

Equivalent Framing Products Catalog

Table of Contents

Product Certifications	1	Limiting Wall Heights - Composite:	
General Product Type Information – All		- PrimeWall® 20ga EQ (19/21mil)	10
Comparison of EQ Technical Data	2		
- PrimeWall® 20ga EQ (19/21mil)	3 – 4	Ceiling Span Tables	11
Technical Data:		Ceiling Spans:	
General Notes for all Tables		- PrimeWall® 20ga EQ (19/21mil)	12
Section Properties:		Web Crippling Tables	13
- PrimeWall® 20ga EQ (19/21 mil)	5	Web Crippling:	
Limiting Wall Heights Overview	6	- PrimeWall® 20ga EQ (19/21mil)	14
Limiting Wall Heights - Non-Composite:		Allowable Screw Connection Capacity:	
- PrimeWall® 20ga EQ (19/21mil):		- PrimeWall® 20ga EQ (19/21mil)	15
- Fully Braced	7		
- Braced at 48" o.c.	8		
- Braced at 72" o.c.	9		

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Product Certifications

Studs Unlimited 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.

- **ICC ES Evaluation Report ESR-4205**

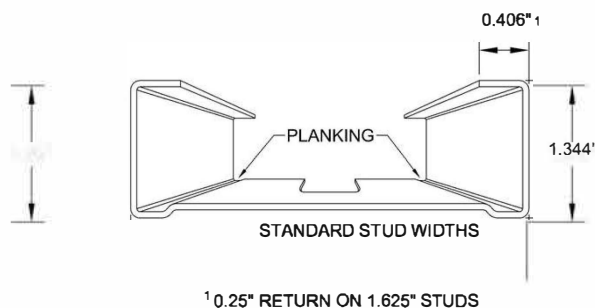
- **CCRR-0224 (through association with SFIA)**

- **UL Fire Listed through the SFIA**

Studs Unlimited 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.

Framing Stud Profiles

PrimeWall® 20 EQ Stud





Comparison of Equivalent Products

Comparison Chart of Significant EQ Technical Data

Manufacturer Product Description	20 ga Equivalent Products			
	Studs Unlimited EQ Products	ClarkDietrich*	MarinoWare**	
		ProStud® 20	ViperStud® 20	
Minimum Thickness in MILS		18	18	
Yield Strength - KSI		70	70	
Ratio of KSI to Thickness ²		3.89	3.89	
Limiting Heights:				
Non-Composite - Fully Braced -				
5 PSF, L/240, 16" Spacing:				
162xxxxxx	7' 9"	7' 0"	6' 11"	
250xxxxxx	10' 7"	9' 11"	9' 8"	
362xxxxxx	14' 0"	13' 2"	12' 10"	
400xxxxxx	15' 2"	14' 1" ¹	13' 10"	
600xxxxxx	18' 11" ¹	18' 9" ¹	18' 6"	
Composite - 5 PSF, L/240, 16" Spacing:				
162xxxxxx		11' 1"	10' 0"	
250xxxxxx		14' 0"	13' 1"	
362xxxxxx	16' 11"	16' 10"	16' 4"	
400xxxxxx		17' 7"	17' 3"	
600xxxxxx	24' 3"	23' 8"	23' 7"	
Allowable Ceiling Spans:				
Unsupported Joist Spacing -				
4 PSF, L/240, 16" Spacing:				
162xxxxxx	7' 9"	7' 3"	7' 3"	
250xxxxxx	9' 2"	8' 5"	8' 1"	
362xxxxxx	9' 11"	9' 2"	8' 11"	
400xxxxxx	10' 2"	9' 5"	9' 2"	
600xxxxxx	11' 10"	10' 11"	10' 4"	
Torsional Section Properties:				
Jx1000 (in⁴):				
162xxxxxx	0.016	0.010		
250xxxxxx	0.015	0.013		
362xxxxxx	0.018	0.015		
400xxxxxx	0.019	0.016		
600xxxxxx	0.033	0.021		
Lu (in):				
162xxxxxx	25.1	24.8	21.2	
250xxxxxx	27.6	24.5	21.9	
362xxxxxx	26.9	24.3	21.5	
400xxxxxx	26.8	24.2	21.5	
600xxxxxx	29.5	23.6	21.5	

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

² Studs Unlimited believes the ratio of KSI to Thickness is an important indicator of screw acceptance. The lower the ratio the better, especially in thinner gauge products.

ProStud® is a registered trademark of ClarkDietrich Building Systems.
ViperStud® is a registered trademark of Ware Industries, Inc.

*Information obtained from the ClarkDietrich catalog effective 9/23/2020.**
Information obtained from the MarinoWare catalog effective 10/1/2020.

General 19/21mil EQ Product Information

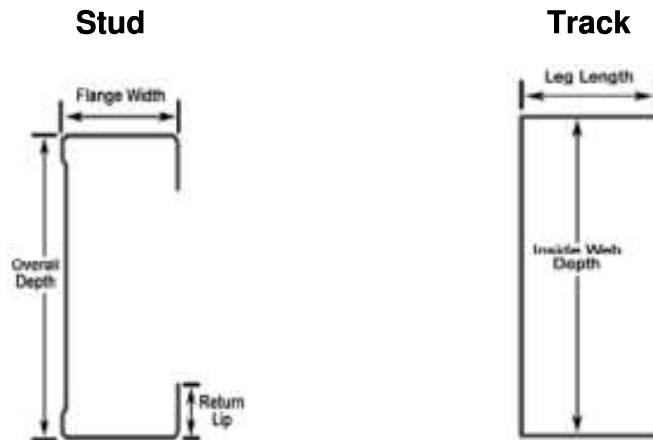
The PrimeWall® 20 EQ studs are used in non-load-bearing wall systems that support gypsum board construction. PrimeWall® 20 EQ studs are equivalent to 20 gauge (30mil) standard non-structural drywall studs.

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).



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 KSI than competitors – this helps with better screw acceptance.**
- **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"

General Product Information

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

	Yield	Material Requirements				Product Measurements				Color-Coding
		Mil Thickness	Design Thickness	Base Metal Thickness	Web nominal Decimal Fraction	Le Decimal	e Fraction	Return / Li Decimal	Fraction	
PrimeWall Stud										
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

PrimeWall Track	Yield (KSI)	Material Requirements				Product Measurements				Color-Coding
		Mil Thickness	Design Thickness	Base Metal Thickness	Web (nominal) Decimal Fraction	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

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

Section	Design	Gross Properties									Effective Properties					Torsional Properties							
	Thickness	F _y	Area	Weight	I _{xx}	S _{xx}	R _x	I _{yy}	R _y	I _{xx}	S _{xx}	M _{a-L}	M _{a-D}	V _{ag}	V _{aNet}	Jx1000	C _w	X _o	m	R _o	β	L _u	
	(in)	(ksi)	(in²)	(lb/ft)	(in⁴)	(in3)	(in)	(in⁴)	(in)	(in⁴)	(in³)	(in-k)	(in-k)	(lb)	(lb)	(in⁴)	(in⁶)	(in)	(in)	(in)		(in)	
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 ¹	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	F _y (ksi)	Area (in²)	Weight (lb/ft)	Gross Properties					Effective Properties				Torsional Properties					
	Thickness (in)				S _{xx}	R _x	I _{xx}	S _{yy}	R _y	I _{yy}	S _{xx}	M _{a-L}	V _{ag}	Jx1000	C _w	X _o	m	R _o	β
					(in⁴)		(in)	(in⁴)	(in)	(in⁴)	(in³)	(in-k)	(lb)	(in⁴)	(in⁶)	(in)		(in)	
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
600PWT125-19¹	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
600PWT150-19¹	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
600PWT200-19¹	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
600PWT300-19¹	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

Sections Properties Notes:

- Section properties are in accordance with AISI S100-16 "North American Specification for the Design of Cold-Formed Steel Structural Members".
- Effective properties include the strength increase from cold-work of forming per AISI S100 section A3.3.2 where applicable.
- 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.
- 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, M_{a-L}.
- Tabulated gross properties are based on the full, unreduced section away from punchouts.
- Effective X-X Axis properties of all stud and joist sections based on punched sections. Track sections are considered unpunched.
- In Section Property Tables, allowable moment and shear do NOT include the 0.9 factor on Ω per AISI S220-11.
- 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.
- 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.
- All track properties based on unpunched sections.

¹ 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

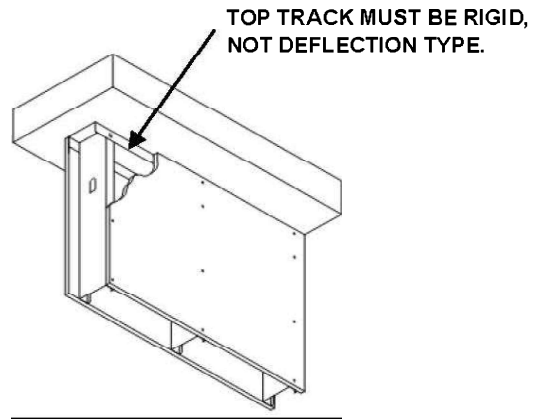
Which Limiting Heights Table is the Correct Table to Use?

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.

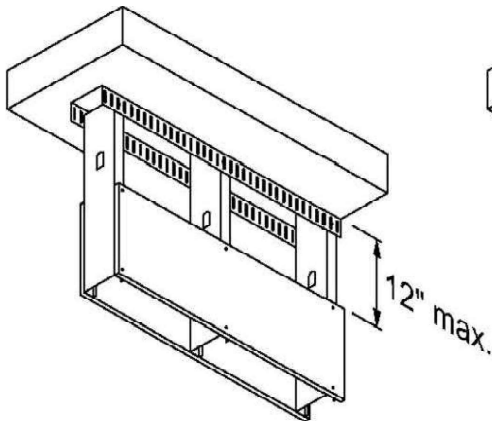
Composite

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

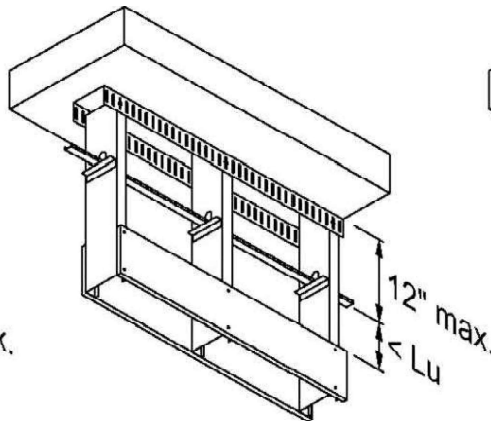


Non-Composite Assemblies

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

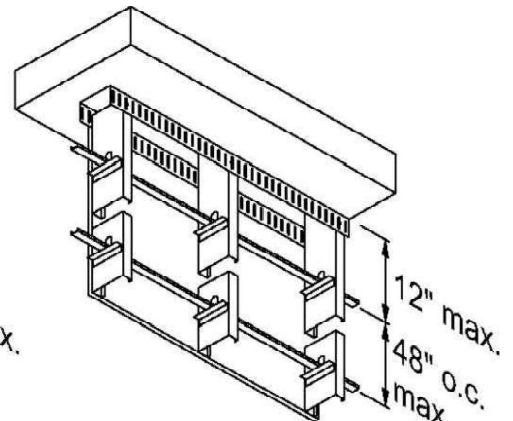


Non-Composite Fully Braced



Non-Composite Fully Braced

Bracing spacing above gypsum board is less than L_u



Non-Composite Braced at 48" o.c.

Gypsum board placed on only one side

Distance of unbraced length (L_u) can be found in the Section Properties starting on page 13.

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 I_{xx} 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

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 I_{xx} 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 I_{xx} 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 – Composite

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

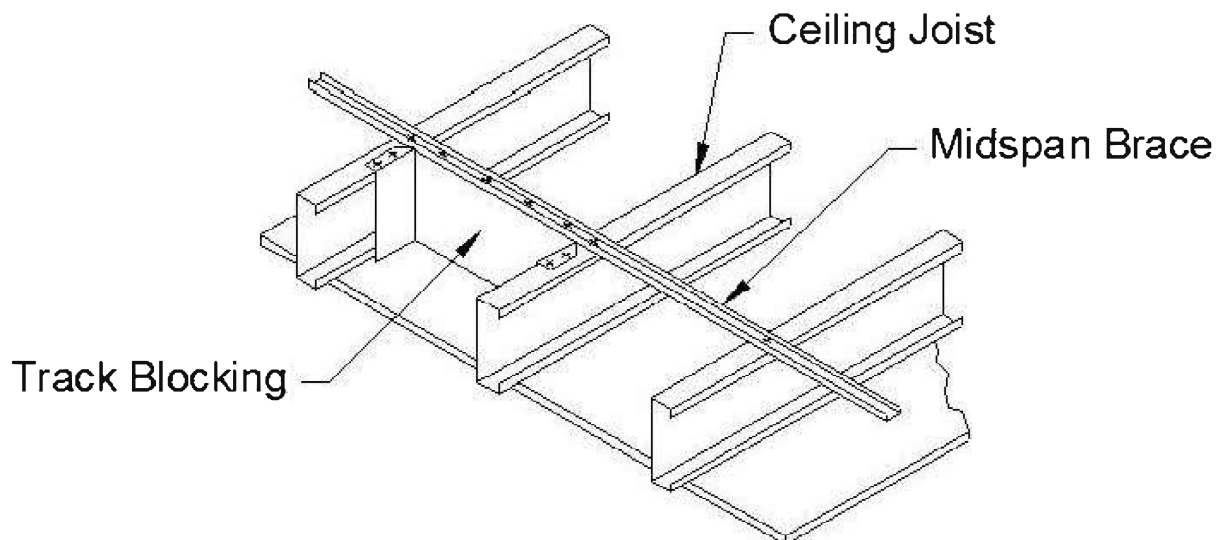
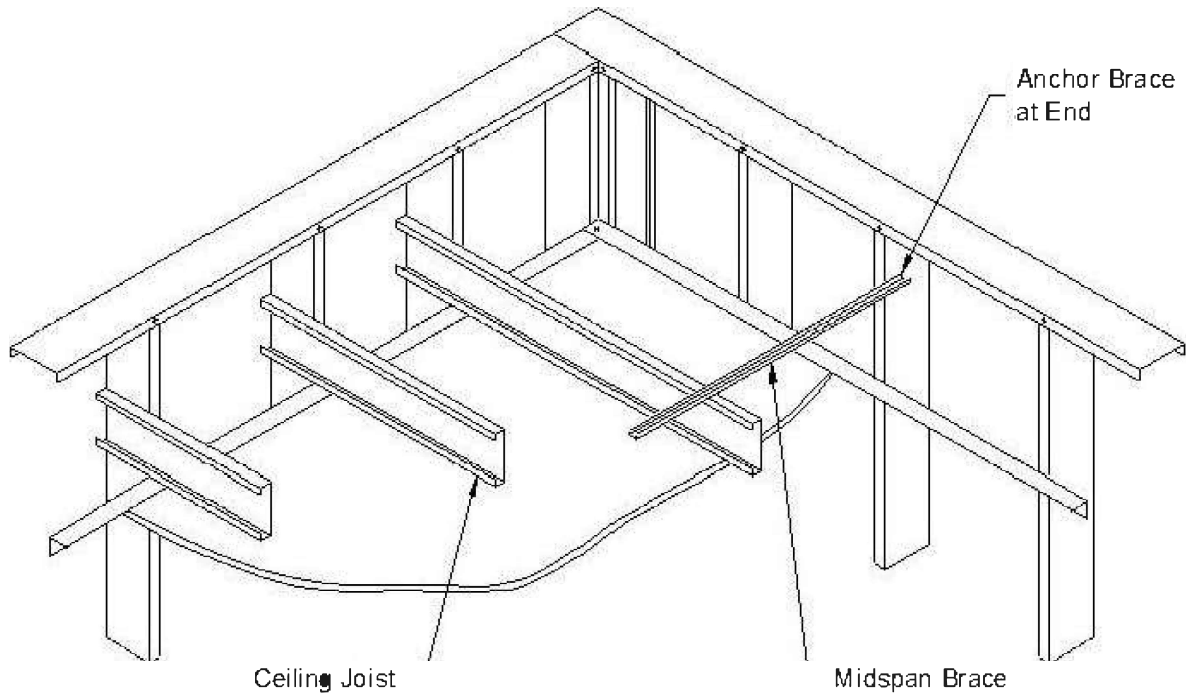
Member	F _y (ksi)	Spacing o.c. (in)	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
362PWS134-19	55	12	22' 7"	18' 7"	16' 4"	19' 8"	16' 3"	14' 3"	17' 11"	14' 9"	12' 11"
	55	16	20' 6"	16' 11"	14' 10"	17' 11"	14' 9"	12' 11"	16' 2" [†]	13' 5"	11' 9"
	55	24	17' 11"	14'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

[†] Flexural stress controls the allowable wall height.

Ceiling Span Tables



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

Section	F _y (ksi)	4 psf						6 psf						13 psf					
		Lateral Support of Compression Flange						Lateral Support of Compression Flange						Lateral Support of Compression Flange					
		Unsupported			Midspan			Unsupported			Midspan			Unsupported			Midspan		
		Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			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"
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"
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)

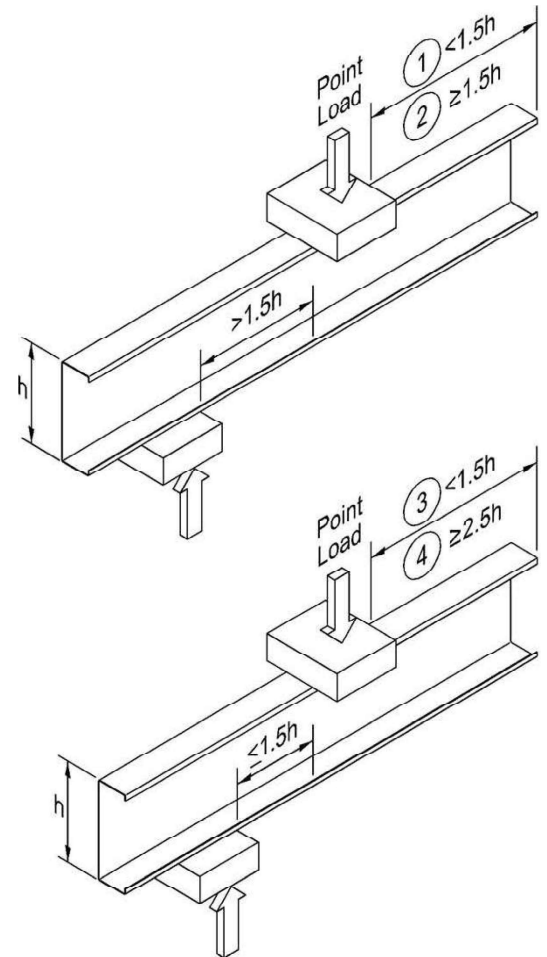
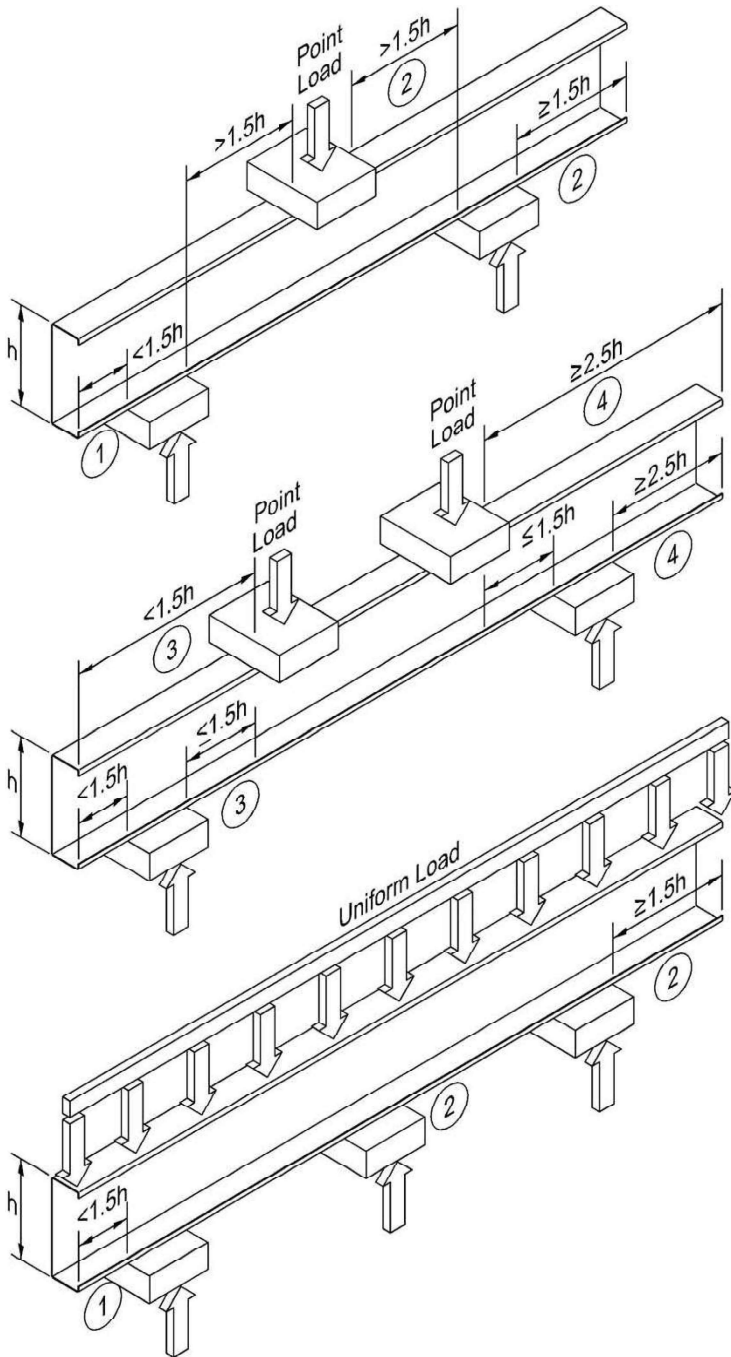
Section	F _y (ksi)	4 psf						6 psf						13 psf					
		Lateral Support of Compression Flange						Lateral Support of Compression Flange						Lateral Support of Compression Flange					
		Unsupported			Midspan			Unsupported			Midspan			Unsupported			Midspan		
		Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			Joist Spacing (in) o.c.			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' 1"	7' 4"	6' 5"	8' 1"	7' 4"	6' 5"	7' 0"	6' 5"	5' 7"	7' 0"	6' 5"	5' 7"	5' 5"	4' 11"	4' 4"	5' 5"	4' 11"	4' 4"
250PWS134-19	55	9' 10"	9' 2"	8' 3"	10' 11"	9' 11"	8' 8"	8' 11"	8' 3"	7' 4"	9' 6"	8' 8"	7' 7"	7' 2"	6' 8"	5' 10"	7' 4"	6' 8"	5' 10"
362PWS134-19	55	10' 9"	9' 11"	9' 0"	14' 6"	13' 2"	11' 6"	9' 8"	8' 11"	8' 0"	12' 8"	11' 6"	10' 1"	7' 10"	7' 3"	6' 5"	9' 10"	8' 11"	7' 9"
400PWS134-19	55	11' 0"	10' 2"	9' 2"	15' 8"	14' 3"	12' 5"	9' 11"	9' 2"	8' 3"	13' 8"	12' 5"	10' 10"	8' 1"	7' 5"	6' 7"	10' 7"	9' 7"	8' 4"
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:

- For unbraced sections, allowable moment is based on AISI S100-16 with $K_y L_y = K_t L_t =$ listed span. For mid-span braced sections, allowable moment based on AISI S100-16 with $K_y L_y = K_t L_t = (\text{listed span})/2$.
- For distortional buckling allowable moment, $k\phi = 0$.
- Web crippling calculation based on bearing length = 1 inch.
- 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.
- Safety factors have NOT been multiplied by 0.9 in accordance with AISI S220-15, B1.
- Values are for simple span conditions.
- 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_x listed in section property tables.

^e Web stiffeners 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

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

Notes:

- All capacities listed are calculated using AISI S100-16.
- Web crippling capacities calculated are for studs with stiffened or partially stiffened flanges.
- Tabulated web crippling capabilities are for single members only. For multiple members, multiply the tabulated values by number of members in the assembly.
- 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.
- 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.

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

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

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

Steel Thickness (Mils)	Minimum Steel Properties			# 6 Screw (0.138" dia; min 5/16" head)				# 8 Screw (0.164" dia; min 5/16" head)				# 10 Screw (0.190" dia; min 5/16" head)				# 12 Screw (0.216" dia; min 5/16" head)			
	Design (in)	Yield F _y (ksi)	Ultimate F _u (ksi)	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

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, F_u , use the lower values.



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