.061	2.00	181	0.017	0.055	-0.637	0.400	1.722	0.863
400PWT150-19	0.0200	55	0.140	0.48	0.356	0.174	1.595	0.030	0.463					0.019	0.089	-0.829	0.512	1.856	0.801
400PWT200-19	0.0200	55	0.160	0.54	0.439	0.214	1.657	0.066	0.642					0.021	0.193	-1.237	0.742	2.165	0.674
400PWT300-19	0.0200	55	0.200	0.68	0.606	0.296	1.741	0.197	0.991					0.027	0.577	-2.112	1.218	2.911	0.474
600PWT125-19[e]	0.0200	55	0.170	0.58	0.822	0.269	2.199	0.020	0.342					0.023	0.138	-0.522	0.341	2.285	0.948
600PWT150-19[e]	0.0200	55	0.180	0.61	0.914	0.300	2.254	0.033	0.429					0.024	0.226	-0.690	0.443	2.396	0.917
600PWT200-19[e]	0.0200	55	0.200	0.68	1.099	0.360	2.344	0.074	0.607					0.027	0.488	-1.055	0.659	2.641	0.840
600PWT300-19[e]	0.0200	55	0.240	0.82	1.469	0.482	2.474	0.223	0.964					0.032	1.449	-1.862	1.117	3.243	0.670

Section Properties Notes:

1. Section properties are in accordance with AISI S100-16 "North American Specification for the Design of Cold-Formed Steel Structural Members".
2. Effective properties include the strength increase from cold-work of forming per AISI S100 section A3.3.2 where applicable.
3. For deflection determination, use the effective moment of inertia. Effective moment of inertia is based on the effective width method of AISI S100, Appendix 1.
4. The effective moment of inertia for deflection is calculated at a stress which results in a section modulus such that the stress times the section modulus at that stress is equal to the allowable local buckling moment, Ma-L.
5. Tabulated gross properties are based on the full, unreduced section away from punchouts.
6. Effective X-X Axis properties of all stud and joist sections based on punched sections. Track sections are considered unpunched.
7. In Section Property Tables, allowable moment and shear do NOT include the 0.9 factor on Ω per AISI S220-11.
8. Where effective properties are not listed for a section, web depth-to-thickness or flange width-to-thickness limits from the AISI S100 are exceeded. Only gross properties are available.
9. Web depth for track sections is equal to the nominal stud width plus 2 times the design thickness plus bend radius. Hems on nonstructural track sections are ignored.
10. All track properties based on unpunched sections.

[e] Web-height to thickness ratio exceeds 200. Web stiffeners are required at all support points and concentrated loads.

Section Properties

Section Properties • SMART® 20 EQ (27mil) Drywall Framing Stud

Section	Design Thickness (in)	F_y (ksi)	Gross Properties						Effective Properties						Torsional Properties						L_u (in)
			Area (in^2)	Weight (lb/ft)	I_{xx} (in^4)	S_{xx} (in^3)	R_x (in)	I_{yy} (in^4)	R_y (in)	I_{xx} (in^4)	S_{xx} (in^3)	$M_{a\text{-}L}$ (in-k)	$M_{a\text{-}D}$ (in-k)	V_{ag} (lb)	V_{aNet} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	m (in)	R_o (in)	β	
162SES125-27	0.0283	43	0.120	0.41	0.056	0.068	0.682	0.023	0.443	0.053	0.049	1.27	1.18	643	139	0.032	0.013	-1.017	0.587	1.302	0.390	25.4
250SES125-27	0.0283	43	0.144	0.49	0.147	0.118	1.009	0.027	0.434	0.138	0.093	2.39	1.92	782	392	0.039	0.034	-0.893	0.536	1.416	0.602	25.2
350SES125-27	0.0283	43	0.173	0.59	0.320	0.183	1.361	0.030	0.418	0.313	0.120	3.08	2.81	614	359	0.046	0.072	-0.787	0.489	1.627	0.766	25.1
362SES125-27	0.0283	43	0.176	0.60	0.347	0.192	1.404	0.031	0.416	0.340	0.124	3.20	2.92	592	370	0.047	0.079	-0.776	0.484	1.657	0.781	25.1
400SES125-27	0.0283	43	0.187	0.64	0.438	0.219	1.531	0.031	0.410	0.431	0.138	3.56	3.26	533	398	0.050	0.098	-0.744	0.469	1.751	0.819	25.0
550SES125-27	0.0283	43	0.229	0.78	0.938	0.341	2.023	0.034	0.385	0.864	0.225	5.80	4.58	382	382	0.061	0.205	-0.641	0.417	2.157	0.912	24.5
600SES125-27[1]	0.0283	43	0.243	0.83	1.160	0.387	2.183	0.035	0.377	1.055	0.247	6.37	4.99	349	349	0.065	0.251	-0.614	0.402	2.299	0.929	24.3

Section Properties • SMART® 20 EQ (27mil) Drywall Framing Track

Section	Design Thickness (in)	F_y (ksi)	Gross Properties							Effective Properties				Torsional Properties					
			Area (in^2)	Weight (lb/ft)	I_{xx} (in^4)	S_{xx} (in^3)	R_x (in)	I_{yy} (in^4)	R_y (in)	I_{xx} (in^4)	S_{xx} (in^3)	$M_{a\text{-}L}$ (in-k)	V_{ag} (lb)	Jx1000 (in^4)	C_w (in^6)	X_o (in)	m (in)	R_o (in)	β
162SET125-27	0.0283	43	0.117	0.40	0.063	0.072	0.735	0.020	0.410	0.049	0.042	1.08	705	0.031	0.010	-0.872	0.501	1.211	0.482
162SET150-27	0.0283	43	0.131	0.45	0.074	0.084	0.750	0.032	0.495	0.053	0.043	1.11	705	0.035	0.017	-1.100	0.622	1.420	0.400
162SET200-27	0.0283	43	0.159	0.54	0.095	0.108	0.772	0.069	0.661					0.042	0.038	-1.568	0.867	1.869	0.296
162SET250-27	0.0283	43	0.187	0.64	0.116	0.132	0.787	0.127	0.822					0.050	0.071	-2.047	1.114	2.342	0.236
250SET125-27	0.0283	43	0.141	0.48	0.157	0.119	1.053	0.022	0.398	0.125	0.076	1.95	782	0.038	0.027	-0.763	0.457	1.360	0.685
250SET150-27	0.0283	43	0.156	0.53	0.181	0.137	1.078	0.037	0.486	0.134	0.078	2.01	782	0.042	0.044	-0.976	0.575	1.534	0.595
250SET200-27	0.0283	43	0.184	0.63	0.229	0.174	1.116	0.080	0.659					0.049	0.097	-1.422	0.815	1.924	0.454
250SET250-27	0.0283	43	0.212	0.72	0.277	0.210	1.143	0.146	0.828					0.057	0.178	-1.882	1.058	2.353	0.360
350SET125-27	0.0283	43	0.170	0.58	0.331	0.182	1.396	0.025	0.381	0.271	0.120	3.10	590	0.045	0.057	-0.670	0.416	1.595	0.823
350SET150-27	0.0283	43	0.184	0.63	0.377	0.207	1.431	0.041	0.470	0.292	0.119	3.06	590	0.049	0.094	-0.869	0.529	1.739	0.750
350SET200-27	0.0283	43	0.212	0.72	0.469	0.258	1.487	0.089	0.648					0.057	0.204	-1.288	0.762	2.071	0.613
350SET250-27	0.0283	43	0.241	0.82	0.561	0.309	1.527	0.163	0.822					0.064	0.374	-1.728	1.001	2.448	0.502
350SET300-27	0.0283	43	0.269	0.91	0.653	0.359	1.559	0.265	0.994					0.072	0.614	-2.181	1.243	2.859	0.418
362SET125-27	0.0283	43	0.173	0.59	0.358	0.191	1.438	0.025	0.378	0.295	0.124	3.20	569	0.046	0.062	-0.661	0.411	1.627	0.835
362SET150-27	0.0283	43	0.187	0.64	0.408	0.217	1.475	0.041	0.468	0.317	0.123	3.17	569	0.050	0.102	-0.857	0.524	1.769	0.765
362SET200-27	0.0283	43	0.216	0.73	0.506	0.269	1.532	0.090	0.646					0.058	0.221	-1.273	0.756	2.094	0.630
362SET250-27	0.0283	43	0.244	0.83	0.605	0.322	1.574	0.164	0.821					0.065	0.404	-1.711	0.994	2.465	0.518
362SET300-27	0.0283	43	0.272	0.93	0.703	0.374	1.607	0.268	0.993					0.073	0.664	-2.162	1.235	2.871	0.433
400SET125-27	0.0283	43	0.184	0.63	0.449	0.217	1.562	0.025	0.372	0.375	0.136	3.50	515	0.049	0.078	-0.633	0.398	1.726	0.866
400SET150-27	0.0283	43	0.198	0.67	0.509	0.246	1.602	0.042	0.461	0.402	0.135	3.48	515	0.053	0.127	-0.824	0.509	1.860	0.804
400SET200-27	0.0283	43	0.226	0.77	0.628	0.304	1.665	0.093	0.640					0.060	0.276	-1.232	0.738	2.168	0.677
400SET250-27	0.0283	43	0.255	0.87	0.747	0.361	1.713	0.170	0.816					0.068	0.504	-1.661	0.975	2.522	0.566
400SET300-27	0.0283	43	0.283	0.96	0.867	0.419	1.750	0.277	0.990					0.076	0.826	-2.106	1.214	2.912	0.477
550SET125-27	0.0283	43	0.226	0.77	0.948	0.336	2.046	0.027	0.348	0.747	0.174	4.48	372	0.060	0.160	-0.543	0.352	2.145	0.936
550SET150-27	0.0283	43	0.241	0.82	1.059	0.376	2.098	0.046	0.436	0.880	0.184	4.74	372	0.064	0.263	-0.716	0.456	2.259	0.900
550SET200-27	0.0283	43	0.269	0.91	1.282	0.455	2.183	0.101	0.614					0.072	0.569	-1.090	0.675	2.517	0.812
550SET250-27	0.0283	43	0.297	1.01	1.504	0.534	2.250	0.187	0.793					0.079	1.037	-1.492	0.903	2.814	0.719
550SET300-27	0.0283	43	0.325	1.11	1.727	0.613	2.303	0.307	0.971					0.087	1.693	-1.912	1.137	3.147	0.631
600SET125-27[e]	0.0283	43	0.241	0.82	1.168	0.381	2.204	0.028	0.340	0.909	0.191	4.92	341	0.064	0.196	-0.519	0.339	2.290	0.949
600SET150-27[e]	0.0283	43	0.255	0.87	1.300	0.424	2.260	0.047	0.427	0.957	0.194	4.99	341	0.068	0.320	-0.686	0.441	2.400	0.918
600SET200-27[e]	0.0283	43	0.283	0.96	1.564	0.510	2.351	0.104	0.605					0.076	0.695	-1.051	0.656	2.646	0.842
600SET250-27[e]	0.0283	43	0.311	1.06	1.828	0.596	2.423	0.192	0.784					0.083	1.265	-1.444	0.882	2.928	0.757
600SET300-27[e]	0.0283	43	0.340	1.16	2.092	0.682	2.482	0.315	0.963					0.091	2.064	-1.856	1.113	3.246	0.673

Section Properties Notes:

1. For deflection determination, use the effective moment of inertia.
2. The effective moment of inertia for deflection is calculated at a stress which results in a section modulus such that the stress times the section modulus at that stress is equal to the allowable local buckling moment, Ma-L.
3. Tabulated gross and torsional properties are based on the full, unreduced section away from punchouts.
4. Effective X-X Axis properties of all stud and joist sections based on punched sections.
5. Where effective properties are not listed for a section, web depth-to-thickness or flange width-to-thickness limits from the AISI S100 are exceeded. Only gross properties are available.
6. Allowable bending moment and moment of inertia for 6" studs based on the direct strength method (DSM).
7. Web depth for track sections is equal to the nominal stud width plus 2 times the design thickness plus bend radius. Hems on nonstructural track sections are ignored.

[e] Web-height to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.

All Products Table Information

Limiting Heights Tables

Which Limiting Heights Table is the Correct Table to Use?

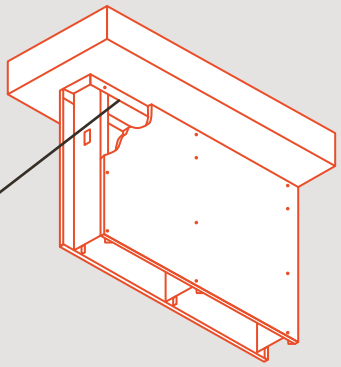
Composite Assemblies

When the gypsum board is installed on both sides of the stud flange for the full height of the wall, it is a composite wall.

Composite

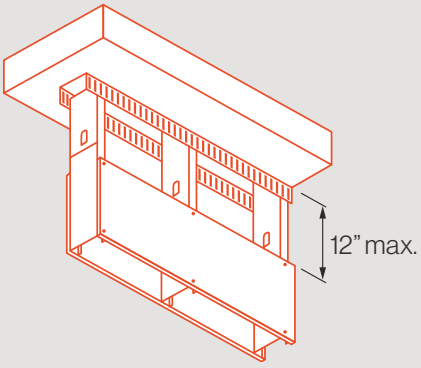
Gypsum board full height on both sides and fastened to all framing members, including top and bottom tracks.

TOP TRACK MUST BE RIGID, NOT DEFLECTION TYPE.

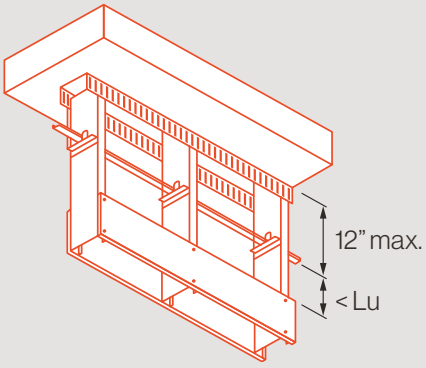


Non-Composite Assemblies

When the gypsum board stops at the ceiling level, but the stud continues to the deck, it is a noncomposite condition.

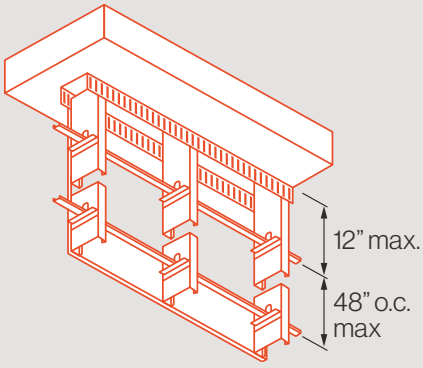


Non-Composite Fully Braced



Non-Composite Fully Braced

Bracing spacing above gypsum board is less than Lu



Non-Composite Braced at 48" o.c.

Gypsum board placed on only one side

Limiting Wall Heights

Composite vs. Non-composite Wall Assemblies

When a wall is considered a "composite" assembly, this means the strength and stiffness of the gypsum board is considered to be acting together with the studs. This is why the composite numbers are always higher; the gypsum board adds strength and stiffness to the assembly.

A wall that is considered non-composite is only evaluated on the basis of the steel used in the wall studs, bridging, and tracks.

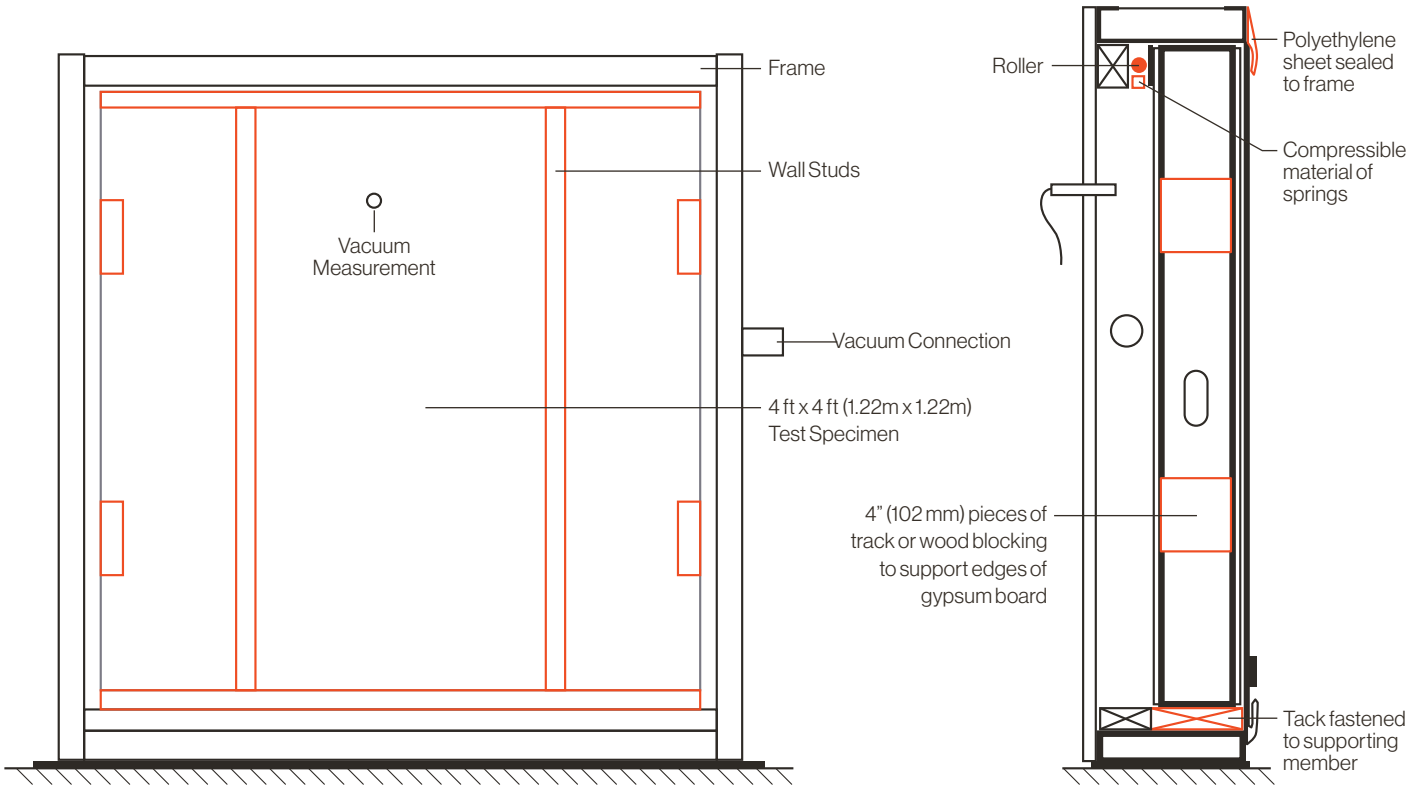
Composite Testing Process

The process to obtain composite values is outlined in ICC-ES AC86 and AISI S916-20. Composite assemblies must be tested by a certified lab to evaluate flexural strength, end reaction strength, and stiffness for each condition in the table (as an example, see the end reaction test diagram below). The most conservative limiting height from each of these three is the published limiting height.

Generally speaking, EQ studs are limited by stiffness in 5 PSF conditions, flexural strength in 10 PSF conditions, and a mix of the two in 7.5 PSF conditions. Typically only EQ studs with a high web-thickness ratio (such as an 18mil 6" stud or a 15mil 3 5/8" stud) are ever limited by end reaction strength.

When evaluating an EQ stud, confirming whether the manufacturer is an SFIA member is an easy method to check the veracity of the table. All SFIA members which have their EQ products enrolled in the program have had their test data and engineering calculations checked by the 3rd party evaluation service that the SFIA provides.

AISI S916-20 End Reaction Test Diagram



MRI STEEL FRAMING

Limiting Wall Heights | Composite

Composite Limiting Heights • PrimeWall® 20 EQ (19/21mil)

Member	F_y (ksi)	Spacing o.c. (in)	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
362PWS134-19	55	12	22'7"	18'7"	16'4"	19'8"	16'3"	14'3"	17'11"	14'9"	12'11"
	55	16	20'6"	16'11"	14'10"	17'11"	14'9"	12'11"	16'2"[f]	13'5"	11'9"
	55	24	17'11"	14'9"	12'11"	15'3"[f]	12'11"	11'2"	13'3"[f]	11'9"	9'11"
600PWS134-21	33	12	30'3"	26'9"	23'5"	26'10"	23'4"	20'5"	24'2"[f]	21'2"	18'7"
	33	16	27'9"	24'3"	21'3"	24'2"[f]	21'2"	18'7"	20'11"[f]	19'3"	16'10"
	33	24	24'2"[f]	21'2"	18'7"	19'9"[f]	18'6"	16'3"	17'1"[f]	16'10"	14'7"

Notes:

1. Allowable composite limiting heights are calculated using ICC-ES AC86-2012.
2. The gypsum board must be applied full height to each stud flange and installed using minimum No. 6 Type S Drywall screws spaced a maximum of 12 in. on-center for studs at 24-in spacing, and 16 in. on-center for studs at 16 and 12 in. spacing.
3. No fasteners are required for attaching the stud to the track.
4. Stud end bearing must be a minimum of 1 inch.

[f] Flexural stress controls the allowable wall height.

Limiting Wall Heights | Composite

MRI STEEL FRAMING

Composite Limiting Heights • SMART® 20 EQ (27mil)

Member	F_y (ksi)	Spacing o.c. (in)	5 psf			7.5 psf			10 psf			15 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162SES125-27	55	12	14'9"	11'8"	10'2"	12'10"	10'2"	8'7"	11'8"	9'1"	7'6"	8'6"	-	-
	55	16	13'4"	10'7"	9'1"	11'8"	9'1"	7'6"	10'7"	7'11"	-	-	-	-
	55	24	11'8"	9'1"	-	10'2"	-	-	9'1"	-	-	-	-	-
250SES125-27	55	12	18'7"	15'4"	13'9"	16'3"	13'5"	11'12"	14'9"	12'2"	10'11"	10'6"	10'6"[f]	9'4"
	55	16	16'10"	13'11"	12'5"	14'9"	12'2"	10'11"	13'5"	11'1"	9'11"	9'1"	9'1"[f]	8'1"
	55	24	14'9"	12'2"	10'11"	12'11"	10'8"	9'4"	11'3"[f]	9'8"	8'1"	-	-	-
350SES125-27	55	12	22'6"	17'11"	15'7"	19'8"	15'7"	13'8"	17'11"	14'2"	12'4"	12'0"	12"0"[f]	10'8"
	55	16	20'6"	16'3"	14'2"	17'11"	14'2"	12'4"	15'10"[f]	12'11"	11'2"	10'5"	10'5"[f]	-
	55	24	17'11"	14'2"	12'4"	14'11"[f]	12'4"	10'8"	12'11"[f]	11'2"	-	-	-	-
362SES125-27	55	12	22'10"	18'2"	15'10"	19'11"	15'10"	13'10"	18'2"	14'5"	12'6"	12'0"	12'0"[f]	10'7"
	55	16	20'9"	16'6"	14'5"	18'2"	14'5"	12'6"	15'9"[f]	13'1"	12'2"	10'5"	10'5"[f]	-
	55	24	18'2"	14'5"	12'6"	14'11"[f]	12'6"	10'7"	12'11"[f]	11'1"	-	-	-	-
400SES125-27	55	12	24'6"	19'5"	17'0"	21'5"	17'0"	14'10"	18'8"[f]	15'5"	13'6"	12'3"	12'3"[f]	11'8"
	55	16	22'3"	17'8"	15'5"	18'8"[f]	15'5"	13'6"	16'2"[f]	14'0"	12'2"	10'8"	10'8"[f]	10'6"
	55	24	18'8"[f]	15'5"	13'6"	15'3"[f]	13'6"	11'8"	13'3"[f]	12'2"	10'6"	-	-	-
550SES125-27	55	12	30'4"	24'8"	21'10"	26'9"	21'10"	19'4"	23'2"	20'0"	17'8"	-	-	-
	55	16	27'11"	22'8"	20'0"	23'2"	20'0"	17'8"	20'1"	18'4"	16'0"	-	-	-
	55	24	23'2"	20'0"	17'8"	18'11"	17'8"	15'5"	16'5"	16'0"	-	-	-	-
600SES125-27	55	12	32'5"	26'9"	23'5"	26'5"	23'5"	20'5"	22'11"	21'3"	16'10"	-	-	-
	55	16	28'1"	24'4"	21'3"	22'11"	21'3"	18'7"	19'10"	19'4"	14'7"	-	-	-
	55	24	22'11"	21'3"	18'7"	18'8"	18'7"	16'1"	16'2"	16'2"	-	-	-	-

Notes:

1. The data listed in this table was obtained from the SFIA technical guide version 2018.101. We are using the 27mil 33ksi data for our 27mil 43ksi EQ product.
2. Allowable composite limiting heights are calculated using ICC-ES AC86-2012.
3. Minimum safety factor for strength = 1.508 for 5 to 10 psf, and 2.327 for 15 psf.
4. The gypsum board must be applied full height to each stud flange and installed using minimum No. 6 Type S Drywall screws spaced a maximum of 12 in. on-center for studs at 24-in spacing, and 16 in. on-center for studs at 16 and 12 in. spacing.
5. No fasteners are required for attaching the stud to the track.
6. Stud end bearing must be a minimum of 1 inch.
7. Minimum material yield strength equals 43 ksi.

[f] Flexural stress controls the allowable wall height.

Limiting Wall Heights | Non-Composite

Non-Composite Limiting Heights • Fully Braced • PrimeWall® 20 EQ (19/21mil)

Member	F_y (ksi)	Spacing o.c. (in)	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162PWS134-21	55	12	10'8"	8'7"	7'6"	9'2"	7'5"	6'6"	8'4"	6'9"	5'11"
162PWS134-21	55	16	9'7"	7'9"	6'9"	8'4"	6'9"	5'11"	7'6"	6'2"	5'5"
162PWS134-21	55	24	8'4"	6'9"	5'11"	7'2"	5'11"	5'2"	6'3"	5'4"	4'8"
250PWS134-19	55	12	14'6"	11'7"	10'2"	12'7"	10'2"	8'10"	11'5"	9'2"	8'1"
250PWS134-19	55	16	13'2"	10'7"	9'3"	11'5"	9'2"	8'1"	10'1"	8'4"	7'4"
250PWS134-19	55	24	11'5"	9'2"	8'1"	9'6"	8'0"	7'0"	8'2"	7'3"	6'5"
362PWS134-19	55	12	19'3"	15'5"	13'6"	16'4"	13'6"	11'9"	14'2"	12'3"	10'8"
362PWS134-19	55	16	17'4"	14'0"	12'3"	14'2"	12'3"	10'8"	12'3"	11'1"	9'9"
362PWS134-19	55	24	14'2"	12'3"	10'8"	11'7"	10'8"	9'4"	10'0"e	9'8"e	8'6"
400PWS134-19	55	12	20'10"	16'8"	14'7"	17'3"	14'7"	12'9"	14'11"	13'2"	11'7"
400PWS134-19	55	16	18'4"	15'2"	13'3"	14'11"	13'2"	11'7"	12'11"	11'11"	10'6"
400PWS134-19	55	24	14'11"	13'2"	11'7"	12'2"e	11'6"	10'1"	10'7"[e]	10'5"[e]	9'2"[e]
600PWS134-21	55	12	24'5"[e]	20'10"[e]	18'2"[e]	20'0"[e]	18'2"[e]	15'11"[e]	17'3"[e]	16'6"[e]	14'5"[e]
600PWS134-21	55	16	21'2"[e]	18'11"[e]	16'6"[e]	17'3"[e]	16'6"[e]	14'5"[e]	15'0"[e]	15'0"[e]	13'1"[e]
600PWS134-21	55	24	17'3"[e]	16'6"[e]	14'5"[e]	14'1"[e]	14'1"[e]	12'7"[e]	12'3"[e]	12'3"[e]	11'6"[e]

Notes:

1. Lateral loads have not been modified for deflection checks.
2. Loads or safety factors have not been modified for strength checks.
3. "Fully Braced" flexural strength taken as the minimum of local buckling and distortional buckling allowable moments.
4. For distortional buckling allowable moment, $k\Phi = 0$.
5. Moment of inertia for deflection is calculated at the maximum service level stress for the height listed. Note that this value may be higher than the effective Ixx listed in section property tables.
6. Limiting heights are based on steel properties only.
7. Web crippling check based on 1 inch end bearing.
8. Shear and web crippling capacity have not been reduced for punchouts.
9. Limiting non-composite heights noted as "FULLY BRACED" based on continuous support of each flange over the full length of the stud.

[e] Web Stiffeners are required at all support points and concentrated loads.

Limiting Wall Heights | Non-Composite

MRI STEEL FRAMING

Non-Composite Limiting Heights • Braced at 48" o.c. • PrimeWall® 20 EQ (19/21mil)											
Member	F_y (ksi)	Spacing o.c. (in)	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162PWS134-21	55	12	10'8"	8'7"	7'6"	9'2"	7'5"	6'6"	8'1"	6'9"	5'11"
162PWS134-21	55	16	9'7"	7'9"	6'9"	8'1"	6'9"	5'11"	7'0"	6'2"	5'5"
162PWS134-21	55	24	8'1"	6'9"	5'11"	6'7"	5'11"	5'2"	5'8"	5'4"	4'8"
250PWS134-19	55	12	14'6"	11'7"	10'2"	12'7"	10'2"	8'10"	11'5"	9'2"	8'1"
250PWS134-19	55	16	13'2"	10'7"	9'3"	11'5"	9'2"	8'1"	10'1"	8'4"	7'4"
250PWS134-19	55	24	11'5"	9'2"	8'1"	9'6"	8'0"	7'0"	8'2"	7'3"	6'5"
362PWS134-19	55	12	18'9"	15'5"	13'6"	15'4"	13'6"	11'9"	13'3"	12'3"	10'8"
362PWS134-19	55	16	16'3"	14'0"	12'3"	13'3"	12'3"	10'8"	11'6"	11'1"	9'9"
362PWS134-19	55	24	13'3"	12'3"	10'8"	10'10"	10'8"	9'4"	9'5"e	9'5"e	8'6"
400PWS134-19	55	12	19'9"	16'8"	14'7"	16'1"	14'7"	12'9"	13'11"	13'2"	11'7"
400PWS134-19	55	16	17'1"	15'2"	13'3"	13'11"	13'2"	11'7"	12'1"	11'11"	10'6"
400PWS134-19	55	24	13'11"	13'2"	11'7"	11'5"	11'5"	10'1"	9'10"[e]	9'10"[e]	9'2"[e]
600PWS134-21	55	12	21'10"[e]	20'10"[e]	18'2"[e]	17'10"[e]	17'10"[e]	15'11"[e]	15'5"[e]	15'5"[e]	14'5"[e]
600PWS134-21	55	16	18'11"[e]	18'11"[e]	16'6"[e]	15'5"[e]	15'5"[e]	14'5"[e]	13'5"[e]	13'5"[e]	13'1"[e]
600PWS134-21	55	24	15'5"[e]	15'5"[e]	14'5"[e]	12'7"[e]	12'7"[e]	12'7"[e]	10'11"[e]	10'11"[e]	10'11"[e]

Notes:

1. Limiting heights are in accordance with AISI S100-16.
2. Lateral loads have not been modified for deflection checks.
3. Loads or safety factors have not been modified for strength checks.
4. 48" and 72" o.c. braced flexural strength taken as the minimum allowable moment based on local buckling, distortional buckling and lateral-torsional buckling with an unbraced length of 48 or 72 inches.
5. For distortional buckling allowable moment, $k\Phi = 0$.
6. Moment of inertia for deflection is calculated at the maximum service level stress for the height listed. Note that this value may be higher than the effective Ixx listed in section property tables.
7. Limiting non-composite heights are based on steel properties only.
8. Web crippling check based on 1 inch end bearing.
9. Shear and web crippling capacity have not been reduced for punchouts.
10. Limiting non-composite heights for 48" or 72" o.c. bracing based on properly attached bridging or blocking at the listed spacing.

[e] Web Stiffeners are required at all support points and concentrated loads.

Limiting Wall Heights | Non-Composite

Non-Composite Limiting Heights • Braced at 72" o.c. • PrimeWall® 20 EQ (19/21mil)											
Member	F_y (ksi)	Spacing o.c. (in)	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162PWS134-21	55	12	8'11"	8'7"	7'6"	7'4"	7'4"	6'6"	6'4"	6'4"	5'11"
162PWS134-21	55	16	7'9"	7'9"	6'9"	6'4"	6'4"	5'11"	5'8"	5'8"	5'5"
162PWS134-21	55	24	6'4"	6'4"	5'11"	5'6"	5'6"	5'2"	5'0"	5'0"	4'8"
250PWS134-19	55	12	12'9"	11'7"	10'2"	10'5"	10'2"	8'10"	9'0"	9'0"	8'1"
250PWS134-19	55	16	11'1"	10'7"	9'3"	9'0"	9'0"	8'1"	7'10"	7'10"	7'4"
250PWS134-19	55	24	9'0"	9'0"	8'1"	7'4"	7'4"	7'0"	6'5"	6'5"	6'5"
362PWS134-19	55	12	14'9"	14'9"	13'6"	12'1"	12'1"	11'9"	10'5"	10'5"	10'5"
362PWS134-19	55	16	12'10"	12'10"	12'3"	10'5"	10'5"	10'5"	9'1"	9'1"	9'1"
362PWS134-19	55	24	10'5"	10'5"	10'5"	8'6"	8'6"	8'6"	7'5"	7'5"	7'5"
400PWS134-19	55	12	15'6"	15'6"	14'7"	12'8"	12'8"	12'8"	11'0"	11'0"	11'0"
400PWS134-19	55	16	13'5"	13'5"	13'3"	11'0"	11'0"	11'0"	9'6"	9'6"	9'6"
400PWS134-19	55	24	11'0"	11'0"	11'0"	8'11"	8'11"	8'11"	7'9"	7'9"	7'9"
600PWS134-21	55	12	17'3"[e]	17'3"[e]	17'3"[e]	14'1"[e]	14'1"[e]	14'1"[e]	12'3"[e]	12'3"[e]	12'3"[e]
600PWS134-21	55	16	15'0"[e]	15'0"[e]	15'0"[e]	12'3"[e]	12'3"[e]	12'3"[e]	10'7"[e]	10'7"[e]	10'7"[e]
600PWS134-21	55	24	12'3"[e]	12'3"[e]	12'3"[e]	10'0"[e]	10'0"[e]	10'0"[e]	8'8"[e]	8'8"[e]	8'8"[e]

Notes:

1. Limiting heights are in accordance with AISI S100-16.
2. Lateral loads have not been modified for deflection checks.
3. Loads or safety factors have not been modified for strength checks.
4. 48" and 72" o.c. braced flexural strength taken as the minimum allowable moment based on local buckling, distortional buckling and lateral-torsional buckling with an unbraced length of 48 or 72 inches.
5. For distortional buckling allowable moment, $k\Phi = 0$.
6. Moment of inertia for deflection is calculated at the maximum service level stress for the height listed. Note that this value may be higher than the effective Ixx listed in section property tables.
7. Limiting non-composite heights are based on steel properties only.
8. Web crippling check based on 1 inch end bearing.
9. Shear and web crippling capacity have not been reduced for punchouts.
10. Limiting non-composite heights for 48" or 72" o.c. bracing based on properly attached bridging or blocking at the listed spacing.

[e] Web Stiffeners are required at all support points and concentrated loads.

Limiting Wall Heights | Non-Composite

MRI STEEL FRAMING

Non-Composite Limiting Heights • Fully Braced • SMART® 20 EQ (27mil)											
Member	F_y (ksi)	Spacing o.c. (in)	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162SES125-27	43	12	11'3"	9'0"	7'10"	9'10"	7'10"	6'10"	8'11"	7'1"	6'3"
162SES125-27	43	16	10'3"	8'2"	7'2"	8'11"	7'1"	6'3"	7'8"	6'6"	5'8"
162SES125-27	43	24	8'11"	7'1"	6'3"	7'3"	6'3"	5'5"	6'3"	5'8"	4'11"
250SES125-27	43	12	15'7"	12'5"	10'10"	13'1"	10'10"	9'6"	11'4"	9'10"	8'7"
250SES125-27	43	16	13'10"	11'3"	9'11"	11'4"	9'10"	8'7"	9'10"	8'11"	7'10"
250SES125-27	43	24	11'4"	9'10"	8'7"	9'3"	8'7"	7'6"	8'0"	7'10"	6'10"
350SES125-27	43	12	19'4"	16'1"	14'1"	15'10"	14'0"	12'3"	13'8"	12'9"	11'2"
350SES125-27	43	16	16'9"	14'7"	12'10"	13'8"	12'9"	11'2"	11'10"	11'7"	10'1"
350SES125-27	43	24	13'8"	12'9"	11'2"	11'2"	11'1"	9'9"	9'8"	9'8"	8'10"
362SES125-27	43	12	19'9"	16'6"	14'6"	16'1"	14'5"	12'8"	13'11"	13'1"	11'5"
362SES125-27	43	16	17'1"	15'0"	13'2"	13'11"	13'1"	11'5"	12'1"	11'11"	10'5"
362SES125-27	43	24	13'11"	13'1"	11'5"	11'5"	11'5"	10'0"	9'10"	9'10"	9'1"
400SES125-27	43	12	20'10"	17'10"	15'8"	17'0"	15'7"	13'8"	14'9"	14'2"	12'4"
400SES125-27	43	16	18'1"	16'2"	14'2"	14'9"	14'2"	12'4"	12'9"	12'9"	11'3"
400SES125-27	43	24	14'9"	14'2"	12'4"	12'0"	12'0"	10'10"	10'5"	10'5"	9'10"
550SES125-27	43	12	24'9"	22'10"	20'2"	20'2"	19'11"	17'6"	17'6"	17'6"	15'11"
550SES125-27	43	16	21'5"	20'9"	18'3"	17'6"	17'6"	15'11"	15'2"	15'2"	14'5"
550SES125-27	43	24	17'6"	17'6"	15'11"	14'3"	14'3"	13'10"	12'4"	12'4"	12'4"
600SES125-27	43	12	25'10"[e]	24'5"[e]	21'6"[e]	21'1"[e]	21'1"[e]	18'9"[e]	18'3"[e]	18'3"[e]	17'0"[e]
600SES125-27	43	16	22'4"[e]	22'2"[e]	19'6"[e]	18'3"[e]	18'3"[e]	17'0"[e]	15'10"[e]	15'10"[e]	15'4"[e]
600SES125-27	43	24	18'3"[e]	18'3"[e]	17'0"e[e]	14'11"[e]	14'11"[e]	14'9"[e]	12'11"[e]	12'11"[e]	12'11"[e]

Notes:

1. Lateral loads have not been modified for deflection checks.
2. Loads or safety factors have not been modified for strength checks.
3. "Fully Braced" flexural strength taken as the minimum of local buckling and distortional buckling allowable moments.
4. For distortional buckling allowable moment, $k\Phi = 0$.
5. Moment of inertia for deflection is calculated at the maximum service level stress for the height listed. Note that this value may be higher than the effective Ixx listed in section property tables.
6. Limiting non-composite heights are based on steel properties only.
7. Web crippling check based on 1 inch end bearing.
8. Shear and web crippling capacity have not been reduced for punchouts.
9. Limiting non-composite heights noted as "FULLY BRACED" based on continuous support of each flange over the full length of the stud.

[e] Web Stiffeners are required at all support points and concentrated loads.

MRI STEEL FRAMING

Limiting Wall Heights | Non-Composite

Non-Composite Limiting Heights • Braced at 48" o.c. • SMART® 20 EQ (27mil)

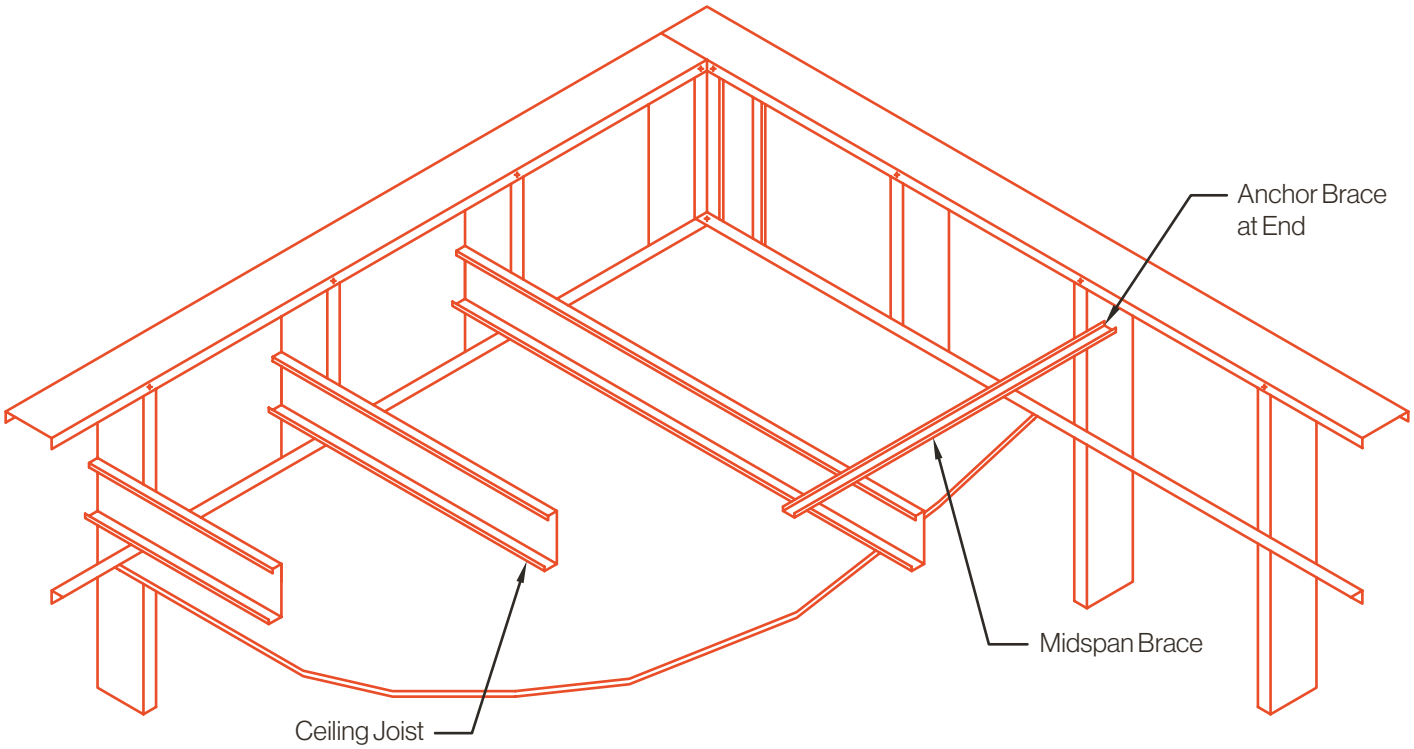
Member	F_y (ksi)	Spacing o.c. (in)	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162SES125-27	43	12	11'3"	9'0"	7'10"	9'6"	7'10"	6'10"	8'3"	7'1"	6'3"
162SES125-27	43	16	10'1"	8'2"	7'2"	8'3"	7'1"	6'3"	7'2"	6'6"	5'8"
162SES125-27	43	24	8'3"	7'1"	6'3"	6'9"	6'3"	5'5"	5'10"	5'8"	4'11"
250SES125-27	43	12	15'7"	12'5"	10'10"	12'10"	10'10"	9'6"	11'1"	9'10"	8'7"
250SES125-27	43	16	13'7"	11'3"	9'11"	11'1"	9'10"	8'7"	9'7"	8'11"	7'10"
250SES125-27	43	24	11'1"	9'10"	8'7"	9'1"	8'7"	7'6"	7'10"	7'10"	6'10"
350SES125-27	43	12	18'1"	16'1"	14'1"	14'9"	14'0"	12'3"	12'9"	12'9"	11'2"
350SES125-27	43	16	15'8"	14'7"	12'10"	12'9"	12'9"	11'2"	11'1"	11'1"	10'1"
350SES125-27	43	24	12'9"	12'9"	11'2"	10'5"	10'5"	9'9"	9'0"	9'0"	8'10"
362SES125-27	43	12	18'5"	16'6"	14'6"	15'1"	14'5"	12'8"	13'0"	13'0"	11'5"
362SES125-27	43	16	15'11"	15'0"	13'2"	13'0"	13'0"	11'5"	11'3"	11'3"	10'5"
362SES125-27	43	24	13'0"	13'0"	11'5"	10'8"	10'8"	10'0"	9'3"	9'3"	9'1"
400SES125-27	43	12	19'5"	17'10"	15'8"	15'10"	15'7"	13'8"	13'9"	13'9"	12'4"
400SES125-27	43	16	16'10"	16'2"	14'2"	13'9"	13'9"	12'4"	11'11"	11'11"	11'3"
400SES125-27	43	24	13'9"	13'9"	12'4"	11'2"	11'2"	10'10"	9'8"	9'8"	9'8"
550SES125-27	43	12	24'7"	22'10"	20'2"	20'1"	19'11"	17'6"	17'5"	17'5"	15'11"
550SES125-27	43	16	21'4"	20'9"	18'3"	17'5"	17'5"	15'11"	15'1"	15'1"	14'5"
550SES125-27	43	24	17'5"	17'5"	15'11"	14'2"	14'2"	13'10"	12'4"	12'4"	12'4"
600SES125-27	43	12	25'9"[e]	24'5"[e]	21'6"[e]	21'0"[e]	21'0"[e]	18'9"[e]	18'2"[e]	18'2"[e]	17'0"[e]
600SES125-27	43	16	22'3"[e]	22'2"[e]	19'6"[e]	18'2"[e]	18'2"[e]	17'0"[e]	15'9"[e]	15'9"[e]	15'4"[e]
600SES125-27	43	24	18'2"[e]	18'2"[e]	17'0"[e]	14'10"[e]	14'10"[e]	14'9"[e]	12'10"[e]	12'10"[e]	12'10"[e]

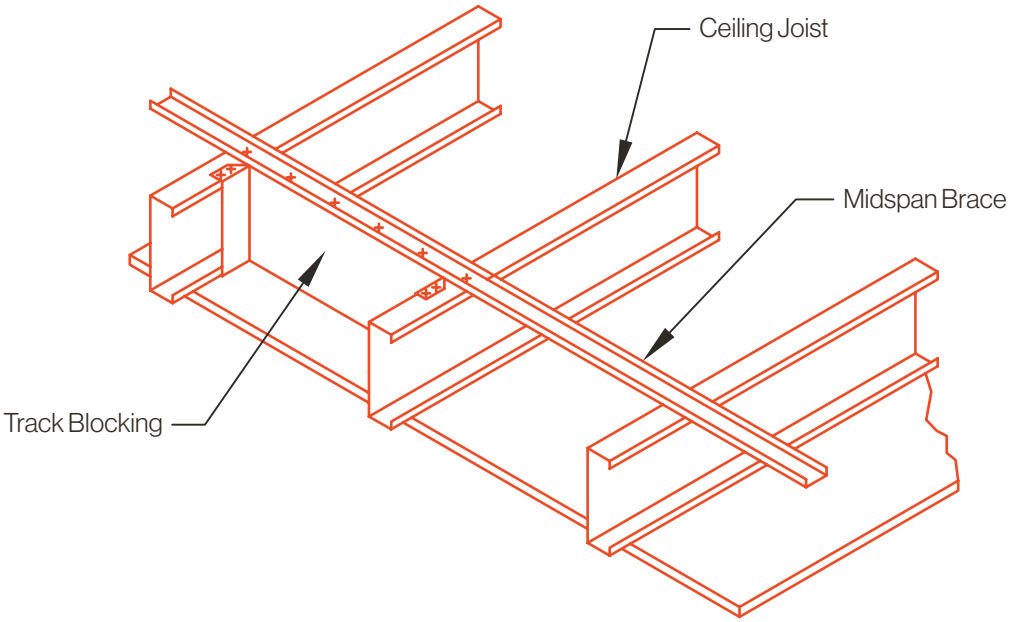
Notes:

1. Lateral loads have not been modified for deflection checks.
2. Loads or safety factors have not been modified for strength checks.
3. 48" o.c. braced flexural strength taken as the minimum allowable moment based on local buckling, distortional buckling and lateral-torsional buckling with an unbraced length of 48 inches.
4. For distortional buckling allowable moment, $k\Phi = 0$.
5. Moment of inertia for deflection is calculated at the maximum service level stress for the height listed. Note that this value may be higher than the effective Ixx listed in section property tables.
6. Limiting non-composite heights are based on steel properties only.
7. Web crippling check based on 1 inch end bearing.
8. Shear and web crippling capacity have not been reduced for punchouts.
9. Limiting non-composite heights for 48" o.c. bracing based on properly attached bridging or blocking at the listed spacing.

[e] Web Stiffeners are required at all support points and concentrated loads.

Ceiling Span Diagrams





Ceiling Spans

Allowable Ceiling Spans • Deflection Limit L/240 • PrimeWall® 20 EQ (19/21mil)

Section	F_y (ksi)	4 psf Lateral Support of Compression Flange						6 psf Lateral Support of Compression Flange						13 psf Lateral Support of Compression Flange					
		Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.		
		12	16	24	12	16	24	12	16	24	12	16	24	12	16	24	12	16	24
162PWS134-21	55	8'5"	7'9"	6'10"	9'3"	8'4"	7'4"	7'5"	6'10"	6'0"	8'0"	7'4"	6'4"	5'11"	5'5"	4'9"	6'2"	5'7"	4'10"
250PWS134-19	55	9'10"	9'2"	8'3"	12'6"	11'4"	9'11"	8'11"	8'3"	7'4"	10'11"	9'11"	8'8"	7'2"	6'8"	5'11"	8'5"	7'7"	6'8"
362PWS134-19	55	10'9"	9'11"	9'0"	15'3"	14'1"	12'6"	9'8"	8'11"	8'0"	13'7"	12'6"	11'1"	7'10"	7'3"	6'5"	10'10"	9'10"	8'5"[e]
400PWS134-19	55	11'0"	10'2"	9'2"	15'8"	14'5"	12'10"	9'11"	9'2"	8'3"	13'11"	12'10"	11'5"	8'1"	7'5"	6'7"	11'2"	10'2"	8'9"[e]
600PWS134-21	55	12'11"[e]	11'10"[e]	10'5"[e]	17'10"[e]	16'4"[e]	14'5"[e]	11'5"[e]	10'5"[e]	9'3"[e]	15'9"[e]	14'5"[e]	12'9"[e]	9'0"[e]	8'3"[e]	7'3"[e]	12'5"[e]	11'4"[e]	9'9"[e]

Allowable Ceiling Spans • Deflection Limit L/360 • PrimeWall® 20 EQ (19/21mil)

Section	F_y (ksi)	4 psf Lateral Support of Compression Flange						6 psf Lateral Support of Compression Flange						13 psf Lateral Support of Compression Flange					
		Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.		
		12	16	24	12	16	24	12	16	24	12	16	24	12	16	24	12	16	24
162PWS134-21	55	8'5"	7'9"	6'10"	9'3"	8'4"	7'4"	7'5"	6'10"	6'0"	8'0"	7'4"	6'4"	5'11"	5'5"	4'9"	6'2"	5'7"	4'10"
250PWS134-19	55	9'10"	9'2"	8'3"	12'6"	11'4"	9'11"	8'11"	8'3"	7'4"	10'11"	9'11"	8'8"	7'2"	6'8"	5'11"	8'5"	7'7"	6'8"
362PWS134-19	55	10'9"	9'11"	9'0"	15'3"	14'1"	12'6"	9'8"	8'11"	8'0"	13'7"	12'6"	11'1"	7'10"	7'3"	6'5"	10'10"	9'10"	8'5"[e]
400PWS134-19	55	11'0"	10'2"	9'2"	15'8"	14'5"	12'10"	9'11"	9'2"	8'3"	13'11"	12'10"	11'5"	8'1"	7'5"	6'7"	11'2"	10'2"	8'9"[e]
600PWS134-21	55	12'11"[e]	11'10"[e]	10'5"[e]	17'10"[e]	16'4"[e]	14'5"[e]	11'5"[e]	10'5"[e]	9'3"[e]	15'9"[e]	14'5"[e]	12'9"[e]	9'0"[e]	8'3"[e]	7'3"[e]	12'5"[e]	11'4"[e]	9'9"[e]

Notes:

1. For unbraced sections, allowable moment is based on AISI S100-16 with KyLy = KtLt = listed span. For mid-span braced sections, allowable moment based on AISI S100-16 with KyLy = KtLt = (listed span)/2.
2. For distortional buckling allowable moment, kΦ = 0.
3. Web crippling calculation based on bearing length = 1 inch.
4. Web crippling and shear capacity have not been reduced for punchouts. If web punchouts occur near supports members must be checked for reduced shear and web crippling in accordance with AISI S100.
5. Safety factors have NOT been multiplied by 0.9 in accordance with AISI S220-15, B1.
6. Values are for simple span conditions.
7. Moment of inertia for deflection is calculated at the maximum service level stress for the span and load listed. Note that this value may be higher than the effective I_{xx} listed in section property tables.

[e] Web stiffeners required at end reactions.

Ceiling Spans

Allowable Ceiling Spans • Deflection Limit L/120 • SMART® 20 EQ (27mil)

Section	F_y (ksi)	4 psf Lateral Support of Compression Flange						6 psf Lateral Support of Compression Flange						10 psf Lateral Support of Compression Flange					
		Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.		
		12	16	24	12	16	24	12	16	24	12	16	24	12	16	24	12	16	24
162SES125-27	43	8'7"	7'11"	7'1"	11'9"	10'8"	9'3"	7'8"	7'1"	6'3"	10'3"	9'3"	7'10"	6'8"	6'1"	5'4"	8'5"	7'6"	6'3"
250SES125-27	43	9'8"	8'11"	8'0"	13'9"	12'7"	11'2"	8'8"	8'0"	7'2"	12'2"	11'2"	9'10"	7'6"	6'11"	6'3"	10'5"	9'5"	8'0"
350SES125-27	43	10'7"	9'9"	8'9"	14'11"	13'9"	12'3"	9'5"	8'9"	7'9"	13'4"	12'3"	10'9"	8'2"	7'7"	6'9"	11'5"	10'5"	9'1"
362SES125-27	43	10'8"	9'10"	8'10"	15'0"	13'11"	12'4"	9'6"	8'10"	7'10"	13'6"	12'4"	10'11"	8'3"	7'8"	6'10"	11'6"	10'7"	9'2"
400SES125-27	43	10'11"	10'1"	9'1"	15'5"	14'3"	12'9"	9'9"	9'1"	8'1"	13'10"	12'9"	11'3"	8'6"	7'10"	7'0"	11'11"	10'10"	9'6"
550SES125-27	43	12'1"	11'3"	10'1"	17'6"	16'1"	14'5"	10'11"	10'1"	9'1"	15'7"	14'5"	12'11"	9'6"	8'10"	7'11"	13'7"	12'6"	11'1"
600SES125-27	43	12'5"[e]	11'6"[e]	10'4"[e]	17'11"[e]	16'6"[e]	14'9"[e]	11'2"[e]	10'4"[e]	9'4"[e]	16'0"[e]	14'9"[e]	13'3"[e]	9'9"[e]	9'1"[e]	8'2"[e]	13'10"[e]	12'10"[e]	11'4"[e]

Allowable Ceiling Spans • Deflection Limit L/240 • SMART® 20 EQ (27mil)

Section	F_y (ksi)	4 psf Lateral Support of Compression Flange						6 psf Lateral Support of Compression Flange						10 psf Lateral Support of Compression Flange					
		Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.		
		12	16	24	12	16	24	12	16	24	12	16	24	12	16	24	12	16	24
162SES125-27	43	8'7"	7'11"	7'1"	11'9"	10'8"	9'3"	7'8"	7'1"	6'3"	10'3"	9'3"	7'10"	6'8"	6'1"	5'4"	8'5"	7'6"	6'3"
250SES125-27	43	9'8"	8'11"	8'0"	13'9"	12'7"	11'2"	8'8"	8'0"	7'2"	12'2"	11'2"	9'10"	7'6"	6'11"	6'3"	10'5"	9'5"	8'0"
350SES125-27	43	10'7"	9'9"	8'9"	14'11"	13'9"	12'3"	9'5"	8'9"	7'9"	13'4"	12'3"	10'9"	8'2"	7'7"	6'9"	11'5"	10'5"	9'1"
362SES125-27	43	10'8"	9'10"	8'10"	15'0"	13'11"	12'4"	9'6"	8'10"	7'10"	13'6"	12'4"	10'11"	8'3"	7'8"	6'10"	11'6"	10'7"	9'2"
400SES125-27	43	10'11"	10'1"	9'1"	15'5"	14'3"	12'9"	9'9"	9'1"	8'1"	13'10"	12'9"	11'3"	8'6"	7'10"	7'0"	11'11"	10'10"	9'6"
550SES125-27	43	12'1"	11'3"	10'1"	17'6"	16'1"	14'5"	10'11"	10'1"	9'1"	15'7"	14'5"	12'11"	9'6"	8'10"	7'11"	13'7"	12'6"	11'1"
600SES125-27	43	12'5"[e]	11'6"[e]	10'4"[e]	17'11"[e]	16'6"[e]	14'9"[e]	11'2"[e]	10'4"[e]	9'4"[e]	16'0"[e]	14'9"[e]	13'3"[e]	9'9"[e]	9'1"[e]	8'2"[e]	13'10"[e]	12'10"[e]	11'4"[e]

Allowable Ceiling Spans • Deflection Limit L/360 • SMART® 20 EQ (27MIL)

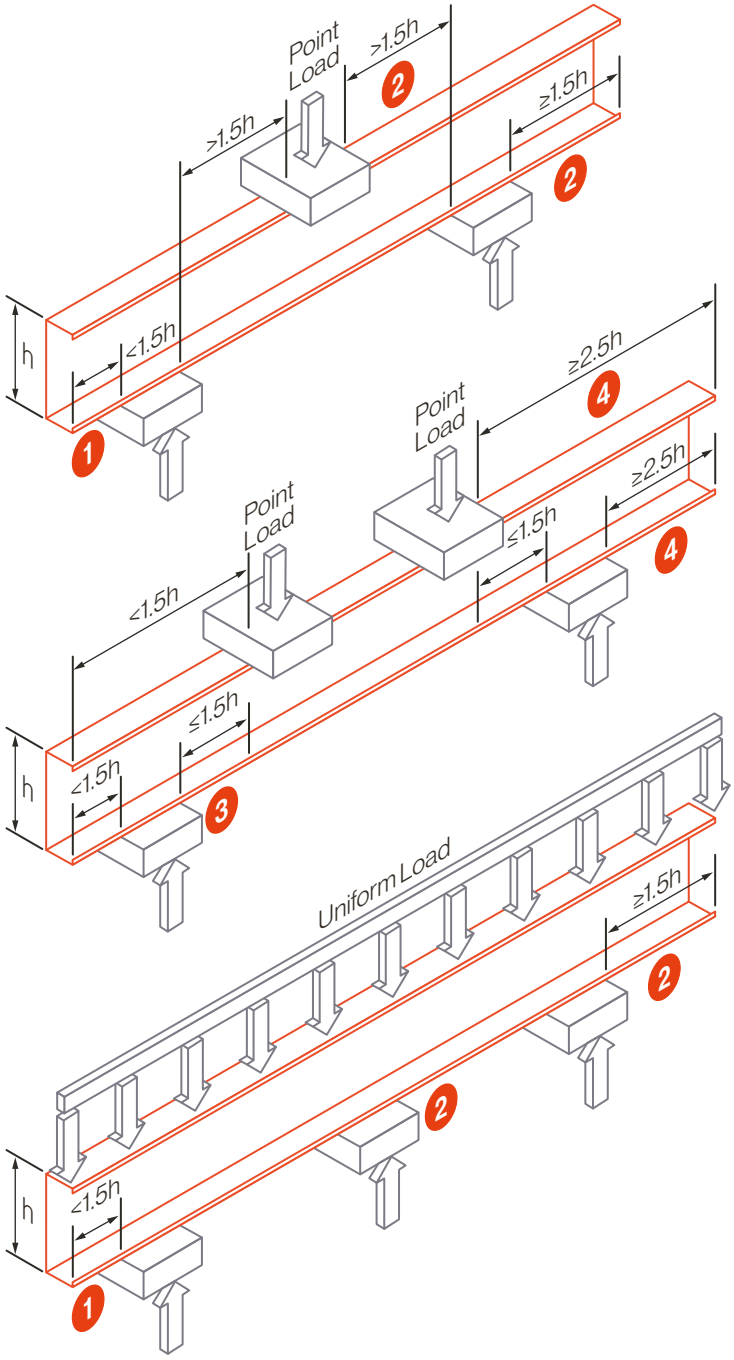
Section	F_y (ksi)	4 psf Lateral Support of Compression Flange						6 psf Lateral Support of Compression Flange						10 psf Lateral Support of Compression Flange					
		Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.			Unsupported Joist Spacing (in) o.c.			Midspan Joist Spacing (in) o.c.		
		12	16	24	12	16	24	12	16	24	12	16	24	12	16	24	12	16	24
162SES125-27	43	8'7"	7'11"	7'1"	11'9"	10'8"	9'3"	7'8"	7'1"	6'3"	10'3"	9'3"	7'10"	6'8"	6'1"	5'4"	8'5"	7'6"	6'3"
250SES125-27	43	9'8"	8'11"	8'0"	13'9"	12'7"	11'2"	8'8"	8'0"	7'2"	12'2"	11'2"	9'10"	7'6"	6'11"	6'3"	10'5"	9'5"	8'0"
350SES125-27	43	10'7"	9'9"	8'9"	14'11"	13'9"	12'3"	9'5"	8'9"	7'9"	13'4"	12'3"	10'9"	8'2"	7'7"	6'9"	11'5"	10'5"	9'1"
362SES125-27	43	10'8"	9'10"	8'10"	15'0"	13'11"	12'4"	9'6"	8'10"	7'10"	13'6"	12'4"	10'11"	8'3"	7'8"	6'10"	11'6"	10'7"	9'2"
400SES125-27	43	10'11"	10'1"	9'1"	15'5"	14'3"	12'9"	9'9"	9'1"	8'1"	13'10"	12'9"	11'3"	8'6"	7'10"	7'0"	11'11"	10'10"	9'6"
550SES125-27	43	12'1"	11'3"	10'1"	17'6"	16'1"	14'5"	10'11"	10'1"	9'1"	15'7"	14'5"	12'11"	9'6"	8'10"	7'11"	13'7"	12'6"	11'1"
600SES125-27	43	12'5"[e]	11'6"[e]	10'4"[e]	17'11"[e]	16'6"[e]	14'9"[e]	11'2"[e]	10'4"[e]	9'4"[e]	16'0"[e]	14'9"[e]	13'3"[e]	9'9"[e]	9'1"[e]	8'2"[e]	13'10"[e]	12'10"[e]	11'4"[e]

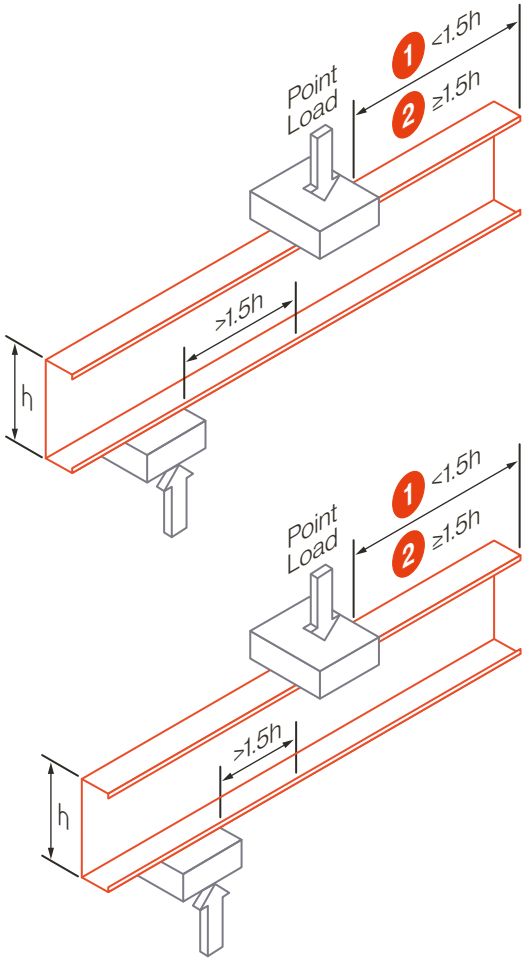
Notes:

1. For unbraced sections, allowable moment based on AISI S100-16 with KyLy = KtLt = listed span. For mid-span braced sections, allowable moment based on AISI S100-16 with KyLy = KtLt = (listed span)/2.
2. For distortional buckling allowable moment, kΦ = 0.
3. Web crippling calculation based on bearing length = 1 inch.
4. Web crippling and shear capacity have not been reduced for punchouts. If web punchouts occur near supports members must be checked for reduced shear and web crippling in accordance with AISI S100.
5. Safety factors have NOT been modified in accordance with AISI S220-15, B1.
6. Values are for simple span conditions.
7. Moment of inertia for deflection is calculated at the maximum service level stress for the span and load listed. Note that this value may be higher than the effective Ixx listed in section property tables.

[e] Web stiffeners are required at end reactions.

Web Crippling Conditions





1. Condition 1 - End Reaction - One Flange
2. Condition 2 - Interior Reaction - One Flange
3. Condition 3 - End reaction - Two Flange
4. Condition 4 - Interior Reaction - Two Flange

Web Crippling

Allowable Web-Crippling Loads (lbs) • Single Members • PrimeWall ® 20 EQ (19/21mil)

Member	Design Thickness (in)	Yield F_y (ksi)	Condition 1 Bearing Length (in)					Condition 2 Bearing Length (in)					Condition 3 Bearing Length (in)					Condition 4 Bearing Length (in)				
			1	1.5	3.5	4	6	1	1.5	3.5	4	6	1	1.5	3.5	4	6	1	1.5	3.5	4	6
162PWS134-21	0.0221	55	126	146	203[1]	215[1]	254[1,2]	210	233	298[1]	312[1]	357[1,2]	108	119	150[1]	157[1]	178[1,2]	286	309	374[1]	387[1]	432[1,2]
250PWS134-19	0.0200	55	98	114	159	168	199[1,2]	163	181	234	244	281[1,2]	71	78	99	103	118[1,2]	209	226	275	285	319[1,2]
362PWS134-20	0.0200	55	92	107	149	158	187[2]	159	176	227	238	273[2]	54	60	76	79	90[2]	186	201	245	253	284[2]
400PWS134-21	0.0200	55	90	105	146	155	184[2]	157	175	226	236	271[2]	49	55	69	72	82[2]	179	194	236	244	273[2]

Allowable Web-Crippling Loads (lbs) • Single Members • SMART ® 20 EQ (27mil)

Member	Design Thickness (in)	Yield F_y (ksi)	Condition 1 Bearing Length (in)					Condition 2 Bearing Length (in)					Condition 3 Bearing Length (in)					Condition 4 Bearing Length (in)				
			1	1.5	3.5	4	6	1	1.5	3.5	4	6	1	1.5	3.5	4	6	1	1.5	3.5	4	6
162SES125-27	0.0283	43	159	184	253[1]	267[1]	315[1,2]	284	313	396[1]	413[1]	471[1,2]	145	158	197[1]	205[1]	232[1,2]	378	405	484[1]	499[1]	554[1,2]
250SES125-27	0.0283	43	152	175	242	255	301[1,2]	278	306	388	404	461[1,2]	125	136	170	176	200[1,2]	349	374	447	461	512[1,2]
350SES125-27	0.0283	43	146	168	231	244	288[2]	272	300	380	396	452[2]	106	116	144	150	170[2]	322	345	412	426	472[2]
362SES125-27	0.0283	43	145	167	230	243	287[2]	272	300	379	395	451[2]	104	113	141	147	166[2]	319	342	408	422	468[2]
400SES125-27	0.0283	43	143	164	227	239	282[2]	270	298	377	393	448[2]	97	107	133	138	156[2]	310	333	397	410	455[2]
550SES125-27	0.0283	43	135	155	214	226	267[2]	264	291	368	383	437[2]	75	82	103	107	121[2]	279	299	357	368	409[2]

Notes:

1. All capacities listed are calculated using AISI S100-16.
2. Web crippling capacities calculated are for studs with stiffened or partially stiffened flanges.
3. Tabulated web crippling capabilities are for single members only. For multiple members, multiply the tabulated values by number of members in the assembly.
4. Listed allowable capacities are based on members "fastened to supports", except back-to-back members under two-flange loading (conditions 3 and 4) for which data for "fastened to support" is unavailable in the AISI S100-16.
5. Listed allowable capacities are for unpunched webs. Capacity reduction for end and interior one flange loading (conditions 1 and 2) near punchouts may be required per Section G6 of S100.

[1] Bearing length to web height ratio, N/h exceeds limit of 2.0

[2] Bearing length to thickness ratio, N/t exceeds limit of 210.

Fasteners / Screws

Allowable Screw Connection Capacity (Pounds per Screw) • PrimeWall ® 20 EQ (19/21mil)

Steel Thickness		Minimum Steel Properties		#6 Screw (0.138" Ø • min 5/16" head)				#8 Screw (0.164" Ø • min 5/16" head)				#10 Screw (0.190" Ø • min 5/16" head)				#12 Screw (0.216" Ø • min 5/16" head)			
(Mils) Thickness	Design (in) Thickness	Yield (ksi) Thickness	Ultimate (ksi) Thickness	Shear (lbs)	Pullout (lbs)	Pullover (lbs)	Min Edge Dist (in)	Shear (lbs)	Pullout (lbs)	Pullover (lbs)	Min Edge Dist (in)	Shear (lbs)	Pullout (lbs)	Pullover (lbs)	Min Edge Dist (in)	Shear (lbs)	Pullout (lbs)	Pullover (lbs)	Min Edge Dist (in)
19	0.0200	55	55	81	43	172	0.207	88	51	172	0.246	95	59	172	0.285	101	67	172	0.324
21	0.0221	55	55	94	48	190	0.207	102	56	190	0.246	110	65	190	0.285	118	74	190	0.324

Allowable Screw Connection Capacity (Pounds per Screw) • SMART ® 20 EQ (27mil)

Steel Thickness		Minimum Steel Properties		#6 Screw (0.138" Ø • min 5/16" head)				#8 Screw (0.164" Ø • min 5/16" head)				#10 Screw (0.190" Ø • min 5/16" head)				#12 Screw (0.216" Ø • min 5/16" head)			
(Mils) Thickness	Design (in) Thickness	Yield (ksi) Thickness	Ultimate (ksi) Thickness	Shear (lbs)	Pullout (lbs)	Pullover (lbs)	Min Edge Dist (in)	Shear (lbs)	Pullout (lbs)	Pullover (lbs)	Min Edge Dist (in)	Shear (lbs)	Pullout (lbs)	Pullover (lbs)	Min Edge Dist (in)	Shear (lbs)	Pullout (lbs)	Pullover (lbs)	Min Edge Dist (in)
27	0.0283	43	43	106	48	190	0.207	116	57	190	0.246	125	66	190	0.285	133	74	190	0.324

Notes:

1. All values assume that the nominal strength of the screw itself is at least 3 times the listed allowable loads.
2. Pullover values assume a minimum head/washer diameter, d_w, of 5/16" per AISI S100-2016 J4.4.2.
3. Minimum Edge distance = 1.5d per AISI S100-2016 J4.2.
4. When connecting materials of different thickness or tensile strength, Fu, use the lower values.

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