

INTERIOR & EXTERIOR
PRODUCT GUIDE

2012 IBC COMPLIANT

STUDS
UNLIMITED



809-D S Agnew, Oklahoma City, OK 73108
(405) 236 0076 · TF 1 800 522 4074
www.studsunlimited.com

2	About Us
3	Compliance
4	Letter from DSI Engineering
5	Member Identification
6	Structural Property Symbols
7	Physical Dimensions of Stud Shapes
8	Track Properties
10	C-Stud Properties
11	Non-Structural C-Stud Properties
12	Web Depth-to-Thickness Ratios: Studs & Joists
12	Web Depth-to-Thickness Ratios: Tracks
12	Flange Width-to-Thickness Ratios: Studs & Joists
12	Flange Width-to-Thickness Ratios: Tracks
13	Curtain Wall Limiting Heights - Single Span
15	Interior Curtain Wall Limiting Heights
19	Allowable Floor Joist Spans
24	Maximum Axial Loads for 8' Studs
25	Maximum Axial Loads for 9' Studs
26	Maximum Axial Loads for 10' Studs
27	Maximum Axial Loads for 12' Studs
28	Maximum Axial Loads for 14' Studs
30	Web Crippling Loads - Single Members (Stud or Joist)
32	Web Crippling Loads - Double Members (Stud or Joist)
34	Physical Dimensions of Furring (Hat) Channels
34	Properties of Furring (Hat) Channels
34	Furring (Hat) Channel Allowable Ceiling Spans: L/240
34	Furring (Hat) Channel Allowable Ceiling Spans: L/260
36	Specification Guide for Cold-Formed Steel Framing

About Us

Family owned and operated, Studs Unlimited is a manufacturer of light-gauge steel framing products. Located in Oklahoma City, we have served the residential and commercial construction industry since 2003.

OUR PRODUCTS

Studs Unlimited, LLC produces a complete range of stud and track profiles from 25 gauge down to 12 gauge with web sizes from 1-5/8" to 14", leg lengths from 1" to 3" and up to 3" flange. Our products are formed from steel with a minimum yield stress of 33 KSI or 50 KSI. Member properties and load tables for profiles not shown in this catalog are available upon request.

FAST AND ACCURATE FABRICATION

We specialize in fulfilling framing orders quickly and accurately. Whether your order calls for standard or custom length studs, we can manufacture in as little as 24 hours — helping you keep construction on schedule.

CONSULTING, ESTIMATES, ORDERING, AND DELIVERY

Studs Unlimited framing products are available through distribution— All of our distributors professional staff will assist you with product information, estimates, ordering, delivery, and credit services.

Consulting - Our knowledgeable staff will help determine the proper framing products for your structure based on the design and exterior surface. Our goal is to ensure optimal performance.

Delivery - Whether you want to pick up your completed order directly from our plant or take advantage of Studs Unlimited shipping, we can assist with coordination of your completed ordered to your facility, location or direct drop ship.

Credit - Committed to helping you succeed, we offer credit services for large or small framing orders. Contact us to receive an application or for more information.

GREEN FRIENDLY

Studs Unlimited uses recycled steel to manufacture all framing products. We also reduce waste by "cutting-to-length" from rolled sheets, and recycle scrap from utility punches.

CONTACT

Feel free to contact Studs Unlimited staff member for any questions pertaining to your needs that we may full fill. 405-896-2563

Compliance

Studs Unlimited partners with DSI Engineering for technical calculations and compliance analysis. We certify that our metal stud and tracks comply with ASTM C-645 and C-955 (see below). Section property and load tables are included. Our products are formed from steel with a minimum yield stress of 33 KSI or 50 KSI. All products covered in the brochure are engineered to meet the 1996 Edition of the American Iron and Steel Institute.

The structural properties included in this booklet have been computed based on allowable stress design to conform with the same AISI document.

ASTM REQUIREMENTS C-645 (DRYWALL)

- 14.2 In addition to the marking referenced in 14.1, individual members shall have a legible label, stencil, or embossment, at a maximum distance of 48 in. (1220 mm) on center, on the web of the member, with the following minimum information:
 - 14.2.1 The rollformer's identification (that is, name, logo or initials)
 - 14.2.2 The minimum steel thickness, in mils or inches, exclusive of protective coating
 - 14.2.3 The minimum yield strength in KSI (MPa) if other than 33 KSI (230 MPa).
 - 14.2.4 The minimum protective coating weight, G-40, if other than as specified in Section 4.

ASTM REQUIREMENTS C-955 (STRUCTURAL)

- 12.2 In addition to the markings in 12.1, individual members shall have a legible label, stencil, or embossment, at a maximum distance of 96 in. (2440 mm) on center, on the member, with the following minimum information:
 - 12.2.1 The rollformer's identification (that is, name, logo or initials)
 - 12.2.2 The minimum steel thickness, in mils or inches, exclusive of protective coating.
 - 12.2.3 The minimum yield strength of 33KSI or 50KSI based on appropriate mill thickness
 - 12.2.4 The minimum protective coating shall be indicated with the appropriate coating shall be indicated with the appropriate coating designator in accordance with table 1.

The data and specifications in this brochure are intended as a "general guide" for using Studs Unlimited, LLC products. Our products should be evaluated by an independent qualified engineer or architect to verify the suitability of a particular product for use in a specific application. Studs Unlimited, LLC assumes no liability for failure resulting from the use or misapplication of computations. Studs Unlimited, LLC reserves the right to make modifications and/or change material of any of our products without prior notice or obligation.

MEMBERS OF





To whom it may concern:

DSi Engineering performed the analysis for generation and population of the tables as described herein. Calculations were performed in compliance with the 2007 North American Specification for the Design of cold-Formed Steel Structural Members (AISI S100-07) with the 2010 supplement (S1-10). Dimensional requirements are as published in the AISI *Standard for Cold-Formed Steel Framing – Product Data* AISI “S201-07), as in compliance with 2012 IBC.

Relevant values are based on allowable stress design (ASD) for the United States and Mexico.

The information shown is for guidance and reference only. Properties, spans, deflections, capacities, and other information shown is calculated in consideration of specific conditions, some of which are described in notes accompanying each table. Actual conditions relevant to specific use on a structural system are likely to vary from the values as shown herein, thereby altering capacities and properties. Therefore analysis by a professional engineer is generally required for specific applications.

Tables provided by DSi are as follows:

- Track Properties, gross, effective, and torsion
- Non-structural C-Stud Properties, gross, effective, and torsion
- C-Stud Properties, gross, effective, and torsion
- Web Depth-to-Thickness (h/t) Ratios for Studs and Joist
- Web Depth-to-Thickness (h/t) Ratios for Track
- Flange Width-to-Thickness (b/t) Ratios for Studs and Joist
- Flange Width-To-Thickness (b/t) Ratios for Track
- Interior Curtain Wall Limiting Heights – Single Span Limiting Height
- Joist Span Tables for 12”, 16”, and 24” on center for the varying dead and live load conditions
- Maximum Axial Load for 8, 9, 10, 12, and 14 Ft. Tall Studs with Combined Lateral Pressures
- Web Crippling Capacities – Single Web “S” Members (Stud or Joist)
- Web Crippling Capacities – Double Web “S” Members (Stud or Joist)
- Physical Dimensions of Channel Shapes
- Hat Channel Gross and Effective Properties
- Furring (Hat) Channel Allowable Ceiling Spans: L/240 and L/360, Single and Multi-span

Note: Minor variations may be notable between published values and values indicated in other publications. The properties and values indicated herein are specific to materials as fabricated and supplied by Studs Unlimited.

If errors or discrepancies are found, please contact DSi Engineering at (770) 375-4500.



August 16, 2013

5550 Triangle Parkway ■ Suite 100 ■ Norcross, Ga. 30092 ■ Phone: 770-375-4500 ■ Fax: 770-242-6305 ■

Member Identification

Studs Unlimited supports the industry standard nomenclature for defining framing products. All structural members and nonstructural members use a four-part designator that identifies the web depth, style, flange width, and thickness. For example:

362 S 125-18

WEB DEPTH

(3-5/8" = 362 x 1/100")
Web depths are taken in 1/100 inches. For all "T" sections, member web is the inside-to-inside dimension.

STYLE

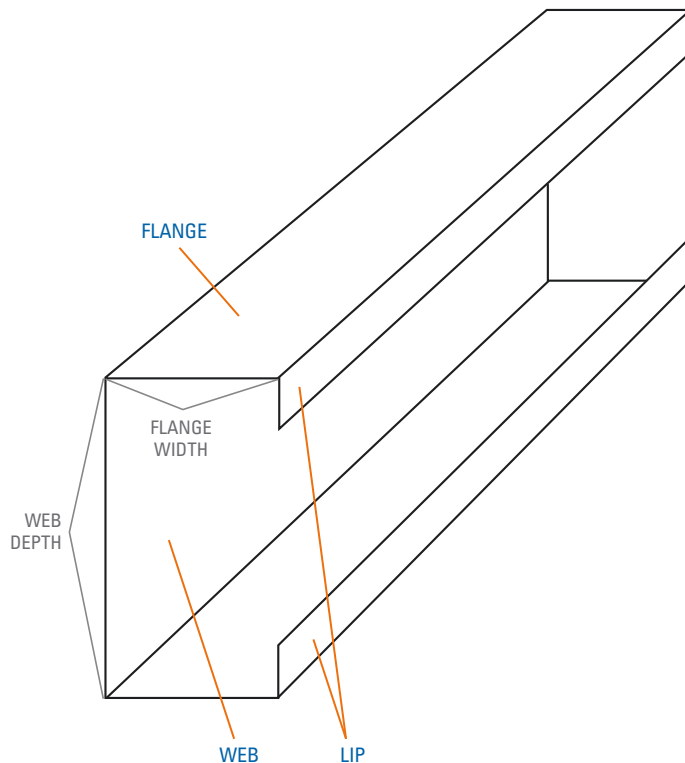
S = Stud or Joist Section
T = Track Section
U = Channel Section

FLANGE WIDTH

(1-1/4" = 125 x 1/100")
All flange widths are taken in 1/100 inches.

METAL THICKNESS

(0.018" = 18 mils
1 mil = 1/1000")
Metal thickness is the minimum base metal thickness (in mils) and represents 95% of design thickness.



DESIGN THICKNESS

Member Gauge	Mils	Design Thickness	Minimum Thickness
25	18	.0188"	.0179"
22	27	.0283"	.0269"
20 DW	30	.0312"	.0296"
20	33	.0346"	.0329"
18	43	.0451"	.0428"
16	54	.0566"	.0538"
14	68	.0713"	.0677"
12	97	.1017"	.0966"

LEG WIDTH

Flange Width	Lip
1-1/4" - 125	3/16"
1-5/8" - 162	1/2"
2" - 200	5/8"
2-1/2" - 250	5/8"

Structural Property Symbols

GROSS PROPERTIES

- I_{xx}** Moment of inertia 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
- I_{yy}** Moment of inertia of the gross section about the Y-Y axis (weak axis)
- R_y** Radius of gyration of the gross section about the Y-Y axis

EFFECTIVE PROPERTIES

- I_{xx}** Moment of inertia for deflection calculations based on "Procedure 1 for Deflection Determination" of the 1996 AISI Specification.
- S_{xx}** Effective section modulus about the X-X axis (strong axis) Stress = F_y
- M_a** Allowable Bending Moment - Based on the effective section modulus and the allowable stress including the strength increase from cold-work of forming (AISI 7.2) where applicable.
- V_a** Allowable Shear Load
- Y_{cg}** Maximum distance from the outside of the compression flange to the center of gravity of the effective section.

TORSIONAL PROPERTIES

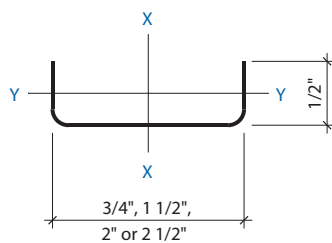
- J** St. Venant Constant
- C_w** Torsional warping constant.
- X_o** Distance from the shear center to the centroid along the principal X-axis.
- R_o** Polar radius of gyration about the centroidal principal axis.
- β** $1 - (X_o/R_o)^2$

Physical Dimensions of Stud Shapes

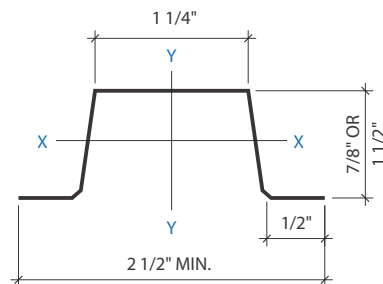
Member	Fy (KSI)	Fu (KSI)	Web Depth (in)	Design Thickness (in)	Inside Bend Radius (in)	Flange Width (in)	Lip (in)	Punchout Width (in)
162S125-18	33	45	1.625	0.0188	0.08435	1.25	0.188	0.75
162S125-27	33	45	1.625	0.0283	0.0796	1.25	0.188	0.75
162S125-30	33	45	1.625	0.0312	0.07815	1.25	0.188	0.75
250S125-18	33	45	2.5	0.0188	0.08435	1.25	0.188	0.75
250S125-27	33	45	2.5	0.0283	0.0796	1.25	0.188	0.75
250S125-30	33	45	2.5	0.0312	0.07815	1.25	0.188	0.75
362S125-18	33	45	3.625	0.0188	0.08435	1.25	0.188	1.5
362S125-27	33	45	3.625	0.0283	0.0796	1.25	0.188	1.5
362S125-30	33	45	3.625	0.0312	0.07815	1.25	0.188	1.5
400S125-18	33	45	4.0	0.0188	0.08435	1.25	0.188	1.5
400S125-27	33	45	4.0	0.0283	0.0796	1.25	0.188	1.5
400S125-30	33	45	4.0	0.0312	0.07815	1.25	0.188	1.5
600S125-18	33	45	6.0	0.0188	0.08435	1.25	0.188	1.5
600S125-27	33	45	6.0	0.0283	0.0796	1.25	0.188	1.5
600S125-30	33	45	6.0	0.0312	0.07815	1.25	0.188	1.5
250S162-33	33	45	2.5	0.0346	0.07645	1.625	0.5	0.75
250S162-43	33	45	2.5	0.0451	0.0712	1.625	0.5	0.75
250S162-54	50	65	2.5	0.0566	0.0849	1.625	0.5	0.75
250S162-68	50	65	2.5	0.0713	0.10695	1.625	0.5	0.75
362S162-33	33	45	3.625	0.0346	0.07645	1.625	0.5	1.5
362S162-43	33	45	3.625	0.0451	0.0712	1.625	0.5	1.5
362S162-54	50	65	3.625	0.0566	0.0849	1.625	0.5	1.5
362S162-68	50	65	3.625	0.0713	0.10695	1.625	0.5	1.5
362S162-97	50	65	3.625	0.1017	0.15255	1.625	0.5	1.5
362S200-33	33	45	3.625	0.0346	0.07645	2	0.625	1.5
362S200-43	33	45	3.625	0.0451	0.0712	2	0.625	1.5
362S200-54	50	65	3.625	0.0566	0.0849	2	0.625	1.5
362S200-68	50	65	3.625	0.0713	0.10695	2	0.625	1.5
362S200-97	50	65	3.625	0.1017	0.15255	2	0.625	1.5
400S162-33	33	45	4.0	0.0346	0.07645	1.625	0.5	1.5
400S162-43	33	45	4.0	0.0451	0.0712	1.625	0.5	1.5
400S162-54	50	65	4.0	0.0566	0.0849	1.625	0.5	1.5
400S162-68	50	65	4.0	0.0713	0.10695	1.625	0.5	1.5
400S162-97	50	65	4.0	0.1017	0.15255	1.625	0.5	1.5
400S200-33	33	45	4.0	0.0346	0.07645	2	0.625	1.5
400S200-43	33	45	4.0	0.0451	0.0712	2	0.625	1.5
400S200-54	50	65	4.0	0.0566	0.0849	2	0.625	1.5
400S200-68	50	65	4.0	0.0713	0.10695	2	0.625	1.5
400S200-97	50	65	4.0	0.1017	0.15255	2	0.625	1.5

Member	Fy (KSI)	Fu (KSI)	Web Depth (in)	Design Thickness (in)	Inside Bend Radius (in)	Flange Width (in)	Lip (in)	Punchout Width ¹ (in)
600S162-33	33	45	6.0	0.0346	0.07645	1.625	0.5	1.5
600S162-43	33	45	6.0	0.0451	0.0712	1.625	0.5	1.5
600S162-54	50	65	6.0	0.0566	0.0849	1.625	0.5	1.5
600S162-68	50	65	6.0	0.0713	0.10695	1.625	0.5	1.5
600S162-97	50	65	6.0	0.1017	0.15255	1.625	0.5	1.5
600S200-33	33	45	6.0	0.0346	0.07645	2	0.625	1.5
600S200-43	33	45	6.0	0.0451	0.0712	2	0.625	1.5
600S200-54	50	65	6.0	0.0566	0.0849	2	0.625	1.5
600S200-68	50	65	6.0	0.0713	0.10695	2	0.625	1.5
600S200-97	50	65	6.0	0.1017	0.15255	2	0.625	1.5
800S162-33	33	45	8.0	0.0346	0.07645	1.625	0.5	1.5
800S162-43	33	45	8.0	0.0451	0.0712	1.625	0.5	1.5
800S162-54	50	65	8.0	0.0566	0.0849	1.625	0.5	1.5
800S162-68	50	65	8.0	0.0713	0.10695	1.625	0.5	1.5
800S162-97	50	65	8.0	0.1017	0.15255	1.625	0.5	1.5
800S200-33	33	45	8.0	0.0346	0.07645	2	0.625	1.5
800S200-43	33	45	8.0	0.0451	0.0712	2	0.625	1.5
800S200-54	50	65	8.0	0.0566	0.0849	2	0.625	1.5
800S200-68	50	65	8.0	0.0713	0.10695	2	0.625	1.5
800S200-97	50	65	8.0	0.1017	0.15255	2	0.625	1.5
1000S162-43	33	45	10.0	0.0451	0.0712	1.625	0.5	1.5
1000S162-54	50	65	10.0	0.0566	0.0849	1.625	0.5	1.5
1000S162-68	50	65	10.0	0.0713	0.10695	1.625	0.5	1.5
1000S162-97	50	65	10.0	0.1017	0.15255	1.625	0.5	1.5
1000S200-43	33	45	10.0	0.0451	0.0712	2	0.625	1.5
1000S200-54	50	65	10.0	0.0566	0.0849	2	0.625	1.5
1000S200-68	50	65	10.0	0.0713	0.10695	2	0.625	1.5
1000S200-97	50	65	10.0	0.1017	0.15255	2	0.625	1.5
1200S162-54	50	65	12.0	0.0566	0.0849	1.625	0.5	1.5
1200S162-68	50	65	12.0	0.0713	0.10695	1.625	0.5	1.5
1200S162-97	50	65	12.0	0.1017	0.15255	1.625	0.5	1.5
1200S200-54	50	65	12.0	0.0566	0.0849	2	0.625	1.5
1200S200-68	50	65	12.0	0.0713	0.10695	2	0.625	1.5
1200S200-97	50	65	12.0	0.1017	0.15255	2	0.625	1.5
1400S162-68	50	65	14.0	0.0713	0.10695	1.625	0.5	1.5
1400S162-97	50	65	14.0	0.1017	0.15255	1.625	0.5	1.5
1400S200-68	50	65	14.0	0.0713	0.10695	2	0.625	1.5
1400S200-97	50	65	14.0	0.1017	0.15255	2	0.625	1.5

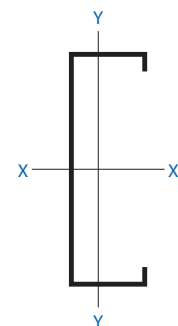
¹ All punchouts are 4" long at 24" on center.



U-CHANNEL



FURRING CHANNEL



C-STUD/JOIST

Track Properties

Member	Design Thickness	Fy (KSI)	Gross Properties							Effective Properties					Torsional Properties							L (in)
			Area (in²)	Weight (lb/ft)	Ix (in⁴)	Sx (in³)	Rx (in)	Iy (in⁴)	Ry (in)	Ixe (in⁴)	Sxe (in³)	Ma (in-k)	Vag (lb)	Ycg (in)	Fya (KSI)	Jx1000 (in⁴)	Cw (in⁶)	Xo (in)	m (in)	Ro (in)	β	
162T125-18	0.0188	33	0.078	0.264	0.042	0.048	0.733	0.013	0.411	-	-	-	-	-	33	0.009	0.007	-0.876	0.503	1.215	0.479	25.4
162T125-27	0.0283	33	0.117	0.397	0.063	0.072	0.735	0.020	0.410	0.051	0.044	0.87	541	1.048	33	0.031	0.010	-0.872	0.501	1.211	0.482	25.7
162T125-30	0.0312	33	0.129	0.438	0.070	0.079	0.735	0.022	0.409	0.058	0.050	1.00	597	1.038	33	0.042	0.012	-0.870	0.500	1.210	0.483	25.8
162T200-18	0.0188	33	0.106	0.360	0.063	0.072	0.770	0.046	0.662	-	-	-	-	-	33	0.012	0.025	-1.905	1.201	2.159	0.221	39.2
162T200-27	0.0283	33	0.159	0.542	0.095	0.108	0.772	0.069	0.661	-	-	-	-	-	33	0.042	0.038	-0.356	-0.346	1.077	0.891	39.6
162T200-30	0.0312	33	0.175	0.597	0.105	0.119	0.773	0.076	0.660	-	-	-	-	-	33	0.057	0.042	1.606	-2.306	1.900	0.286	39.8
250T125-18	0.0188	33	0.094	0.320	0.104	0.079	1.052	0.015	0.400	-	-	-	-	-	33	0.011	0.018	1.348	-1.655	1.756	0.411	25.8
250T125-27	0.0283	33	0.141	0.481	0.157	0.119	1.053	0.022	0.398	0.129	0.079	1.56	685	1.519	33	0.038	0.027	1.639	-1.945	1.988	0.320	25.8
250T125-30	0.0312	33	0.156	0.531	0.173	0.131	1.053	0.025	0.397	0.146	0.090	1.77	832	1.507	33	0.051	0.030	1.663	-1.969	2.008	0.314	25.9
250T200-18	0.0188	33	0.122	0.416	0.152	0.116	1.114	0.053	0.661	-	-	-	-	-	33	0.014	0.064	2.407	-3.016	2.733	0.225	40.2
250T200-27	0.0283	33	0.184	0.626	0.229	0.174	1.116	0.080	0.659	-	-	-	-	-	33	0.049	0.097	2.334	-2.941	2.669	0.236	40.4
250T200-30	0.0312	33	0.203	0.690	0.253	0.191	1.116	0.088	0.659	-	-	-	-	-	33	0.066	0.106	2.255	-2.861	2.601	0.248	40.5
362T125-18	0.0188	33	0.115	0.392	0.238	0.127	1.437	0.017	0.380	-	-	-	-	-	33	0.014	0.042	1.703	-1.955	2.261	0.432	25.7
362T125-27	0.0283	33	0.173	0.590	0.358	0.191	1.438	0.025	0.378	0.301	0.135	2.66	569	2.109	33	0.046	0.062	1.648	-1.897	2.219	0.449	25.7
362T125-30	0.0312	33	0.191	0.650	0.395	0.210	1.438	0.027	0.378	0.339	0.152	3.01	762	2.095	33	0.062	0.068	1.599	-1.848	2.183	0.464	25.7
361T125-33	0.0346	33	0.212	0.721	0.438	0.232	1.439	0.030	0.377	0.385	0.174	3.44	1,024	2.079	33	0.085	0.076	-0.658	0.409	1.626	0.836	25.7
362T125-43	0.0451	33	0.276	0.939	0.571	0.302	1.439	0.039	0.375	0.532	0.245	4.84	1,739	2.035	33	0.187	0.098	-0.654	0.407	1.625	0.838	25.8
362T125-54	0.0566	50	0.346	1.177	0.723	0.378	1.445	0.048	0.373	0.679	0.312	9.34	3,372	2.042	50	0.369	0.123	-0.648	0.404	1.627	0.841	20.9
362T125-68	0.0713	50	0.436	1.482	0.921	0.475	1.454	0.060	0.370	0.909	0.427	12.78	4,703	2.012	50	0.738	0.156	-1.004	0.762	1.805	0.691	21.0
362T125-97	0.1017	50	0.621	2.112	1.344	0.675	1.471	0.082	0.364	1.343	0.675	20.20	6,622	1.990	50	2.140	0.226	-1.146	0.910	1.900	0.636	21.4
362T200-18	0.0188	33	0.143	0.488	0.336	0.179	1.531	0.060	0.648	-	-	-	-	-	33	0.017	0.147	-1.349	0.829	2.140	0.603	40.9
362T200-27	0.0283	33	0.216	0.734	0.506	0.269	1.532	0.090	0.646	-	-	-	-	-	33	0.058	0.221	0.023	-0.540	1.663	1.000	40.9
362T200-30	0.0312	33	0.238	0.809	0.558	0.297	1.532	0.099	0.645	-	-	-	-	-	33	0.077	0.243	1.400	-1.917	2.174	0.585	41.0
362T200-33	0.0346	33	0.264	0.897	0.619	0.329	1.533	0.110	0.645	0.464	0.190	3.76	1,024	2.267	33	0.105	0.269	2.198	-2.714	2.756	0.364	41.0
362T200-43	0.0451	33	0.343	1.169	0.808	0.427	1.534	0.142	0.643	0.651	0.270	5.34	1,739	2.218	33	0.233	0.350	2.522	-3.036	3.021	0.303	41.1
362T200-54	0.0566	50	0.431	1.466	1.024	0.536	1.542	0.177	0.641	0.834	0.345	10.34	3,372	2.226	50	0.460	0.442	2.608	-3.119	3.097	0.291	33.4
362T200-68	0.0713	50	0.543	1.846	1.308	0.675	1.552	0.221	0.638	1.141	0.480	14.37	4,703	2.187	50	0.919	0.564	2.597	-3.105	3.092	0.295	33.7
362T200-97	0.1017	50	0.773	2.631	1.918	0.963	1.575	0.308	0.632	1.845	0.804	24.06	6,622	2.128	50	2.666	0.825	2.548	-3.048	3.061	0.307	34.3
400T125-18 ¹	0.0188	33	0.122	0.416	0.298	0.145	1.562	0.017	0.374	-	-	-	-	-	33	0.014	0.052	-0.637	0.400	1.727	0.864	25.6
400T125-27	0.0283	33	0.184	0.626	0.449	0.217	1.562	0.025	0.372	0.380	0.156	3.08	514	2.306	33	0.049	0.078	-0.633	0.398	1.726	0.866	25.6
400T125-30	0.0312	33	0.203	0.690	0.495	0.239	1.563	0.028	0.371	0.427	0.176	3.49	689	2.289	33	0.066	0.085	-0.632	0.397	1.726	0.866	25.6
400T125-33	0.0346	33	0.225	0.765	0.549	0.265	1.563	0.031	0.371	0.484	0.201	3.97	939	2.272	33	0.090	0.095	-0.989	0.755	1.886	0.725	25.6
400T125-43	0.0451	33	0.293	0.996	0.716	0.344	1.564	0.040	0.369	0.667	0.282	5.57	1,739	2.227	33	0.198	0.122	-1.169	0.937	1.987	0.654	25.6
400T125-54	0.0566	50	0.367	1.250	0.904	0.431	1.569	0.049	0.367	0.851	0.359	10.74	3,372	2.234	50	0.392	0.154	-0.924	0.693	1.857	0.753	20.8
400T125-68	0.0713	50	0.462	1.573	1.151	0.541	1.577	0.061	0.364	1.136	0.488	14.62	5,205	2.202	50	0.783	0.194	-0.119	-0.109	1.623	0.995	20.9
400T125-97	0.1017	50	0.659	2.242	1.674	0.768	1.594	0.084	0.358	1.673	0.768	23.00	7,337	2.178	50	2.271	0.280	0.769	-0.992	1.805	0.819	21.1
400T200-33	0.0346	33	0.277	0.941	0.768	0.371	1.666	0.113	0.639	0.581	0.220	4.34	939	2.469	33	0.110	0.336	2.673	-3.164	3.214	0.308	41.1
400T200-43	0.0451	33	0.360	1.226	1.002	0.482	1.668	0.146	0.637	0.812	0.311	6.14	1,739	2.418	33	0.244	0.436	2.641	-3.130	3.188	0.314	41.2
400T200-54	0.0566	50	0.452	1.538	1.268	0.604	1.675	0.182	0.635	1.039	0.397	11.88	3,372	2.426	50	0.483	0.551	2.586	-3.073	3.146	0.324	33.5
400T200-68	0.0713	50	0.569	1.937	1.617	0.761	1.685	0.227	0.632	1.415	0.549	16.42	5,205	2.384	50	0.965	0.702	2.524	-3.008	3.100	0.337	33.6
400T200-97	0.1017	50	0.811	2.761	2.364	1.085	1.707	0.318	0.626	2.275	0.911	27.28	7,337	2.322	50	2.797	1.022	-1.192	0.715	2.174	0.699	34.2
600T125-18 ¹	0.0188	33	0.160	0.544	0.777	0.254	2.204	0.019	0.342	-	-	-	-	-	33	0.019	0.131	-0.522	0.341	2.291	0.948	24.9
600T125-27 ¹	0.0283	33	0.241	0.818	1.169	0.381	2.204	0.028	0.340	0.987	0.182	3.59	341	3.974	33	0.064	0.196	-0.519	0.339	2.290	0.949	24.8
600T125-30	0.0312	33	0.265	0.902	1.288	0.420	2.204	0.031	0.340	1.116	0.226	4.46	456	3.837	33	0.086	0.215	-0.518	0.338	2.290	0.949	24.8
600T125-33	0.0346	33	0.294	1.000	1.429	0.465	2.205	0.034	0.339	1.273	0.279	5.51	622	3.707	33	0.117	0.238	-0.837	0.658	2.382	0.876	24.8
600T125-43	0.0451	33	0.383	1.303	1.862	0.604	2.205	0.044	0.337	1.772	0.454	8.97	1,377	3.430	33	0.260	0.307	-1.064	0.887	2.471	0.815	24.8
600T125-54	0.0566	50	0.480	1.635	2.345	0.757	2.209	0.054	0.335	2.245	0.585	17.51	2,738	3.415	50	0.513	0.384	-1.169	0.993	2.522	0.785	20.1
600T125-68	0.0713	50	0.605	2.059	2.970	0.951	2.216	0.067	0.332	2.937	0.857	25.67	5,350	3.242	50	1.025	0.483	-1.047	0.873	2.473	0.821	20.1
600T125-97	0.1017	50	0.862	2.934	4.283	1.348	2.229	0.092	0.327	4.281	1.347	40.33	10,885	3.178	50	2.973	0.685	-0.628	0.458	2.338	0.928	20.1
600T200-18 ¹	0.0188	33	0.188	0.640	1.039	0.339	2.351	0.069	0.607	-	-	-	-	-	33	0.022	0.464	-0.100	-0.297	2.430	0.998	41.0
600T200-27 ¹	0.0283	33	0.283	0.963	1.565	0.510	2.351	0.104	0.605	-	-	-	-	-	33	0.076	0.695	0.968	-1.362	2.614	0.863	41.0
600T200-30	0.0312	33	0.312	1.061	1.725	0.562	2.352	0.114	0.605	-	-	-	-	-	33	0.101	0.765	1.818	-2.212	3.033	0.641	40.9
600T200-33	0.0346	33	0.346	1.177	1.913	0.623	2.352	0.126	0.604	1.565	0.294	5.82	622	3.921	33	0.138	0.847	2.3				

Track Properties

Member	Design Thickness	Fy (KSI)	Gross Properties								Effective Properties					Torsional Properties						
			Area (in ²)	Weight (lb/ft)	Ix (in ⁴)	Sx (in ³)	Rx (in)	Iy (in ⁴)	Ry (in)	Ixe (in ⁴)	Sxe (in ³)	Ma (in-k)	Vag (lb)	Ycg (in)	Fya (KSI)	Jx1000 (in ⁴)	Cw (in ⁶)	Xo (in)	m (in)	Ro (in)	β	Lu (in)
600T300-54	0.0566	50	0.679	2.309	4.213	1.359	2.492	0.622	0.957	3.118	0.711	21.30	2,728	3.846	50	0.725	4.129	-2.650	1.913	3.761	0.504	49.9
600T300-68	0.0713	50	0.854	2.908	5.352	1.713	2.503	0.779	0.954	4.170	1.053	31.53	5,350	3.683	50	1.448	5.239	-2.822	2.088	3.891	0.474	50.0
600T300-97	0.1017	50	1.218	4.145	7.763	2.443	2.524	1.096	0.949	6.697	1.724	51.62	10,885	3.590	50	4.200	7.582	-2.647	1.921	3.779	0.509	50.4
800T125-33 ¹	0.0346	33	0.363	1.236	2.897	0.711	2.824	0.036	0.313	2.530	0.345	6.81	465	5.262	33	0.145	0.456	-0.439	0.294	2.875	0.977	23.9
800T125-43	0.0451	33	0.473	1.610	3.774	0.925	2.824	0.046	0.311	3.518	0.608	12.01	1,030	4.788	33	0.321	0.589	-0.436	0.292	2.875	0.977	23.8
800T125-54	0.0566	50	0.594	2.020	4.747	1.158	2.828	0.057	0.309	4.464	0.788	23.60	2,039	4.753	50	0.634	0.735	-0.432	0.289	2.877	0.977	19.3
800T125-68	0.0713	50	0.748	2.544	6.000	1.455	2.833	0.070	0.307	5.973	1.203	36.03	4,086	4.452	50	1.267	0.920	-0.716	0.575	2.938	0.941	19.2
800T125-97	0.1017	50	1.066	3.626	8.617	2.062	2.844	0.097	0.301	8.613	2.062	61.72	10,885	4.178	50	3.674	1.296	-0.916	0.779	3.003	0.907	19.2
800T200-33 ¹	0.0346	33	0.415	1.412	3.750	0.921	3.006	0.135	0.571	3.007	0.319	6.31	465	5.730	33	0.166	1.638	-1.792	1.465	3.546	0.744	40.4
800T200-43	0.0451	33	0.541	1.840	4.888	1.198	3.006	0.175	0.569	4.131	0.611	12.08	1,030	5.167	33	0.367	2.124	-1.886	1.560	3.594	0.725	40.3
800T200-54	0.0566	50	0.679	2.309	6.154	1.501	3.012	0.218	0.567	5.245	0.799	23.91	2,039	5.125	50	0.725	2.664	-1.780	1.456	3.544	0.748	32.7
800T200-68	0.0713	50	0.854	2.908	7.789	1.888	3.019	0.272	0.564	7.105	1.274	38.15	4,086	4.761	50	1.448	3.357	-1.411	1.089	3.380	0.826	32.7
800T200-97	0.1017	50	1.218	4.145	11.215	2.684	3.034	0.379	0.558	10.846	2.347	70.26	10,885	4.374	50	4.200	4.792	-0.794	0.476	3.186	0.938	32.71
800T250-43	0.0451	33	0.586	1.994	5.631	1.380	3.100	0.326	0.746	4.671	0.642	12.68	1,030	5.226	33	0.397	3.877	-2.240	1.767	3.897	0.670	51.0
800T250-54	0.0566	50	0.735	2.501	7.092	1.730	3.106	0.407	0.744	5.895	0.856	25.64	2,039	5.158	50	0.785	4.870	-1.811	1.341	3.672	0.757	41.4
800T250-68	0.0713	50	0.926	3.150	8.981	2.177	3.115	0.509	0.741	7.596	1.560	46.72	4,086	4.600	50	1.569	6.151	-1.073	0.605	3.377	0.899	41.4
800T250-97	0.1017	50	1.320	4.491	12.947	3.099	3.132	0.714	0.735	11.889	2.487	74.47	10,885	4.500	50	4.550	8.818	-0.155	-0.307	3.221	0.998	41.5
800T300-54	0.0566	50	0.792	2.694	8.030	1.959	3.185	0.675	0.923	6.373	0.806	24.12	2,039	5.438	50	0.845	7.960	0.902	-1.534	3.436	0.931	49.9
800T300-68	0.0713	50	0.997	3.393	10.173	2.466	3.194	0.844	0.920	8.174	1.541	46.13	4,086	4.826	50	1.690	10.067	1.926	-2.555	3.842	0.749	50.0
800T300-97	0.1017	50	1.422	4.837	14.680	3.514	3.213	1.188	0.914	12.814	2.586	77.44	10,885	4.636	50	4.901	14.472	2.698	-3.321	4.294	0.605	50.1
1000T125-43 ¹	0.0451	33	0.563	1.917	6.633	1.306	3.431	0.047	0.290	6.025	0.728	14.39	822	6.305	33	0.382	0.973	-0.604	0.484	3.496	0.970	22.9
1000T125-54	0.0566	50	0.707	2.405	8.337	1.635	3.434	0.059	0.288	7.624	0.953	28.53	1,627	6.244	50	0.755	1.212	-0.156	0.036	3.450	0.998	18.5
1000T125-68	0.0713	50	0.890	3.029	10.526	2.054	3.439	0.073	0.286	10.214	1.527	45.72	3,260	5.779	50	1.508	1.515	0.330	-0.448	3.466	0.991	18.5
1000T125-97	0.1017	50	1.269	4.318	15.083	2.913	3.448	0.100	0.281	15.077	2.749	82.31	9,505	5.321	50	4.375	2.123	0.765	-0.881	3.543	0.953	18.3
1000T200-43 ¹	0.0451	33	0.631	2.147	8.364	1.646	3.641	0.183	0.539	7.049	0.707	13.98	822	6.771	33	0.428	3.540	1.661	-1.940	4.038	0.831	39.5
1000T200-54	0.0566	50	0.792	2.694	10.520	2.063	3.645	0.228	0.537	8.903	0.935	28.01	1,627	6.697	50	0.845	4.434	2.141	-2.419	4.261	0.748	32.0
1000T200-68	0.0713	50	0.997	3.393	13.296	2.595	3.652	0.284	0.534	11.964	1.585	47.45	3,260	6.144	50	1.690	5.576	2.486	-2.762	4.449	0.688	32.0
1000T200-97	0.1017	50	1.422	4.837	19.094	3.687	3.665	0.397	0.528	18.608	3.062	91.66	9,505	5.555	50	4.901	7.924	2.703	-2.975	4.585	0.652	31.9
1000T250-54	0.0566	50	0.848	2.887	11.975	2.349	3.757	0.429	0.711	9.673	0.904	27.07	1,627	6.988	50	0.906	8.125	1.821	-2.229	4.235	0.815	40.9
1000T250-68	0.0713	50	1.068	3.636	15.143	2.955	3.765	0.536	0.708	12.936	1.586	47.50	3,260	6.389	50	1.810	10.240	2.425	-2.830	4.534	0.714	40.9
1000T250-97	0.1017	50	1.523	5.183	21.767	4.204	3.780	0.751	0.702	20.298	3.164	94.73	9,505	5.743	50	5.252	14.617	2.854	-3.255	4.788	0.645	40.9
1000T300-68	0.0713	50	1.140	3.878	16.990	3.315	3.861	0.894	0.885	14.268	1.730	51.80	3,260	6.347	50	1.931	16.771	3.681	-4.231	5.407	0.537	49.6
1000T300-97	0.1017	50	1.625	5.529	24.440	4.720	3.878	1.257	0.880	21.554	3.589	107.45	9,505	5.669	50	5.602	24.009	3.939	-4.484	5.598	0.505	49.7
1200T125-54 ¹	0.0566	50	0.820	2.790	13.341	2.187	4.034	0.060	0.271	11.979	1.048	31.37	1,354	7.924	50	0.876	1.820	-0.333	0.230	4.056	0.993	17.8
1200T125-68	0.0713	50	1.033	3.514	16.834	2.749	4.037	0.074	0.268	15.805	1.808	54.12	2,712	7.226	50	1.750	2.270	-0.329	0.220	4.060	0.993	17.7
1200T125-97	0.1017	50	1.472	5.010	24.090	3.899	4.045	0.102	0.264	23.780	3.417	102.31	7,901	6.559	50	5.076	3.171	-0.322	0.222	4.066	0.994	17.6
1200T200-54 ¹	0.0566	50	0.905	3.079	16.470	2.700	4.266	0.236	0.510	14.130	0.984	29.45	1,354	8.483	50	0.966	6.714	-1.049	0.805	4.423	0.944	31.3
1200T200-68	0.0713	50	1.140	3.878	20.799	3.396	4.272	0.294	0.508	18.437	1.841	55.12	2,712	7.647	50	1.931	8.431	-1.298	1.057	4.494	0.917	31.2
1200T200-97	0.1017	50	1.625	5.529	29.817	4.826	4.284	0.410	0.502	29.078	3.756	112.44	7,901	6.817	50	5.602	11.945	-1.501	1.263	4.567	0.892	31.1
1200T250-54	0.1017	50	0.811	2.761	2.364	1.085	1.707	0.318	0.626	2.275	0.911	27.28	7,337	2.322	50	2.797	1.022	-1.192	0.715	2.174	0.699	34.2
1200T250-68	0.0566	50	0.622	2.116	3.679	1.187	2.432	0.377	0.779	2.885	0.731	21.89	2,728	3.642	50	0.664	2.523	-1.430	0.874	2.927	0.761	41.7
1200T250-97	0.0713	50	0.783	2.665	4.671	1.495	2.442	0.472	0.776	3.877	1.017	30.46	5,350	3.559	50	1.327	3.198	-1.422	0.869	2.931	0.765	41.8
1200T300-54	0.1017	50	1.116	3.799	6.769	2.130	2.462	0.662	0.770	6.171	1.656	49.59	10,885	3.470	50	3.849	4.616	-1.823	1.276	3.159	0.667	42.1
1200T300-68	0.0566	50	0.679	2.309	4.213	1.359	2.492	0.622	0.957	3.118	0.711	21.30	2,728	3.846	50	0.725	4.129	-2.650	1.913	3.761	0.504	49.9
1200T300-97	0.0713	50	0.854	2.908	5.352	1.713	2.503	0.779	0.954	4.170	1.053	31.53	5,350	3.683	50	1.448	5.239	-2.822	2.088	3.891	0.474	50.0
1400T125-54 ¹	0.0566	50	0.933	3.175	19.987	2.815	4.628	0.061	0.256	18.098	1.009	30.20	1,160	9.913	50	0.997	2.559	-0.981	0.890	4.738	0.957	17.2
1400T125-68	0.0713	50	1.175	3.999	25.208	3.538	4.631	0.076	0.254	22.871	2.017	60.40	2,322	8.810	50	1.992	3.189	-1.076	0.987	4.761	0.949	17.1
1400T125-97	0.1017	50	1.676	5.702	36.043	5.021	4.638	0.104	0.249	34.639	4.053	121.34	6,759	7.882	50	5.778	4.445	-1.134	1.046	4.781	0.944	16.9
1400T200-54 ¹	0.0566	50	1.018	3.464	24.232	3.413	4.879	0.242	0.487	22.216	0.850	25.45	1,160	10.672	50	1.087	9.520	-1.897	1.681	5.257	0.870	30.5
1400T200-68	0.0713	50	1.282	4.363	30.583	4.293	4.884	0.301	0.485	26.871	2.012	60.25	2,322	9.294	50	2.173	11.942	-1.854	1.639	5.246		

C-Stud Properties

Member	Design Thickness	Fy (KSI)	Gross Properties							Effective Properties							Torsional Properties							Lu (in)
			Area (in²)	Weight (lb/ft)	Ix (in⁴)	Sx (in³)	Rx (in)	Iy (in⁴)	Ry (in)	Ixe (in⁴)	Sxe (in³)	Mal (in-k)	Mad (in-k)	Vag (lb)	VaNet (lb)	Ycg (in)	Fya (KSI)	Jx1000 (in⁴)	Cw (in⁶)	Xo (in)	m (in)	Ro (in)	β	
250S162-33	0.0346	33	0.223	0.759	0.235	0.188	1.027	0.087	0.624	0.234	0.179	3.55	3.56	975	399	1.274	33	0.089	0.146	-1.470	0.859	1.898	0.401	44.1
250S162-43	0.0451	33	0.289	0.984	0.302	0.242	1.022	0.111	0.620	0.301	0.240	5.21 ¹	4.78 ¹	1,265	394	1.254	36.3 ²	0.196	0.184	-1.457	0.852	1.885	0.402	42.1
250S162-54	0.0566	50	0.358	1.219	0.370	0.296	1.016	0.135	0.613	0.361	0.282	9.35 ²	8.79 ²	2,353	565	1.277	55.32 ²	0.383	0.223	-1.443	0.845	1.868	0.404	33.9
250S162-68	0.0713	50	0.443	1.509	0.450	0.360	1.008	0.162	0.605	0.448	0.356	12.08 ²	10.78 ²	2,866	519	1.256	56.63 ²	0.752	0.268	-1.424	0.835	1.847	0.405	33.7
362S162-33	0.0346	33	0.262	0.892	0.551	0.304	1.450	0.099	0.616	0.549	0.264	5.22	5.43	1,024	521	1.952	33	0.105	0.297	-1.308	0.789	2.048	0.592	42.6
362S162-43	0.0451	33	0.340	1.156	0.710	0.392	1.445	0.127	0.611	0.710	0.367	7.25	7.62	1,739	676	1.888	33	0.230	0.376	-1.297	0.782	2.036	0.594	42.5
362S162-54	0.0566	50	0.422	1.436	0.873	0.482	1.438	0.154	0.605	0.856	0.437	13.10	13.60	3,372	1,016	1.911	50	0.451	0.457	-1.283	0.774	2.020	0.597	34.4
362S162-68	0.0713	50	0.524	1.782	1.069	0.590	1.429	0.186	0.596	1.069	0.577	17.27	17.66	4,370	1,004	1.837	50	0.887	0.552	-1.264	0.765	1.999	0.600	34.4
362S162-97	0.1017	50	0.724	2.464	1.436	0.792	1.408	0.241	0.577	1.435	0.792	23.71	23.71	5,943	875	1.812	50	2.496	0.723	-1.226	0.745	1.954	0.606	34.5
362S200-33	0.0346	33	0.297	1.010	0.648	0.358	1.478	0.177	0.772	0.648	0.291	5.76	6.19	1,024	521	1.999	33	0.118	0.577	-1.741	1.030	2.411	0.479	53.6
362S200-43	0.0451	33	0.385	1.310	0.836	0.461	1.474	0.227	0.767	0.835	0.422	8.34	8.71	1,739	676	1.903	33	0.261	0.734	-1.729	1.024	2.398	0.480	53.5
362S200-54	0.0566	50	0.479	1.628	1.030	0.568	1.467	0.277	0.761	1.000	0.483	14.46	15.48	3,372	1,016	1.961	50	0.511	0.896	-1.715	1.016	2.382	0.482	43.3
362S200-68	0.0713	50	0.595	2.025	1.266	0.698	1.458	0.337	0.753	1.248	0.667	19.97	20.52	4,370	1,004	1.856	50	1.008	1.089	-1.696	1.006	2.360	0.484	43.3
362S200-97	0.1017	50	0.826	2.810	1.712	0.945	1.440	0.446	0.735	1.712	0.944	32.58 ²	28.28 ²	5,943	875	1.812	57.61 ²	2.847	1.441	-1.658	0.986	2.316	0.487	40.5
400S162-33	0.0346	33	0.275	0.936	0.692	0.346	1.586	0.103	0.611	0.690	0.297	5.87	6.07	976	595	2.161	33	0.110	0.363	-1.263	0.768	2.118	0.644	42.3
400S162-43	0.0451	33	0.357	1.214	0.892	0.446	1.581	0.131	0.606	0.892	0.412	8.14	8.55	1,739	810	2.100	33	0.242	0.460	-1.252	0.761	2.106	0.647	42.2
400S162-54	0.0566	50	0.443	1.508	1.098	0.549	1.574	0.159	0.600	1.077	0.490	14.67	15.26	3,372	1,223	2.130	50	0.473	0.560	-1.238	0.754	2.090	0.649	34.1
400S162-68	0.0713	50	0.550	1.873	1.346	0.673	1.564	0.192	0.591	1.346	0.643	19.25	20.16	4,871	1,356	2.060	50	0.933	0.677	-1.220	0.745	2.069	0.653	34.0
400S162-97	0.1017	50	0.762	2.593	1.813	0.907	1.542	0.250	0.572	1.813	0.907	27.14	27.15	6,658	1,207	2.000	50	2.628	0.889	-1.182	0.725	2.026	0.660	34.0
400S200-33	0.0346	33	0.310	1.054	0.812	0.406	1.619	0.183	0.769	0.811	0.327	6.46	6.90	976	595	2.214	33	0.124	0.697	-1.688	1.007	2.462	0.530	53.1
400S200-43	0.0451	33	0.402	1.367	1.048	0.524	1.615	0.235	0.764	1.046	0.473	9.36	9.74	1,739	810	2.115	33	0.272	0.886	-1.676	1.000	2.450	0.532	53.0
400S200-54	0.0566	50	0.500	1.700	1.292	0.646	1.608	0.287	0.758	1.253	0.540	16.18	17.32	3,372	1,223	2.185	50	0.534	1.083	-1.662	0.993	2.433	0.534	42.9
400S200-68	0.0713	50	0.622	2.116	1.590	0.795	1.599	0.349	0.750	1.567	0.743	22.23	23.05	4,871	1,356	2.078	50	1.054	1.318	-1.643	0.983	2.412	0.536	42.9
400S200-97	0.1017	50	0.864	2.939	2.156	1.078	1.580	0.463	0.732	2.155	1.078	37.18 ²	32.27 ²	6,658	1,207	2.000	57.61 ²	2.978	1.749	-1.605	0.963	2.368	0.541	40.0
600S162-33	0.0346	33	0.344	1.172	1.793	0.598	2.282	0.116	0.581	1.786	0.577	11.40	9.49	638	638	3.039	33	0.137	0.861	-1.072	0.677	2.588	0.828	41.1
600S162-43	0.0451	33	0.447	1.521	2.316	0.772	2.277	0.148	0.576	2.316	0.772	15.25	13.59	1,415	1,240	3.000	33	0.303	1.095	-1.062	0.670	2.577	0.830	40.9
600S162-54	0.0566	50	0.556	1.893	2.861	0.954	2.268	0.180	0.570	2.808	0.925	27.70	24.28	2,822	1,947	3.035	50	0.594	1.337	-1.049	0.663	2.563	0.833	33.0
600S162-68	0.0713	50	0.693	2.358	3.526	1.175	2.255	0.218	0.561	3.525	1.175	35.18	32.79	5,350	2,879	3.000	50	1.174	1.626	-1.032	0.655	2.543	0.835	32.8
600S162-97	0.1017	50	0.966	3.286	4.799	1.600	2.229	0.283	0.542	4.798	1.599	47.88	47.89	10,472	3,805	3.000	50	3.329	2.153	-0.997	0.636	2.501	0.841	32.5
600S200-33	0.0346	33	0.379	1.289	2.076	0.692	2.340	0.209	0.743	2.069	0.621	12.27	10.80	638	638	3.127	33	0.151	1.593	-1.457	0.901	2.855	0.740	51.6
600S200-43	0.0451	33	0.492	1.674	2.683	0.894	2.335	0.268	0.739	2.679	0.872	17.24	15.43	1,415	1,240	3.028	33	0.334	2.033	-1.446	0.894	2.844	0.742	51.4
600S200-54	0.0566	50	0.613	2.086	3.320	1.107	2.327	0.329	0.732	3.219	1.011	30.28	27.45	2,822	1,947	3.105	50	0.655	2.493	-1.432	0.887	2.829	0.744	41.6
600S200-68	0.0713	50	0.764	2.601	4.101	1.367	2.316	0.400	0.723	4.041	1.334	39.93	37.07	5,350	2,879	3.030	50	1.295	3.047	-1.415	0.878	2.809	0.746	41.4
600S200-97	0.1017	50	1.067	3.632	5.613	1.871	2.293	0.530	0.705	5.612	1.871	64.54 ²	56.02 ²	10,472	3,805	3.000	57.61 ²	3.679	4.080	-1.378	0.859	2.767	0.752	38.3
600S250-43	0.0451	33	0.537	1.828	3.083	1.028	2.396	0.458	0.923	3.045	0.916	18.09	16.25	1,415	1,240	3.136	33	0.364	3.411	-1.874	1.136	3.179	0.652	62.4
600S250-68	0.0713	50	0.836	2.843	4.728	1.576	2.379	0.688	0.908	4.549	1.383	41.41	39.17	5,350	2,879	3.156	50	1.416	5.145	-1.842	1.119	3.142	0.657	50.0
600S250-97	0.1017	50	1.169	3.978	6.498	2.166	2.358	0.923	0.889	6.309	2.060	69.28 ²	61.68 ²	10,472	3,805	3.063	56.17 ²	4.030	6.947	-1.803	1.100	3.099	0.661	47.3
600S300-54	0.0566	50	0.726	2.471	4.320	1.440	2.439	0.875	1.098	3.660	1.103	33.03	29.71	2,822	1,947	3.316	50	0.775	6.452	-2.299	1.372	3.527	0.575	59.1
600S300-68	0.0713	50	0.907	3.086	5.355	1.785	2.430	1.075	1.089	4.665	1.444	43.24	40.64	5,350	2,879	3.254	50	1.537	7.937	-2.280	1.363	3.506	0.577	58.9
600S300-97	0.1017	50	1.271	4.324	7.383	2.461	2.410	1.454	1.070	7.154	2.246	67.24	64.81	10,472	3,805	3.113	50	4.381	10.776	-2.241	1.343	3.461	0.581	58.8
800S162-33 ¹	0.0346	33	0.413	1.407	3.583	0.896	2.944	0.125	0.550	3.376	0.709	14.02	12.71	474	474	4.464	33	0.165	1.630	-0.936	0.607	3.138	0.911	40.1
800S162-43	0.0451	33	0.537	1.828	4.635	1.159	2.938	0.160	0.546	4.494	1.019	20.14	18.46	1,051	1,051	4.270	33	0.364	2.076	-0.926	0.601	3.128	0.912	39.8
800S162-54	0.0566	50	0.670	2.278	5.737	1.434	2.927	0.194	0.539	5.473	1.227	36.73	33.02	2,091	2,091	4.310	50	0.715	2.539	-0.914	0.594	3.114	0.914	32.1
800S162-68	0.0713	50	0.836	2.843	7.092	1.773	2.913	0.235	0.530	7.017	1.663	49.80	45.31	4,220	3,367	4.134	50	1.416	3.093	-0.899	0.586	3.094	0.916	31.9
800S162-97	0.1017	50	1.169	3.978	9.717	2.429	2.883	0.305	0.511	9.714	2.428	72.71	72.03	10,885	5,938	4.000	50	4.030	4.114	-0.866	0.568	3.053	0.920	31.4
800S200-33 ¹	0.0346	33	0.448	1.525	4.097	1.024	3.024	0.227	0.712	4.083	0.815	16.11	14.66	474	474	4.403	33	0.179	2.971	-1.288	0.817	3.363	0.853	50.6
800S200-43	0.0451	33	0.582	1.981	5.303	1.326	3.018	0.292																

C-Stud Properties

Member	Design Thickness	Fy (KSI)	Gross Properties							Effective Properties						Torsional Properties										Lu (in)
			Area (in ²)	Weight (lb/ft)	Ix (in ⁴)	Sx (in ³)	Rx (in)	Iy (in ⁴)	Ry (in)	Ixe (in ⁴)	Sxe (in ³)	Mal (in-k)	Mad (in-k)	Vag (lb)	VaNet (lb)	Ycg (in)	Fya (KSI)	Jx1000 (in ⁴)	Cw (in ⁶)	Xo (in)	m (in)	Ro (in)	B			
1000S200-54	0.0566	50	0.839	2.856	11.282	2.256	3.666	0.378	0.671	10.386	1.701	50.93	47.52	1,660	1,660	5.668	50	0.896	7.665	-1.135	0.737	3.896	0.915	39.8		
1000S200-68	0.0713	50	1.050	3.571	13.999	2.800	3.652	0.460	0.662	13.417	2.417	72.36	65.57	3,345	3,345	5.368	50	1.779	9.401	-1.120	0.729	3.877	0.917	39.6		
1000S200-97	0.1017	50	1.474	5.016	19.342	3.868	3.622	0.610	0.643	19.271	3.741	112.01	105.92	9,862	7,175	5.088	50	5.082	12.679	-1.088	0.711	3.836	0.920	39.0		
1000S250-54	0.0566	50	0.896	3.049	12.681	2.536	3.762	0.653	0.854	12.287	1.875	56.15	50.20	1,660	1,660	5.638	50	0.957	12.922	-1.505	0.958	4.141	0.868	49.1		
1000S250-68	0.0713	50	1.121	3.814	15.756	3.151	3.749	0.799	0.844	15.198	2.765	82.79	69.40	3,345	3,345	5.249	50	1.899	15.909	-1.488	0.950	4.121	0.870	48.8		
1000S250-97	0.1017	50	1.576	5.362	21.833	4.367	3.722	1.073	0.825	21.324	4.206	125.93	112.82	9,862	7,175	5.070	50	5.433	21.632	-1.454	0.932	4.080	0.873	48.4		
1000S300-68	0.0713	50	1.192	4.057	17.513	3.503	3.833	1.258	1.027	15.534	2.800	83.82	71.82	3,345	3,345	5.438	50	2.020	24.551	-1.874	1.176	4.389	0.818	57.8		
1000S300-97	0.1017	50	1.677	5.708	24.324	4.865	3.808	1.703	1.007	23.601	4.497	134.65	117.49	9,862	7,175	5.148	50	5.783	33.570	-1.838	1.158	4.347	0.821	57.4		
1200S162-54 ¹	0.0566	50	0.896	3.049	15.736	2.623	4.191	0.212	0.486	14.117	1.912	57.25	48.28	1,377	1,377	6.908	50	0.957	6.340	-0.732	0.493	4.282	0.971	30.5		
1200S162-68	0.0713	50	1.121	3.814	19.525	3.254	4.174	0.255	0.477	18.433	2.645	79.20	67.84	2,770	2,770	6.618	50	1.899	7.739	-0.719	0.485	4.262	0.972	30.2		
1200S162-97	0.1017	50	1.576	5.362	26.976	4.496	4.138	0.332	0.459	26.500	4.091	122.49	112.82	8,145	7,410	6.282	50	5.433	10.331	-0.691	0.470	4.220	0.973	29.5		
1200S200-54 ¹	0.0566	50	0.953	3.241	17.668	2.945	4.307	0.394	0.643	15.802	2.069	61.95	56.92	1,377	1,377	6.993	50	1.017	11.550	-1.032	0.681	4.475	0.947	39.0		
1200S200-68	0.0713	50	1.192	4.057	21.955	3.659	4.291	0.479	0.634	20.565	2.960	88.61	79.19	2,770	2,770	6.630	50	2.020	14.176	-1.017	0.673	4.456	0.948	38.7		
1200S200-97	0.1017	50	1.677	5.708	30.428	5.071	4.259	0.635	0.615	29.952	4.660	139.52	129.99	8,145	7,410	6.260	50	5.783	19.150	-0.987	0.656	4.415	0.950	38.1		
1200S250-54 ¹	0.0566	50	1.009	3.434	19.687	3.281	4.417	0.683	0.823	17.696	2.145	64.23	60.89	1,377	1,377	7.161	50	1.078	19.505	-1.378	0.892	4.699	0.914	48.3		
1200S250-68	0.0713	50	1.263	4.299	24.491	4.082	4.403	0.836	0.813	22.506	3.005	89.96	84.70	2,770	2,770	6.847	50	2.141	24.034	-1.362	0.884	4.680	0.915	48.1		
1200S250-97	0.1017	50	1.779	6.054	34.027	5.671	4.373	1.122	0.794	32.780	5.034	150.70	139.33	8,145	7,410	6.341	50	6.134	32.734	-1.329	0.867	4.639	0.918	47.5		
1200S300-54 ¹	0.0566	50	1.066	3.626	21.705	3.618	4.513	1.074	1.004	20.293	2.269	67.94	63.39	1,377	1,377	7.197	50	1.138	30.051	-1.743	1.111	4.941	0.876	57.4		
1200S300-68	0.0713	50	1.335	4.542	27.028	4.505	4.500	1.320	0.994	24.099	3.315	99.25	88.25	2,770	2,770	6.760	50	2.262	37.126	-1.726	1.103	4.921	0.877	57.18		
1200S300-97	0.1017	50	1.881	6.400	37.626	6.271	4.473	1.787	0.975	36.552	5.829	174.53	145.68	8,145	7,410	6.159	50	6.484	50.853	-1.691	1.085	4.880	0.880	56.66		
1400S162-68	0.0713	50	1.263	4.299	28.964	4.138	4.788	0.262	0.456	26.589	3.135	93.86	78.15	2,364	2,364	7.940	50	2.141	10.966	-0.654	0.447	4.854	0.982	29.4		
1400S162-97	0.1017	50	1.779	6.054	40.133	5.733	4.749	0.341	0.438	38.704	4.915	147.15	131.70	6,938	6,938	7.526	50	6.134	14.651	-0.628	0.433	4.811	0.983	28.7		
1400S200-68	0.0713	50	1.335	4.542	32.297	4.614	4.919	0.494	0.608	29.499	3.501	104.83	92.58	2,364	2,364	7.938	50	2.262	20.083	-0.932	0.625	5.043	0.966	37.9		
1400S200-97	0.1017	50	1.881	6.400	44.870	6.410	4.884	0.655	0.590	43.446	5.580	167.07	153.79	6,938	6,938	7.488	50	6.484	27.156	-0.904	0.609	5.002	0.967	37.3		
1400S250-68	0.0713	50	1.406	4.784	35.755	5.108	5.043	0.865	0.784	32.110	3.548	106.22	100.22	2,364	2,364	8.174	50	2.383	34.118	-1.257	0.827	5.256	0.943	47.3		
1400S250-97	0.1017	50	1.983	6.746	49.781	7.112	5.011	1.161	0.765	47.256	6.007	179.84	166.37	6,938	6,938	7.569	50	6.835	46.520	-1.225	0.811	5.215	0.945	46.7		
1400S300-68	0.0713	50	1.477	5.027	39.213	5.602	5.152	1.370	0.963	32.361	3.653	109.37	105.42	2,364	2,364	8.344	50	2.503	52.772	-1.601	1.038	5.480	0.915	56.5		
1400S300-97	0.1017	50	2.084	7.092	54.692	7.813	5.123	1.854	0.943	51.708	6.371	190.75	175.21	6,938	6,938	7.664	50	7.186	72.365	-1.568	1.020	5.440	0.917	55.9		

¹ If web height (w) to thickness (t) ratio exceeds 200, web stiffeners are required at all support locations and concentrated loads.

² If web height (w) to thickness (t) ratio exceeds 260, or flange width-to-thickness ratio exceeds 60, no effective properties are calculated.

Allowable moment includes cold work forming.

All members based on punchouts of 4" long at 24" on center.

Punchout width = 3/4" for members < 3.5". Punchouts 1 1/2" wide for members of 3.5" and greater.

Ixe based on serviceability equations.

Non-Structural C-Stud Properties

			Gross Properties							Effective Properties						Torsional Properties										
Member	Design Thickness	Fy (KSI)	Area (in ²)	Weight (lb/ft)	Ix (in ⁴)	Sx (in ³)	Rx (in)	Iy (in ⁴)	Ry (in)	Ixe (in ⁴)	Sxe (in ³)	Mal (in-k)	Mad (in-k)	Vag (lb)	VaNet (lb)	Ycg (in)	Fya (KSI)	Jx1000 (in ⁴)	Cw (in ⁶)	Xo (in)	m (in)	Ro (in)	β	Lu (in)		
162S125-18	0.0188	33	0.080	0.273	0.038	0.046	0.686	0.016	0.447	0.031	0.031	0.62	0.65	302	100	0.952	33	0.009	0.009	-1.029	0.594	1.315	0.388	29.0		
162S125-27	0.0283	33	0.120	0.407	0.056	0.069	0.682	0.023	0.443	0.049	0.054	1.06	1.14	494	106	0.898	33	0.032	0.013	-1.018	0.587	1.303	0.390	29.1		
162S125-30	0.0312	33	0.132	0.448	0.061	0.075	0.681	0.026	0.441	0.054	0.063	1.24	1.29	543	106	0.874	33	0.043	0.014	-1.014	0.585	1.299	0.390	29.2		
250S125-18	0.0188	33	0.097	0.329	0.099	0.079	1.014	0.019	0.439	0.083	0.060	1.18	1.03	258	196	1.391	33	0.011	0.023	-0.904	0.543	1.428	0.599	29.0		
250S125-27	0.0283	33	0.144	0.491	0.147	0.118	1.009	0.027	0.434	0.130	0.098	1.93	1.83	685	344	1.343	33	0.039	0.034	-0.893	0.537	1.416	0.602	28.9		
250S125-30	0.0312	33	0.159	0.540	0.161	0.129	1.008	0.030	0.433	0.145	0.110	2.18	2.09	832	378	1.329	33	0.052	0.037	-0.890	0.535	1.413	0.603	28.9		
362S125-18	0.0188	33	0.118	0.401	0.234	0.129	1.409	0.021	0.421	0.200	0.075	1.48	1.52	173	163	2.249	33	0.014	0.054	-0.786	0.490	1.667	0.778	28.8		
362S125-27	0.0283	33	0.176	0.600	0.347	0.192	1.404	0.031	0.416	0.310	0.134	2.65	2.75	592	370	2.122	33	0.047	0.079	-0.776	0.484	1.657	0.781	28.6		
362S125-30	0.0312	33	0.194	0.660	0.381	0.210	1.402	0.033	0.415	0.344	0.155	3.06	3.17	793	449	2.086	33	0.063	0.086	-0.773	0.482	1.654	0.782	28.6		
400S125-18 ¹	0.0188	33	0.125	0.425	0.294	0.147	1.536	0.021	0.415	0.254	0.084	1.66	1.69	156	156	2.478	33	0.015	0.068	-0.755	0.475	1.761	0.816	28.7		
400S125-27	0.0283	33	0.187	0.636	0.438	0.219	1.531	0.031	0.410	0.392	0.151	2.98	3.06	533	398	2.346	33	0.050	0.098	-0.745	0.469	1.751	0.819	28.5		
400S125-30	0.0312	33	0.206	0.700	0.481	0.240	1.529	0.034	0.409	0.435	0.174	3.43	3.53	715	484	2.310	33	0.067	0.108	-0.742	0.467	1.748	0.820	28.5		
600S125-18 ^{1,2}	0.0188	33	0.162	0.553	0.779	0.260	2.190	0.024	0.382	-	-	-	-	-	-	-	33	0.019	0.172	-0.623	0.408	2.308	0.927	28.0		
600S125-27 ¹	0.0283	33	0.243	0.828	1.161	0.387	2.184	0.035	0.378	0.996	0.271	5.35	4.63	349	349	3.479	33	0.065	0.251	-0.614	0.403	2.300	0.929	27.7		
600S125-30	0.0312	33	0.268	0.912	1.276	0.425	2.182	0.038	0.376	1.120	0.315	6.22	5.38	467	467	3.405	33	0.087	0.274	-0.611	0.401	2.297	0.929	27.7		

Web Depth-to-Thickness Ratios: Studs & Joists

Mil Thickness Design Thickness	18 mil 0.0188"		27 mil 0.0283"		30 mil 0.0312"		33 mil 0.0346"		43 mil 0.0451"		54 mil 0.0566"		68 mil 0.0713"		97 mil 0.1017"	
Inside Bend Radius	0.0844		0.0796		0.0782		0.0764		0.0712		0.0849		0.1070		0.1526	
Web Depth	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t
1.625	1.419	75	1.409	50	1.406	45	-	-	-	-	-	-	-	-	-	-
2.5	2.294	122	2.284	81	2.281	73	2.278	66	2.267	50	2.217	39	2.144	30	-	-
3.625	3.419	182	3.409	120	3.406	109	3.403	98	3.392	75	3.342	59	3.268	46	3.116	31
4	3.794	202 ¹	3.784	134	3.781	121	3.778	109	3.767	84	3.717	66	3.644	51	3.492	34
6	5.794	308 ¹	5.784	204 ¹	5.781	185	5.778	167	5.767	128	5.717	101	5.644	79	5.492	54
8	-	-	-	-	-	-	7.778	225 ¹	7.767	172	7.717	136	7.644	107	7.492	74
10	-	-	-	-	-	-	-	-	9.767	217 ¹	9.717	172	9.644	135	9.492	93
12	-	-	-	-	-	-	-	-	-	-	11.717	207 ¹	11.644	163	11.492	113
14	-	-	-	-	-	-	-	-	-	-	-	-	13.644	191	13.492	133

¹ Indicates h/t > 200 (see AISI B1.2)

Indicates h/t > 260 (see AISI B1.2)

h/t values shown in this table are for studs and joist only (not tracks or channels).

h = the flat portion of the member web (total depth - 2(t + Rad)).

Web Depth-to-Thickness Ratios: Tracks

Mil Thickness Design Thickness	18 mil 0.0188"		27 mil 0.0283"		30 mil 0.0312"		33 mil 0.0346"		43 mil 0.0451"		54 mil 0.0566"		68 mil 0.0713"		97 mil 0.1017"	
Inside Bend Radius	0.0844		0.0796		0.0782		0.0764		0.0712		0.0849		0.1070		0.1526	
Web Depth	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t
1.625	1.625	86	1.625	57	1.625	52	1.625	-	1.625	-	1.625	-	1.625	-	1.625	-
2.5	2.500	133	2.500	88	2.500	80	2.500	72	2.500	55	2.500	44	2.500	35	2.500	-
3.625	3.625	193	3.625	128	3.625	116	3.625	105	3.625	80	3.625	64	3.625	51	3.625	36
4	4.000	213 ¹	4.000	141	4.000	128	4.000	116	4.000	89	4.000	71	4.000	56	4.000	39
6	6.000	319 ¹	6.000	212 ¹	6.000	192	6.000	173	6.000	133	6.000	106	6.000	84	6.000	59
8	-	-	8.000	283 ¹	8.000	-	8.000	231 ¹	8.000	177	8.000	141	8.000	112	8.000	79
10	-	-	-	-	-	-	-	-	10.000	222 ¹	10.000	177	10.000	140	10.000	98
12	-	-	-	-	-	-	-	-	-	-	12.000	212 ¹	12.000	168	12.000	118
14	-	-	-	-	-	-	-	-	-	-	-	-	14.000	196	14.000	138

¹ Indicates h/t > 200 (see AISI B1.2)

Indicates h/t > 260 (see AISI B1.2)

h/t values shown in this table are for track only (not studs or joist).

h = the flat portion of the member web.

Flange Width-to-Thickness Ratios: Studs & Joists

Mil Thickness Design Thickness	18 mil 0.0188"		27 mil 0.0283"		30 mil 0.0312"		33 mil 0.0346"		43 mil 0.0451"		54 mil 0.0566"		68 mil 0.0713"		97 mil 0.1017"	
Inside Bend Radius	0.0844		0.0796		0.0782		0.0764		0.0712		0.0849		0.1070		0.1526	
Flange Width	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t
1.25	1.044	56	1.034	37	1.031	33	1.028	30	1.017	23	0.967	17	0.894	13	-	-
1.375	1.169	62 ¹	1.159	41	1.156	37	1.153	33	1.142	25	1.092	19	1.019	14	-	-
1.5	-	-	-	-	-	-	1.278	37	1.267	28	1.217	22	1.144	16	0.992	10
1.625	-	-	-	-	-	-	1.403	41	1.392	31	1.342	24	1.269	18	1.117	11
2	-	-	-	-	-	-	1.778	51	1.767	39	1.717	30	1.644	23	1.492	15
2.5	-	-	-	-	-	-	-	-	2.267	50	2.217	39	2.144	30	1.992	20
3	-	-	-	-	-	-	-	-	-	-	2.717	48	2.644	37	2.492	24

¹ Indicates b/t > 60 (see AISI B1.1)

b/t values shown in this table are for track only (not studs or joist).

b = the flat portion of the member flange (total width - (t + Rad)). (total width - 2(t + Rad)).

Flange Width-to-Thickness Ratios: Tracks

Mil Thickness Design Thickness	18 mil 0.0188"		27 mil 0.0283"		30 mil 0.0312"		33 mil 0.0346"		43 mil 0.0451"		54 mil 0.0566"		68 mil 0.0713"		97 mil 0.1017"	
Inside Bend Radius	0.0844		0.0796		0.0782		0.0764		0.0712		0.0849		0.1070		0.1526	
Flange Width	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t	h(in)	h/t
1.25	1.147	61 ¹	1.142	40	1.141	37	1.139	33	1.134	25	1.109	20	1.072	15	0.996	10
1.5	1.397	74 ¹	1.392	49	1.391	45	1.389	40	1.384	31	1.359	24	1.322	19	1.246	12
2	1.897	101 ¹	1.892	67 ¹	1.891	61 ¹	1.889	55	1.884	42	1.859	33	1.822	26	1.746	17
2.5	-	-	-	-	2.391	77 ¹	2.389	69 ¹	2.384	53	2.359	42	2.322	33	2.246	22
3	-	-	-	-	2.891	93 ¹	2.889	83 ¹	2.884	64 ¹	2.859	51	2.822	40	2.746	27

¹ Indicates b/t > 60 (see AISI B1.1)

b/t values shown in this table are for track only (not studs or joist).

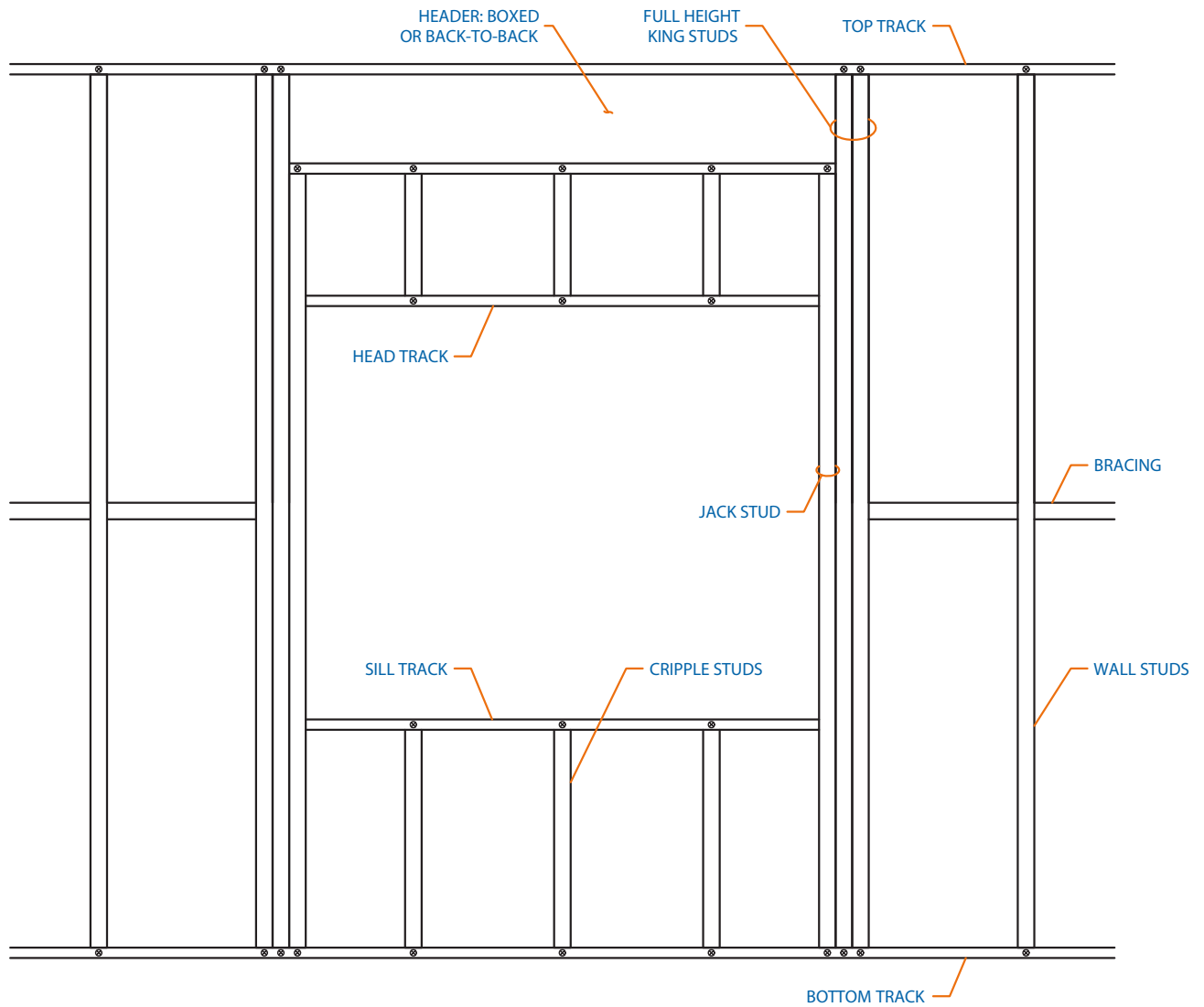
b = the flat portion of the member flange (total width - (t + Rad)). (total width - 2(t + Rad)).

Curtain Wall Limiting Heights · Single Span

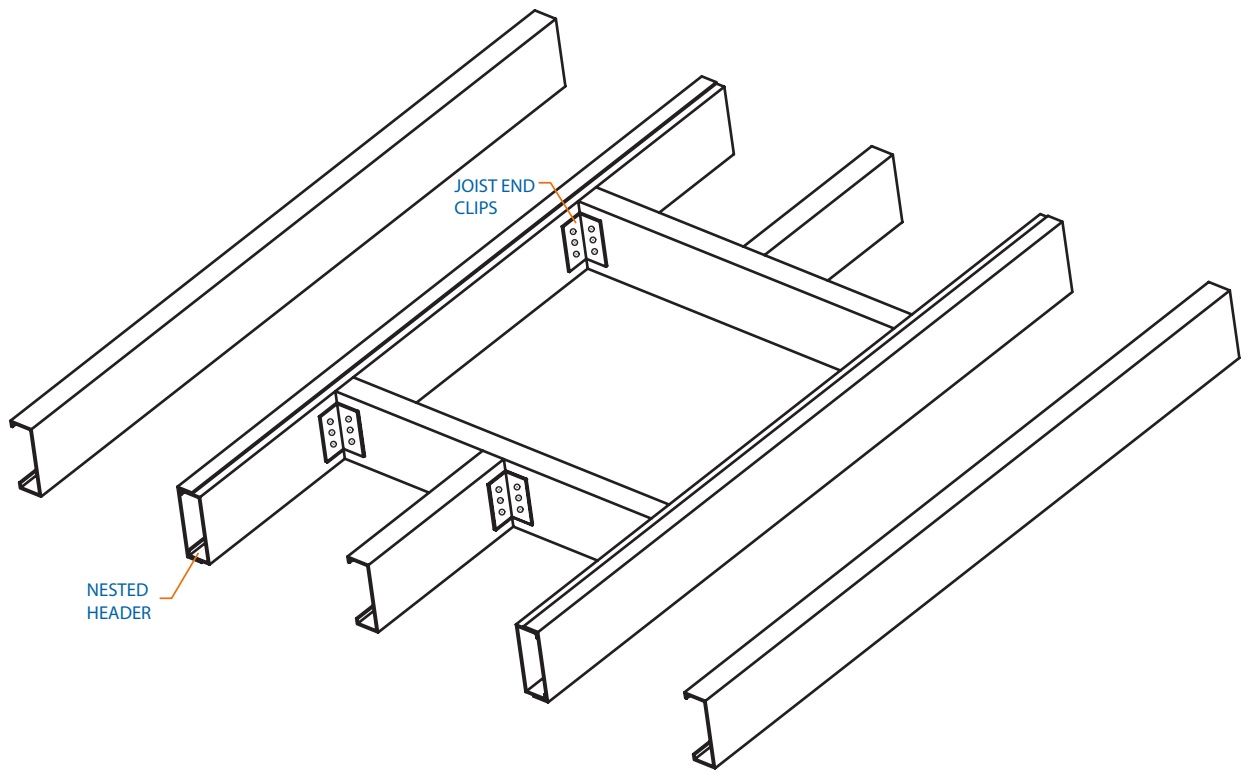
Member	Spacing	5 PSF			15 PSF			20 PSF			25 PSF			30 PSF			35PSF			40 PSF			50 PSF		
		L/120	L/240	L/360	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600
362S162-33	12"	24'3"	19'3"	16'10"	15'0"	13'2"	11'1"	13'5"	11'11"	10'1"	12'0"	11'1"	9'4"	10'11"	10'5"	8'9"	10'2"	9'11"	8'4"	9'6"	9'5"	8'0"	8'6"	8'6"	7'5"
	16"	22'1"	17'6"	15'3"	13'5"	11'11"	10'1"	11'7"	10'10"	9'2"	10'5"	10'1"	8'6"	9'6"	9'5"	8'0"	8'9"	8'9"	7'7"	8'2"	8'2"	7'3"	7'4"	7'4"	6'9"
	24"	19'0"	15'3"	13'4"	10'11"	10'5"	8'9"	9'6"	9'5"	8'0"	8'6"	8'6"	7'5"	7'9"	7'9"	6'11"	7'2"	7'2"	6'7"	6'8"	6'8"	6'4"	6'0"	6'0"	5'10"
362S162-43	12"	26'6"	21'0"	18'4"	16'5"	14'4"	12'1"	14'11"	13'0"	10'11"	13'10"	12'1"	10'2"	13'0"	11'4"	9'7"	12'0"	10'9"	9'1"	11'3"	10'4"	8'8"	10'0"	9'7"	8'1"
	16"	24'0"	19'1"	16'8"	14'11"	13'0"	10'11"	13'6"	11'10"	9'11"	12'4"	10'11"	9'3"	11'3"	10'4"	8'8"	10'5"	9'9"	8'3"	9'9"	9'4"	7'11"	8'8"	8'8"	7'4"
	24"	21'0"	16'8"	14'7"	13'0"	11'4"	9'7"	11'3"	10'4"	8'8"	10'0"	9'7"	8'1"	9'2"	9'0"	7'7"	8'6"	8'6"	7'2"	7'11"	7'11"	6'11"	7'1"	7'1"	6'5"
362S162-54	12"	28'2"	22'4"	19'6"	17'5"	15'3"	12'10"	15'10"	13'10"	11'8"	14'8"	12'10"	10'10"	13'10"	12'1"	10'2"	13'2"	11'6"	9'8"	12'7"	11'0"	9'3"	11'8"	10'2"	8'7"
	16"	25'7"	20'4"	17'9"	15'10"	13'10"	11'8"	14'5"	12'7"	10'7"	13'4"	11'8"	9'10"	12'7"	11'0"	9'3"	11'11"	10'5"	8'9"	11'5"	10'0"	8'5"	10'7"	9'3"	7'10"
	24"	22'4"	17'9"	15'6"	13'10"	12'1"	10'2"	12'7"	11'0"	9'3"	11'8"	10'2"	8'7"	11'0"	9'7"	8'1"	10'5"	9'1"	7'8"	10'0"	8'8"	7'4"	9'3"	8'1"	6'10"
362S162-68	12"	30'4"	24'1"	21'0"	18'9"	16'5"	13'10"	17'1"	14'11"	12'7"	15'10"	13'10"	11'8"	14'11"	13'0"	11'0"	14'2"	12'4"	10'5"	13'6"	11'10"	10'0"	12'7"	11'0"	9'3"
	16"	27'7"	21'10"	19'1"	17'1"	14'11"	12'7"	15'6"	13'6"	11'5"	14'5"	12'7"	10'7"	13'6"	11'10"	10'0"	12'10"	11'3"	9'6"	12'4"	10'9"	9'1"	11'5"	10'0"	8'5"
	24"	24'1"	19'1"	16'8"	14'11"	13'0"	11'0"	13'6"	11'10"	10'0"	12'7"	11'0"	9'3"	11'10"	10'4"	8'8"	11'3"	9'10"	8'3"	10'9"	9'4"	7'11"	10'0"	8'8"	7'4"
362S162-97	12"	33'6"	26'7"	23'2"	20'9"	18'1"	15'3"	18'10"	16'5"	13'10"	17'6"	15'3"	12'10"	16'5"	14'4"	12'1"	15'7"	13'8"	11'6"	14'11"	13'1"	11'0"	13'10"	12'1"	10'2"
	16"	30'5"	24'2"	21'1"	18'10"	16'5"	13'10"	17'1"	14'11"	12'7"	15'11"	13'10"	11'8"	14'11"	13'1"	11'0"	14'2"	12'5"	10'5"	13'7"	11'10"	10'0"	12'7"	11'0"	9'3"
	24"	26'7"	21'1"	18'5"	16'5"	14'4"	12'1"	14'11"	13'1"	11'0"	13'10"	12'1"	10'2"	13'1"	11'5"	9'7"	12'5"	10'10"	9'1"	11'10"	10'4"	8'9"	11'0"	9'7"	8'1"
362S200-33	12"	25'8"	20'4"	17'9"	15'11"	13'11"	11'8"	14'4"	12'7"	10'8"	12'10"	11'8"	9'10"	11'8"	11'0"	9'3"	10'10"	10'5"	8'10"	10'1"	10'0"	8'5"	9'0"	9'0"	7'10"
	16"	23'4"	18'6"	16'2"	14'4"	12'7"	10'8"	12'5"	11'5"	9'8"	11'1"	10'8"	8'11"	10'1"	10'0"	8'5"	9'4"	9'4"	8'0"	8'9"	8'9"	7'8"	7'10"	7'10"	7'1"
	24"	20'3"	16'2"	14'1"	11'8"	11'0"	9'3"	10'1"	10'0"	8'5"	9'0"	9'0"	7'10"	8'3"	8'3"	7'4"	7'8"	7'8"	7'0"	7'2"	7'2"	6'8"	6'5"	6'5"	6'2"
362S200-43	12"	27'11"	22'2"	19'4"	17'4"	15'1"	12'9"	15'9"	13'9"	11'7"	14'7"	12'9"	10'9"	13'9"	12'0"	10'1"	12'10"	11'5"	9'7"	12'0"	10'11"	9'2"	10'9"	10'1"	8'6"
	16"	25'4"	20'2"	17'7"	15'9"	13'9"	11'7"	14'3"	12'6"	10'6"	13'7"	11'7"	9'9"	12'0"	10'11"	9'2"	11'1"	10'4"	8'8"	10'5"	9'11"	8'4"	9'3"	9'2"	7'9"
	24"	22'2"	17'7"	15'4"	13'9"	12'0"	10'1"	12'0"	10'11"	9'2"	10'9"	10'1"	8'6"	9'10"	9'6"	8'0"	9'1"	9'0"	7'7"	8'6"	8'6"	7'3"	7'7"	7'7"	6'9"
362S200-54	12"	29'8"	23'6"	20'7"	18'4"	16'1"	13'6"	16'8"	14'7"	12'3"	15'6"	13'6"	11'5"	14'7"	12'9"	10'9"	13'10"	12'1"	10'2"	13'3"	11'7"	9'9"	12'3"	10'9"	9'0"
	16"	26'11"	21'5"	18'8"	16'8"	14'7"	12'3"	15'2"	13'3"	11'2"	14'1"	12'3"	10'4"	13'3"	11'7"	9'9"	12'7"	11'0"	9'3"	12'0"	10'6"	8'10"	11'2"	9'9"	8'3"
	24"	23'6"	18'8"	16'4"	14'7"	12'9"	10'9"	13'3"	11'7"	9'9"	12'3"	10'9"	9'0"	11'7"	10'1"	8'6"	11'0"	9'7"	8'1"	10'6"	9'2"	7'9"	9'9"	8'6"	7'2"
362S200-68	12"	31'11"	25'4"	22'2"	19'9"	17'3"	14'7"	18'0"	15'8"	13'3"	16'8"	14'7"	12'3"	15'8"	13'8"	11'7"	14'11"	13'0"	11'0"	14'3"	12'5"	10'6"	13'3"	11'7"	9'9"
	16"	29'0"	23'0"	20'1"	18'0"	15'8"	13'3"	16'4"	14'3"	12'0"	15'2"	13'7"	11'2"	14'3"	12'5"	10'6"	13'6"	11'10"	10'0"	12'11"	11'4"	9'6"	12'0"	10'6"	8'10"
	24"	25'4"	20'1"	17'7"	15'8"	13'8"	11'7"	14'3"	12'5"	10'6"	13'3"	11'7"	9'9"	12'5"	10'10"	9'2"	11'10"	10'4"	8'8"	11'4"	9'10"	8'4"	10'6"	9'2"	7'9"
362S200-97	12"	35'6"	28'2"	24'7"	22'0"	19'2"	16'2"	20'0"	17'5"	14'8"	18'6"	16'2"	13'8"	17'5"	15'3"	12'10"	16'7"	14'6"	12'2"	15'10"	13'10"	11'8"	14'8"	12'10"	10'10"
	16"	32'3"	25'7"	22'4"	20'0"	17'5"	14'8"	18'2"	15'10"	13'4"	16'10"	14'8"	12'5"	15'10"	13'10"	11'8"	15'1"	13'2"	11'1"	14'5"	12'7"	10'7"	13'4"	11'8"	9'10"
	24"	28'2"	22'4"	19'6"	17'5"	15'3"	12'10"	15'10"	13'10"	11'8"	14'8"	12'10"	10'10"	13'10"	12'1"	10'2"	13'2"	11'6"	9'8"	12'7"	11'0"	9'3"	11'8"	10'2"	8'7"
400S162-33	12"	26'2"	20'9"	18'2"	16'3"	14'2"	11'11"	14'2"	12'10"	10'10"	12'8"	11'11"	10'1"	11'7"	11'3"	9'6"	10'9"	10'8"	9'0"	10'0"	10'0"	8'7"	8'11"	8'11"	8'0"
	16"	23'10"	18'11"	16'6"	14'2"	12'10"	10'10"	12'3"	11'8"	9'10"	10'10"	10'10"	9'2"	10'0"	10'0"	8'7"	9'3"	9'3"	8'2"	8'8"	8'8"	7'10"	7'9"	7'9"	7'3"
	24"	20'1"	16'6"	14'5"	11'7"	11'3"	9'6"	10'0"	10'0"	8'7"	8'11"	8'11"	8'0"	8'2"	8'2"	7'6"	7'7"	7'7"	7'2"	7'1"	7'1"	6'10"	6'4"	6'4"	6'4"
400S162-43	12"	28'7"	22'8"	19'9"	17'8"	15'5"	13'0"	16'1"	14'0"	11'10"	14'11"	13'0"	11'0"	13'9"	12'3"	10'4"	12'9"	11'8"	9'10"	11'11"	11'1"	9'5"	10'8"	10'4"	8'8"
	16"	25'11"	20'7"	18'0"	16'1"	14'0"	11'10"	14'7"	12'9"	10'9"	13'0"	11'10"	10'0"	11'11"	11'1"	9'5"	11'0"	10'7"	8'11"	10'4"	10'1"	8'6"	9'2"	9'2"	7'11"
	24"	22'8"	18'0"	15'8"	13'9"	12'3"	10'4"	11'11"	11'1"	9'5"	10'8"	10'4"	8'8"	9'8"	9'8"	8'2"	9'0"	9'0"	7'9"	8'5"	8'5"	7'5"	7'6"	7'6"	6'11"
400S162-54	12"	30'5"	24'2"	21'1"	18'10"	16'5"	13'10"	17'1"	14'11"	12'7"	15'11"	13'10"	11'8"	14'11"	13'1"	11'0"	14'2"	12'5"	10'5"	13'7"	11'10"	10'0"	12'7"	11'0"	9'3"
	16"	27'8"	21'11"	19'2"	17'1"	14'11"	12'7"	15'6"	13'7"	11'5"	14'5"	12'7"	10'7"	13'7"	11'10"	10'0"	12'11"	11'3"	9'6"	12'4"	10'9"	9'1"	11'5"	10'0"	8'5"
	24"	24'2"	19'2"	16'9"	14'11"	13'1"	11'0"	13'7"	11'10"	10'0"	12'7"	11'0"	9'3"	11'10"	10'4"	8'9"	11'3"	9'10"	8'3"	10'9"	9'5"	7'11"	10'0"	8'9"	7'4"
400S162-68	12"	32'9"	26'0"	22'8"	20'3"	17'9"	14'11"	18'5"	16'1"	13'7"	17'1"	14'11"	12'7"	16'1"	14'1"	11'10"	15'3"	13'4"	11'3"	14'7"	12'9"	10'9"	13'7"	11'10"	10'0"
	16"	29'9"	23'7"	20'7"	18'5"	16'1"	13'7"	16'9"	14'7"	12'4"	15'6"	13'7"	11'5"	14'7"	12'9"	10'9"	13'11"	12'1"	10'3"	13'3"	11'7"	9'9"	12'4"	10'9"	9'1"
	24"	26'0"	20'7"	18'0"	16'1"	14'1"	11'10"	14'7"	12'9"	10'9"	13'7"	11'10"	10'0"	12'9"	11'2"	9'5"	12'1"	10'7"	8'11"	11'7"	10'1"	8'6"	10'9"	9'5"	7'11"
400S162-97	12"	36'2"	28'9"	25'1"	22'5"	19'7"	16'6"	20'4"	17'9"	15'0"	18'11"	16'6"	13'11"	17'9"	15'6"	13'1"	16'11"	14'9"	12'5"	16'2"	14'1"	11'11"	15'0"	13'1"	11'0"
	16"	32'10"	26'1"	22'9"	20'4"	17'9"	15'0"	18'6"	16'2"	13'7"	17'2"	15'0"	12'8"	16'2"	14'1"	11'11"	15'4"	13'5"	14'8"	12'10"	10'10"	13'7"	11'11"	11'11"	10'0"
	24"	28'9"	22'9"	19'11"	17'9"	15'6"	13'1"	16'2"	14'1"	11'11"	15'0"	13'1"	11'0"	14'1"	12'4"	10'5"	13'5"	11'8"	9'10"	12'10"	11'2"	9'5"	11'11"	10'5"	8'9"
400S200-33	12"	27'8"	21'11"	19'2"	17'2"	15'0"	12'7"	15'2"	13'7"	11'5"	13'6"	12'7"	10'8"	12'4"	11'10"	10'0"	11'5"	11'3"	9'6"	10'8"	10'8"	9'1"	9'7"	9'7"	8'5"
	16"	25'2"	19'11"	17'5"	15'2"	13'7"	11'5"	13'1"	12'4"	10'5"	11'9"	11'5"	9'8"	10'8"	10'8"	9'1"	9'11"	9'11"	8'8"	9'3"	9'3"	8'3"	8'3"	8'3"	7'8"
	24"	21'5"	17'5"	15'2"	12'4"	11'10"	10'0"	10'8"	10'8"	9'1"	9'7"	9'7"	8'5"	8'9"	8'9"	7'11"	8'1"	8'1"	7'6"	7'7"	7'7"	7'2"	6'9"	6'9"	6'8"
400S200-43	12"	30'1"	23'11"	20'10"	18'8"	16'3"	13'9"	16'11"	14'10"	12'6"	15'9"	13'9"	11'7"	14'8"	12'11"	10'11"	13'7"	12'3"	10'4"	12'8"	11'9"	9'11"	11'4"</		

Curtain Wall Limiting Heights · Single Span

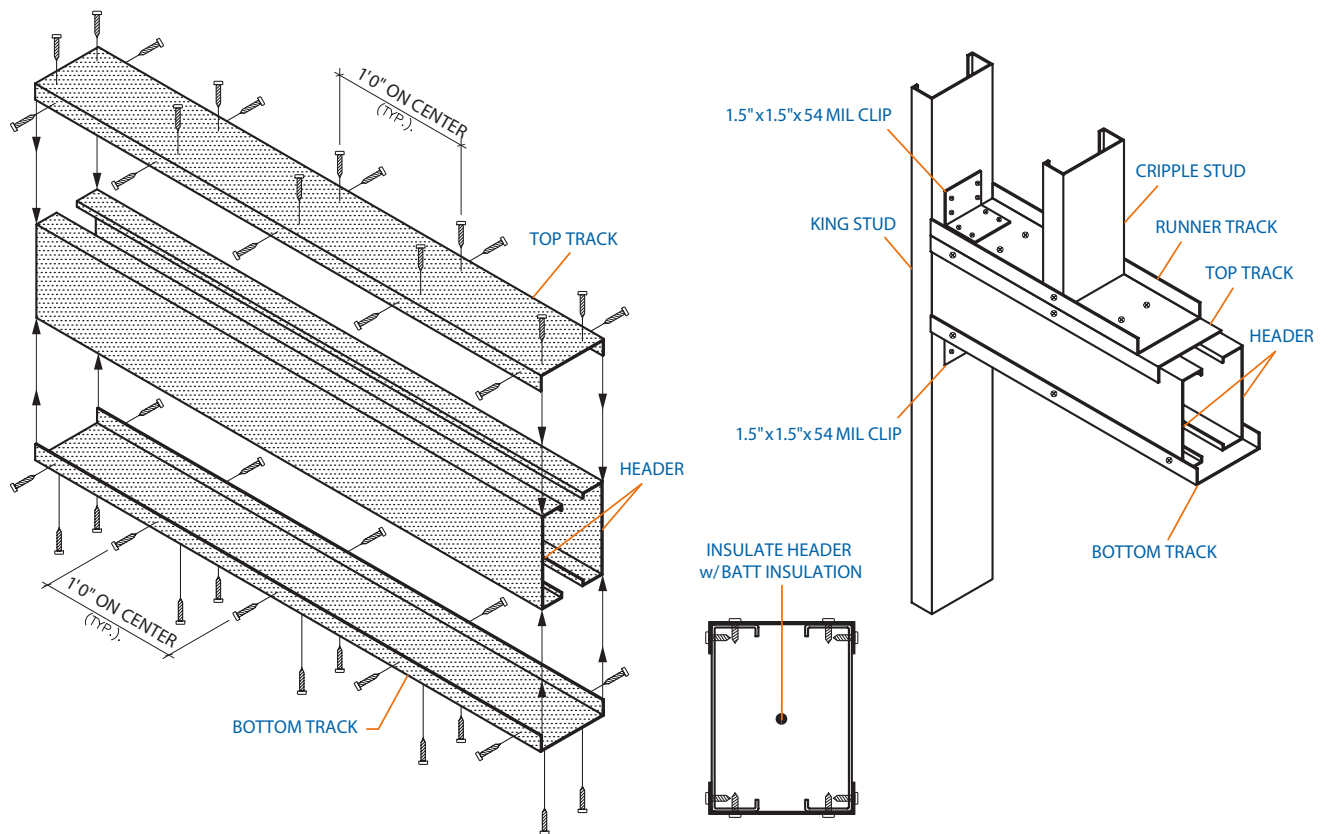
Member	Spacing	5 PSF			15 PSF			20 PSF			25 PSF			30 PSF			35PSF			40 PSF			50 PSF		
		L/120	L/240	L/360	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600
600S162-54	12"	41'10"	33'3"	29'0"	25'11"	22'8"	19'1"	23'7"	20'7"	17'4"	21'10"	19'1"	16'1"	20'7"	18'0"	15'2"	19'7"	17'1"	14'5"	18'8"	16'4"	13'9"	17'4"	15'2"	12'9"
	16"	38'0"	30'2"	26'4"	23'7"	20'7"	17'4"	21'5"	18'8"	15'9"	19'10"	17'4"	14'8"	18'8"	16'4"	13'9"	17'9"	15'6"	13'1"	17'0"	14'10"	12'6"	15'6"	13'9"	11'7"
	24"	33'3"	26'4"	23'0"	20'7"	18'0"	15'2"	18'8"	16'4"	13'9"	17'4"	15'2"	12'9"	16'4"	14'3"	12'0"	15'2"	13'6"	11'5"	14'2"	12'11"	10'11"	12'8"	12'0"	10'2"
600S162-68	12"	45'2"	35'10"	31'4"	28'0"	24'5"	20'7"	25'5"	22'2"	18'9"	23'7"	20'7"	17'4"	22'2"	19'5"	16'4"	21'1"	18'5"	15'6"	20'2"	17'7"	14'10"	18'9"	16'4"	13'9"
	16"	41'0"	32'7"	28'5"	25'5"	22'2"	18'9"	23'1"	20'2"	17'0"	21'5"	18'9"	15'9"	20'2"	17'7"	14'10"	19'2"	16'9"	14'1"	18'4"	16'0"	13'6"	17'0"	14'10"	12'6"
	24"	35'10"	28'5"	24'10"	22'2"	19'5"	16'4"	20'2"	17'7"	14'10"	18'9"	16'4"	13'9"	17'7"	15'5"	13'0"	16'9"	14'7"	12'4"	16'0"	14'0"	11'9"	14'9"	13'0"	10'11"
600S162-97	12"	50'1"	39'9"	34'8"	31'0"	27'1"	22'10"	28'2"	24'7"	20'9"	26'2"	22'10"	19'3"	24'7"	21'6"	18'1"	23'4"	20'5"	17'3"	22'4"	19'6"	16'6"	20'9"	18'1"	15'3"
	16"	45'6"	36'1"	31'6"	28'2"	24'7"	20'9"	25'7"	22'4"	18'10"	23'9"	20'9"	17'6"	22'4"	19'6"	16'6"	21'3"	18'7"	15'8"	20'4"	17'9"	14'11"	18'10"	16'6"	13'11"
	24"	39'9"	31'6"	27'6"	24'7"	21'6"	18'1"	22'4"	19'6"	16'6"	20'9"	18'1"	15'3"	19'6"	17'1"	14'4"	18'7"	16'2"	13'8"	17'9"	15'6"	13'1"	16'6"	14'4"	12'1"
600S200-33	12"	37'10"	30'0"	26'2"	21'10"	20'5"	17'3"	18'11"	18'7"	15'8"	16'11"	16'11"	14'6"	15'5"	15'5"	13'8"	14'4"	14'4"	13'0"	13'4"	13'4"	12'5"	11'11"	11'11"	11'6"
	16"	32'10"	27'3"	23'10"	18'11"	18'7"	15'8"	16'5"	16'5"	14'3"	14'8"	14'8"	13'2"	13'4"	13'4"	12'5"	12'5"	12'5"	11'10"	11'7"	11'7"	11'3"	10'4"	10'4"	10'4"
	24"	26'9"	23'10"	20'9"	15'5"	15'5"	13'8"	13'4"	13'4"	12'5"	11'11"	11'11"	11'6"	10'11"	10'11"	10'10"	10'1"	10'1"	10'1"	9'5"	9'5"	9'5"	8'5"	8'5"	8'5"
600S200-43	12"	41'3"	32'8"	28'7"	25'6"	22'4"	18'10"	22'8"	20'3"	17'1"	20'3"	18'10"	15'10"	18'6"	17'8"	14'11"	17'1"	16'10"	14'2"	16'0"	16'0"	13'7"	14'4"	14'4"	12'7"
	16"	37'5"	29'9"	25'11"	22'8"	20'3"	17'1"	19'7"	18'5"	15'6"	17'6"	17'1"	14'5"	16'0"	16'0"	13'7"	14'10"	14'10"	12'10"	13'10"	13'10"	12'4"	12'5"	12'5"	11'5"
	24"	32'0"	25'11"	22'8"	18'6"	17'8"	14'11"	16'0"	16'0"	13'7"	14'4"	14'4"	12'7"	13'1"	13'1"	11'10"	12'1"	12'1"	11'3"	11'4"	11'4"	10'9"	10'1"	10'1"	10'0"
600S200-54	12"	43'10"	34'9"	30'4"	27'2"	23'9"	20'0"	24'8"	21'6"	18'2"	22'11"	20'0"	16'10"	21'6"	18'10"	15'10"	20'5"	17'10"	15'1"	19'7"	17'1"	14'5"	18'2"	15'10"	13'4"
	16"	39'10"	31'7"	27'7"	24'8"	21'6"	18'2"	22'5"	19'7"	16'6"	20'10"	18'2"	15'4"	19'7"	17'1"	14'5"	18'7"	16'3"	13'8"	17'9"	15'6"	13'1"	16'6"	14'5"	12'2"
	24"	34'9"	27'7"	24'1"	21'6"	18'10"	15'10"	19'7"	17'1"	14'5"	18'2"	15'10"	13'4"	17'1"	14'11"	12'7"	16'2"	14'2"	11'11"	15'1"	13'7"	11'5"	13'6"	12'7"	10'7"
600S200-68	12"	47'3"	37'6"	32'9"	29'3"	25'7"	21'7"	26'7"	23'3"	19'7"	24'8"	21'7"	18'2"	23'3"	20'4"	17'1"	22'1"	19'3"	16'3"	21'1"	18'5"	15'7"	19'7"	17'1"	14'5"
	16"	42'11"	34'1"	29'9"	26'7"	23'3"	19'7"	24'2"	21'1"	17'10"	22'5"	19'7"	16'6"	21'1"	18'5"	15'7"	20'1"	17'6"	14'9"	19'2"	16'9"	14'1"	17'10"	15'7"	13'1"
	24"	37'6"	29'9"	26'0"	23'3"	20'4"	17'1"	21'1"	18'5"	15'7"	19'7"	17'1"	14'5"	18'5"	16'1"	13'7"	17'6"	15'3"	12'11"	16'9"	14'7"	12'4"	15'7"	13'7"	11'5"
600S200-97	12"	52'9"	41'10"	36'7"	32'8"	28'7"	24'1"	29'8"	25'11"	21'10"	27'7"	24'1"	20'4"	25'11"	22'8"	19'1"	24'8"	21'6"	18'2"	23'7"	20'7"	17'4"	21'10"	19'1"	16'1"
	16"	47'11"	38'0"	33'3"	29'8"	25'11"	21'10"	27'0"	23'7"	19'10"	25'0"	21'10"	18'5"	23'7"	20'7"	17'4"	22'4"	19'6"	16'6"	21'5"	18'8"	15'9"	19'10"	17'4"	14'7"
	24"	41'10"	33'3"	29'0"	25'11"	22'8"	19'1"	23'7"	20'7"	17'4"	21'10"	19'1"	16'1"	19'7"	18'0"	15'2"	19'6"	17'1"	14'5"	18'8"	16'4"	13'9"	17'4"	15'2"	12'9"
600S250-43	12"	43'0"	34'2"	29'10"	26'8"	23'3"	19'7"	23'3"	21'2"	17'10"	20'9"	19'7"	16'7"	19'0"	18'6"	15'7"	17'7"	17'6"	14'9"	16'5"	16'5"	14'2"	14'8"	14'8"	13'1"
	16"	39'1"	31'0"	27'1"	23'3"	21'2"	17'10"	20'1"	19'2"	16'2"	18'0"	17'10"	15'0"	16'5"	16'5"	14'2"	15'2"	15'2"	13'5"	14'3"	14'3"	12'10"	12'8"	12'8"	11'11"
	24"	32'11"	27'1"	23'8"	19'0"	18'6"	15'7"	16'5"	16'5"	14'2"	14'8"	14'8"	13'1"	13'5"	13'5"	12'4"	12'5"	12'5"	11'9"	11'7"	11'7"	11'3"	10'4"	10'4"	10'4"
600S250-68	12"	49'2"	39'0"	34'1"	30'6"	26'7"	22'5"	27'8"	24'2"	20'5"	25'8"	22'5"	18'11"	24'2"	21'1"	17'10"	23'0"	20'1"	16'11"	22'0"	19'2"	16'2"	20'5"	17'10"	15'0"
	16"	44'8"	35'5"	31'0"	27'8"	24'2"	20'5"	25'2"	22'0"	18'6"	23'4"	20'5"	17'2"	22'0"	19'2"	16'2"	20'10"	18'3"	15'4"	19'11"	17'5"	14'8"	18'6"	16'2"	13'8"
	24"	39'0"	31'0"	27'1"	24'2"	21'1"	17'10"	22'0"	19'2"	16'2"	20'5"	17'10"	15'0"	19'2"	16'9"	14'1"	18'3"	15'11"	13'5"	17'5"	15'3"	12'10"	16'1"	14'1"	11'11"
600S250-97	12"	54'10"	43'6"	38'0"	34'0"	29'8"	25'0"	30'10"	27'0"	22'9"	28'8"	25'0"	21'1"	27'0"	23'3"	19'10"	25'7"	22'4"	18'10"	24'6"	21'5"	18'0"	22'9"	19'10"	16'9"
	16"	49'10"	39'7"	34'6"	30'10"	27'0"	22'9"	28'1"	24'6"	20'8"	26'0"	22'9"	19'2"	24'6"	21'5"	18'0"	23'3"	20'4"	17'2"	22'3"	19'5"	16'5"	20'8"	18'0"	15'2"
	24"	43'6"	34'6"	30'2"	27'0"	23'7"	19'10"	24'6"	21'5"	18'0"	22'9"	19'10"	16'9"	21'5"	18'8"	15'9"	20'4"	17'9"	15'0"	19'5"	17'0"	14'4"	18'0"	15'9"	13'3"
600S300-54	12"	45'9"	36'4"	31'8"	28'4"	24'9"	20'10"	25'9"	22'6"	18'11"	23'11"	20'10"	17'7"	22'6"	19'8"	16'7"	21'4"	18'8"	15'9"	20'5"	17'10"	15'0"	18'11"	16'7"	13'1"
	16"	41'7"	33'0"	28'10"	25'9"	22'6"	18'11"	23'5"	20'5"	17'3"	21'8"	18'11"	16'0"	20'5"	17'10"	15'0"	19'5"	16'11"	14'3"	18'7"	16'2"	13'8"	17'2"	15'0"	12'8"
	24"	36'4"	28'10"	25'2"	22'6"	19'8"	16'7"	20'5"	17'10"	15'0"	18'11"	16'7"	13'11"	17'10"	15'7"	13'2"	16'9"	14'10"	12'6"	15'8"	14'2"	11'11"	14'0"	13'2"	11'1"
600S300-68	12"	49'7"	39'4"	34'5"	30'9"	26'10"	22'8"	27'11"	24'5"	20'7"	25'11"	22'8"	19'1"	24'5"	21'3"	17'11"	23'2"	20'3"	17'1"	22'2"	19'4"	16'4"	20'7"	17'11"	15'2"
	16"	45'1"	35'9"	31'3"	27'11"	24'5"	20'7"	25'4"	22'2"	18'8"	23'6"	20'7"	17'4"	22'2"	19'4"	16'4"	21'0"	18'4"	15'6"	20'1"	17'7"	14'10"	18'8"	16'4"	13'9"
	24"	39'4"	31'3"	27'3"	24'5"	21'3"	17'11"	22'2"	19'4"	16'4"	20'7"	17'11"	15'2"	19'4"	16'11"	14'3"	18'4"	16'1"	13'6"	17'7"	15'4"	12'11"	16'4"	14'3"	12'0"
600S300-97	12"	57'2"	45'5"	39'8"	35'5"	30'11"	26'1"	32'2"	28'1"	23'9"	29'11"	26'1"	22'0"	28'1"	24'7"	20'8"	26'8"	23'4"	19'8"	25'7"	22'4"	18'10"	23'9"	20'8"	17'6"
	16"	52'0"	41'3"	36'0"	32'2"	28'1"	23'9"	29'3"	25'7"	21'6"	27'2"	23'9"	20'0"	25'7"	22'4"	18'10"	24'3"	21'2"	17'10"	23'2"	20'3"	17'1"	21'6"	18'10"	15'10"
	24"	45'5"	36'0"	31'6"	28'1"	24'7"	20'8"	25'7"	22'4"	18'10"	23'9"	20'8"	17'6"	22'4"	19'6"	16'5"	21'2"	18'6"	15'7"	20'3"	17'8"	14'11"	18'10"	16'5"	13'10"
800S162-33	12"	41'2"	35'4"	30'10"	23'9"	23'9"	20'4"	20'7"	20'7"	18'5"	18'4"	18'4"	17'2"	16'9"	16'9"	16'1"	15'6"	15'6"	15'4"	14'6"	14'6"	13'0"	13'0"	13'0"	13'0"
	16"	35'7"	32'1"	28'0"	20'7"	20'7"	18'5"	17'9"	17'9"	16'9"	15'11"	15'11"	15'7"	14'6"	14'6"	14'6"	13'5"	13'5"	13'5"	12'7"	12'7"	12'7"	11'3"	11'3"	11'3"
	24"	29'1"	28'0"	24'6"	16'9"	16'9"	16'1"	14'6"	14'6"	14'6"	13'0"	13'0"	13'0"	11'10"	11'10"	11'10"	11'0"	11'0"	11'0"	10'3"	10'3"	10'3"	9'2"	9'2"	9'2"
800S162-43	12"	49'0"	38'10"	33'11"	28'7"	26'6"	22'4"	24'9"	24'1"	20'4"	22'2"	22'2"	18'10"	20'3"	20'3"	17'9"	18'8"	18'8"	16'10"	17'6"	17'6"	16'1"	15'8"	15'8"	14'11"
	16"	42'11"	35'4"	30'10"	24'9"	24'1"	20'4"	21'5"	21'5"	18'5"	19'2"	19'2"	17'1"	17'6"	17'6"	16'1"	16'2"	16'2"	15'4"	15'2"	15'2"	14'8"	13'7"	13'7"	13'7"
	24"	35'0"	30'10"	26'11"	20'3"	20'3"	17'9"	17'6"	16'1"	15'8"	15'8"	14'11"	14'3"	14'3"	14'1"	13'3"	13'3"	13'3"	12'4"	12'4"	12'4"	11'1"	11'1"	11'1"	11'1"
800S162-54	12"	52'4"	41'6"																						



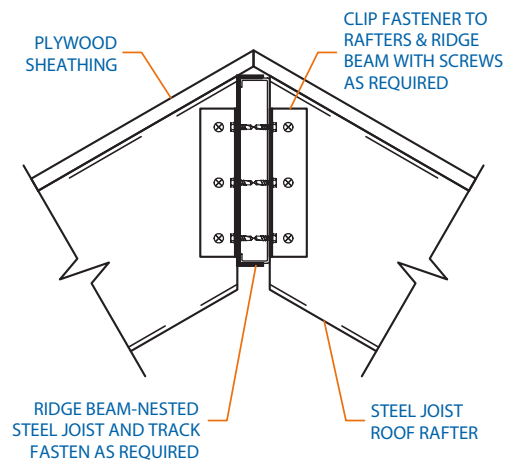
LOAD-BEARING WINDOW OPENING APPLICATION



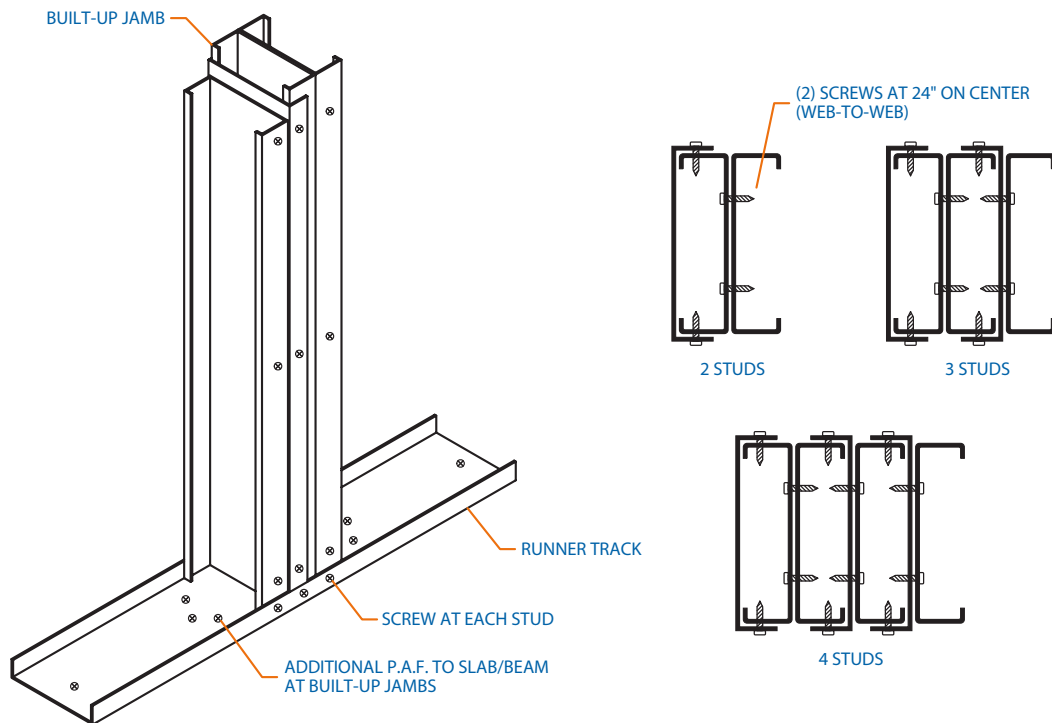
ROOF OR FLOOR OPENING



BOXED HEADER



NESTED RIDGE BEAM



BUILT-UP JAMB

Allowable Floor Joist Spans

Member	Fy (KSI)	10 PSF DL + 20 PSF LL						10 PSF DL + 30 PSF LL						10 PSF DL + 40 PSF LL					
		Single Span			Double Span			Single Span			Double Span			Single Span			Double Span		
		12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
600S162-33	33	14'6"	12'6"	10'3"	13'10"	11'10"	9'4"	12'6"	10'10"	8'10"	11'10"	10'0"	7'10"	11'2"	9'8"	7'11"	10'5"	8'9"	6'10"
600S162-43	33	17'2"	15'0"	12'3"	17'0"	14'8"	11'10"	14'11"	13'0"	10'7"	14'8"	12'7"	10'1"	13'5"	11'7"	9'6"	13'0"	11'2"	8'11"
600S162-54	50	18'3"	16'7"	14'6"	22'11"	19'9"	16'0"	15'11"	14'6"	12'8"	19'9"	17'0"	13'9"	14'6"	13'2"	11'6"	17'7"	15'1"	12'2"
600S162-68	50	19'8"	17'11"	15'8"	26'5"	23'1"	18'9"	17'3"	15'8"	13'8"	23'1"	19'11"	16'2"	15'8"	14'2"	12'5"	20'7"	17'9"	14'4"
600S162-97	50	21'10"	19'10"	17'4"	29'4"	26'7"	22'9"	19'1"	17'4"	15'2"	25'7"	23'3"	19'7"	17'4"	15'9"	13'9"	23'3"	21'1"	17'5"
600S200-33	33	15'5"	13'4"	10'11"	14'8"	12'6"	9'10"	13'4"	11'7"	9'5"	12'6"	10'7"	8'3"	11'11"	10'4"	8'5"	11'0"	9'3"	7'1"
600S200-43	33	18'0"	16'0"	13'1"	18'1"	15'7"	12'7"	15'8"	13'10"	11'4"	15'7"	13'4"	10'9"	14'3"	12'5"	10'1"	13'10"	11'10"	9'6"
600S200-54	50	19'1"	17'4"	15'2"	24'4"	20'11"	16'11"	16'8"	15'2"	13'3"	20'11"	18'0"	14'6"	15'2"	13'9"	12'0"	18'8"	16'0"	12'10"
600S200-68	50	20'8"	18'9"	16'4"	27'8"	24'6"	19'11"	18'0"	16'4"	14'3"	24'2"	21'2"	17'2"	16'4"	14'10"	13'0"	21'10"	18'10"	15'3"
600S200-97	50	23'0"	20'11"	18'3"	30'10"	28'1"	24'6"	20'1"	18'3"	15'11"	27'0"	24'6"	21'2"	18'3"	16'7"	14'6"	24'6"	22'3"	18'10"
800S162-33	33	16'9"	14'6"	11'10"	15'0"	12'7"	9'7"	14'6"	12'7"	10'3"	12'7"	10'4"	7'9"	13'0"	11'3"	9'2"	10'10"	8'10"	6'6"
800S162-43	33	20'3"	17'6"	14'3"	19'7"	16'9"	13'5"	17'6"	15'2"	12'4"	16'9"	14'4"	11'4"	15'8"	13'7"	11'1"	14'10"	12'7"	9'11"
800S162-54	50	22'10"	20'9"	18'1"	26'8"	23'0"	18'7"	19'11"	18'1"	15'10"	23'0"	19'9"	15'11"	18'1"	16'5"	14'4"	20'5"	17'7"	14'1"
800S162-68	50	24'10"	22'6"	19'8"	31'5"	27'2"	22'1"	21'8"	19'8"	17'2"	27'2"	23'5"	19'0"	19'8"	17'10"	15'7"	24'3"	20'11"	16'11"
800S162-97	50	27'8"	25'1"	21'11"	37'1"	33'8"	28'0"	24'2"	21'11"	19'2"	32'5"	29'5"	24'2"	21'11"	19'11"	17'5"	29'5"	26'7"	21'7"
800S200-33	33	18'0"	15'7"	12'9"	15'10"	13'2"	9'11"	15'7"	13'6"	11'0"	13'2"	10'10"	8'0"	13'11"	12'1"	9'5"	11'4"	9'2"	6'8"
800S200-43	33	21'8"	18'9"	15'3"	20'10"	17'10"	14'2"	18'9"	16'3"	13'3"	17'10"	15'2"	12'0"	16'9"	14'6"	11'10"	15'9"	13'4"	10'5"
800S200-54	50	24'0"	21'10"	19'1"	28'5"	24'6"	19'9"	21'0"	19'1"	16'8"	24'6"	21'0"	16'11"	19'1"	17'4"	15'1"	21'9"	18'8"	14'11"
800S200-68	50	25'11"	23'7"	20'7"	33'6"	28'11"	23'5"	22'8"	20'7"	18'0"	28'11"	24'11"	20'2"	20'7"	18'8"	16'4"	25'9"	22'2"	17'11"
800S200-97	50	29'0"	26'4"	23'0"	38'11"	35'4"	29'9"	25'4"	23'0"	20'1"	34'0"	30'10"	25'8"	23'0"	20'11"	18'3"	30'10"	28'0"	22'11"
1000S162-43	33	22'6"	19'6"	15'11"	21'1"	17'11"	14'0"	19'6"	16'10"	13'9"	17'11"	15'1"	11'8"	17'5"	15'1"	12'4"	15'8"	13'1"	10'0"
1000S162-54	50	27'2"	24'8"	21'4"	29'3"	25'1"	20'1"	23'9"	21'7"	18'5"	25'1"	21'6"	17'1"	21'7"	19'7"	16'6"	22'3"	18'11"	15'0"
1000S162-68	50	29'7"	26'11"	23'6"	35'2"	30'5"	24'8"	25'10"	23'6"	20'6"	30'5"	26'2"	21'2"	23'6"	21'4"	18'8"	27'1"	23'4"	18'10"
1000S162-97	50	33'3"	30'3"	26'5"	44'7"	39'2"	31'11"	29'1"	26'5"	23'1"	38'11"	27'6"	26'5"	24'0"	20'11"	35'0"	30'3"	24'7"	
1000S200-43	33	24'4"	21'1"	17'2"	22'7"	19'1"	14'10"	21'1"	18'3"	14'10"	19'1"	16'0"	12'3"	18'10"	16'3"	13'11"	16'8"	13'10"	10'5"
1000S200-54	50	28'3"	25'8"	22'5"	31'5"	26'10"	21'5"	24'8"	22'5"	19'7"	26'10"	22'11"	18'2"	22'5"	20'4"	17'9"	23'9"	20'2"	15'11"
1000S200-68	50	30'10"	28'0"	24'5"	37'8"	32'6"	26'4"	26'11"	24'5"	21'4"	32'6"	28'0"	22'8"	24'5"	22'2"	19'5"	29'0"	24'11"	20'1"
1000S200-97	50	34'9"	31'7"	27'7"	46'7"	41'9"	34'0"	30'4"	27'7"	24'1"	40'8"	36'1"	29'4"	27'7"	25'1"	21'11"	37'0"	32'3"	26'2"
1000S250-54	50	29'11"	27'2"	23'7"	32'2"	27'7"	22'0"	26'1"	23'9"	20'5"	27'7"	23'6"	18'7"	23'9"	21'7"	18'3"	24'4"	20'8"	16'3"
1000S250-68	50	32'1"	29'2"	25'6"	38'9"	33'5"	27'1"	28'0"	25'6"	22'3"	33'5"	28'9"	23'3"	25'6"	23'2"	20'2"	29'9"	25'7"	20'7"
1000S250-97	50	35'11"	32'8"	28'6"	48'2"	43'1"	35'1"	31'5"	28'6"	24'11"	42'1"	37'3"	30'3"	28'6"	25'11"	22'8"	38'3"	33'3"	27'0"
1000S300-68	50	32'4"	29'5"	25'8"	39'5"	34'0"	27'6"	28'3"	25'8"	22'5"	34'0"	29'3"	23'7"	25'8"	23'4"	20'4"	30'3"	26'0"	20'11"
1000S300-97	50	37'2"	33'9"	29'6"	49'10"	43'11"	35'9"	32'6"	29'6"	25'9"	43'7"	38'0"	30'11"	29'6"	26'10"	23'5"	39'3"	33'11"	27'6"
1200S162-54	50	31'4"	28'4"	23'1"	31'2"	26'6"	20'11"	27'4"	24'6"	20'0"	26'6"	22'5"	17'7"	24'10"	21'11"	17'11"	23'4"	19'8"	15'2"
1200S162-68	50	34'3"	31'1"	27'2"	38'1"	32'10"	26'6"	29'11"	27'2"	23'9"	32'10"	28'2"	22'8"	27'2"	24'8"	21'3"	29'2"	25'0"	20'0"
1200S162-97	50	38'8"	35'1"	30'8"	49'10"	43'1"	35'1"	33'9"	30'8"	26'9"	43'1"	37'3"	30'4"	30'8"	27'10"	24'4"	38'6"	33'3"	27'0"
1200S200-54	50	32'6"	29'7"	25'1"	33'6"	28'5"	22'4"	28'5"	25'10"	21'9"	28'5"	24'0"	18'8"	25'10"	23'5"	19'5"	24'11"	20'11"	16'1"
1200S200-68	50	35'6"	32'3"	28'2"	41'1"	35'4"	28'5"	31'0"	28'2"	24'7"	35'4"	30'4"	24'4"	28'2"	25'7"	22'4"	31'5"	26'10"	21'5"
1200S200-97	50	40'3"	36'7"	31'11"	53'5"	46'3"	37'7"	35'2"	31'11"	27'11"	46'3"	39'11"	32'6"	31'11"	29'0"	25'4"	41'3"	35'8"	28'11"
1200S250-54	50	33'9"	30'8"	26'0"	34'6"	29'3"	22'11"	29'6"	26'10"	22'6"	29'3"	24'8"	19'1"	26'10"	24'4"	20'1"	25'8"	21'6"	16'5"
1200S250-68	50	36'7"	33'3"	29'0"	42'5"	36'6"	29'4"	32'0"	29'0"	25'4"	36'6"	31'3"	25'1"	29'0"	26'5"	23'0"	32'5"	27'8"	22'1"
1200S250-97	50	41'6"	37'8"	32'11"	55'4"	47'10"	38'11"	36'3"	32'11"	28'9"	47'10"	41'4"	33'7"	32'11"	29'11"	26'1"	42'8"	36'11"	29'11"
1200S300-54	50	35'4"	32'1"	26'6"	35'1"	29'9"	23'3"	30'11"	28'1"	22'11"	29'9"	25'1"	19'4"	28'1"	25'2"	20'6"	26'1"	21'9"	16'7"
1200S300-68	50	37'5"	34'0"	29'9"	43'3"	37'2"	29'11"	32'8"	29'9"	25'11"	37'2"	31'10"	25'6"	29'9"	27'0"	23'7"	33'0"	28'3"	22'6"
1200S300-97	50	43'0"	39'1"	34'2"	56'7"	48'11"	39'9"	37'7"	34'2"	29'10"	48'11"	42'3"	34'4"	34'2"	31'0"	27'1"	43'8"	37'8"	30'7"
1400S162-68	50	38'8"	35'2"	29'5"	40'6"	34'9"	27'10"	33'10"	30'8"	25'6"	34'9"	29'9"	23'8"	30'8"	27'11"	22'9"	30'10"	26'3"	20'10"
1400S162-97	50	43'10"	39'10"	34'10"	54'8"	47'3"	38'5"	38'4"	34'10"	30'5"	47'3"	40'9"	33'2"	34'10"	31'7"	27'7"	42'2"	36'5"	29'6"
1400S200-68	50	40'1"	36'5"	31'9"	43'10"	37'7"	30'0"	31'9"	27'9"	23'7"	32'1"	25'5"	31'9"	28'10"	24'10"	33'3"	28'3"	22'3"	
1400S200-97	50	45'7"	41'5"	36'2"	58'1"	50'2"	40'9"	39'10"	36'2"	31'7"	50'2"	43'4"	35'2"	36'2"	32'10"	28'8"	44'9"	38'8"	31'4"
1400S250-68	50	41'2"	37'5"	32'8"	45'6"	39'0"	31'1"	36'0"	32'8"	28'7"	39'0"	33'3"	26'4"	32'8"	29'8"	25'10"	34'5"	29'3"	23'0"
1400S250-97	50	46'10"	42'7"	37'2"	60'4"	52'2"	42'5"	40'11"	37'2"	32'6"	52'2"	45'0"	36'6"	37'2"	33'9"	29'6"	46'6"	40'2"	32'6"
1400S300-68	50	41'4"	37'6"	32'9"	46'7"	39'10"	31'9"	36'1"	32'9"	28'8"	39'10"	34'0"	26'10"	32'9"	29'9"	26'0"	35'3"	29'11"	23'5"
1400S300-97	50	48'4"	43'11"	38'4"	61'11"	53'6"	43'5"	42'2"	38'4"	33'6"	53'6"	46'2"	37'5"	38'4"	34'10"	30'5"	47'9"	41'2"	33'4"

Span limit checks are performed for each of the following conditions:

- Span limit based on Moment for single & two span condition.
- Span limit based on combined bending and shear per Eq. C3.3.1-1 for multi-span.
- Span limited by deflection based on total load for L/240.
- Span limited by deflection based on Live Load only for L/360.
- Span limit based on shear alone, for single span condition.

Web stiffeners required at all interior supports.

Spans are based on continuous support of compression flange over the full length of the joist.

Joists must be braced against rotation at supports.

Deflection checks are based on the following conditions:

- Total load/240
- Live load/360

No skip loading has been considered.

Joist bridging required at spacings not to exceed 6'-8".

Allowable Floor Joist Spans

Member	Fy (KSI)	10 PSF DL + 50 PSF LL						15 PSF DL + 125 PSF LL						40 PSF DL + 40 PSF LL					
		Single Span			Double Span			Single Span			Double Span			Single Span			Double Span		
		12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
600S162-33	33	10'3"	8'10"	7'3"	9'4"	7'10"	6'0"	6'8"	5'9"	4'6"	5'5"	4'5"	3'2"	8'10"	7'8"	6'3"	7'10"	6'6"	4'11"
600S162-43	33	12'3"	10'7"	8'8"	11'10"	10'1"	8'1"	8'0"	6'11"	5'8"	7'5"	6'3"	4'10"	10'7"	9'2"	7'6"	10'1"	8'8"	6'10"
600S162-54	50	13'5"	12'3"	10'8"	16'0"	13'9"	11'1"	9'11"	9'0"	7'7"	10'1"	8'7"	6'9"	13'2"	11'11"	10'0"	13'9"	11'9"	9'4"
600S162-68	50	14'6"	13'2"	11'6"	18'9"	16'2"	13'1"	10'8"	9'8"	8'6"	12'0"	10'3"	8'2"	14'2"	12'11"	11'3"	16'2"	13'11"	11'2"
600S162-97	50	16'1"	14'7"	12'9"	21'7"	19'7"	15'0"	11'10"	10'9"	9'5"	14'7"	12'6"	10'0"	15'9"	14'4"	12'6"	19'7"	16'10"	13'7"
600S200-33	33	10'11"	9'5"	7'8"	9'10"	8'3"	6'3"	7'2"	6'2"	4'6"	5'8"	4'7"	3'3"	9'5"	8'2"	6'8"	8'3"	6'10"	5'1"
600S200-43	33	13'1"	11'4"	9'3"	12'7"	10'9"	8'6"	8'6"	7'5"	6'0"	7'9"	6'6"	5'0"	11'4"	9'9"	8'0"	10'9"	9'1"	7'2"
600S200-54	50	14'1"	12'9"	11'2"	16'11"	14'6"	11'8"	10'4"	9'5"	8'1"	10'8"	9'0"	7'1"	13'9"	12'6"	10'8"	14'6"	12'5"	9'11"
600S200-68	50	15'2"	13'10"	12'1"	19'11"	17'2"	13'10"	11'2"	10'2"	8'10"	12'9"	10'10"	8'7"	14'10"	13'6"	11'9"	17'2"	14'9"	11'10"
600S200-97	50	16'11"	15'5"	13'5"	22'9"	20'8"	17'1"	12'6"	11'4"	9'11"	15'9"	13'5"	10'9"	16'7"	15'1"	13'2"	21'2"	18'2"	14'8"
800S162-33	33	11'10"	10'3"	7'10"	9'7"	7'9"	5'7"	6'9"	5'0"	3'4"	4'11"	3'10"	2'7"	10'3"	8'10"	5'11"	7'9"	6'2"	4'4"
800S162-43	33	14'3"	12'4"	10'1"	13'5"	11'4"	8'10"	9'4"	8'1"	6'7"	8'0"	6'7"	4'11"	12'4"	10'8"	8'9"	11'4"	9'6"	7'4"
800S162-54	50	16'10"	15'3"	13'4"	18'7"	15'11"	12'9"	12'4"	10'10"	8'10"	11'8"	9'10"	7'8"	16'5"	14'4"	11'8"	15'11"	13'7"	10'10"
800S162-68	50	18'3"	16'7"	14'6"	22'1"	19'0"	15'4"	13'5"	12'3"	10'4"	14'1"	12'1"	9'7"	17'10"	16'3"	13'8"	19'0"	16'4"	13'2"
800S162-97	50	20'4"	18'6"	16'2"	27'4"	24'2"	19'8"	15'0"	13'7"	11'11"	18'2"	15'7"	12'7"	19'11"	18'1"	15'10"	24'2"	20'11"	16'11"
800S200-33	33	12'9"	11'0"	7'10"	9'11"	8'0"	5'9"	6'9"	5'0"	3'4"	5'0"	3'10"	2'7"	11'0"	8'10"	5'11"	8'0"	6'4"	4'5"
800S200-43	33	15'3"	13'3"	10'10"	14'2"	12'0"	9'4"	10'0"	8'8"	7'1"	8'5"	6'11"	5'1"	13'3"	11'5"	9'4"	12'0"	10'0"	7'8"
800S200-54	50	17'8"	16'1"	14'0"	19'9"	16'11"	13'6"	13'0"	11'7"	9'5"	12'4"	10'5"	8'1"	17'4"	15'4"	12'6"	16'11"	14'5"	11'5"
800S200-68	50	19'1"	17'4"	15'2"	23'5"	20'2"	16'3"	14'1"	12'9"	11'0"	15'0"	12'9"	10'2"	18'8"	17'0"	14'7"	20'2"	17'4"	13'11"
800S200-97	50	21'4"	19'5"	16'11"	28'8"	25'8"	20'10"	15'9"	14'3"	12'6"	19'3"	16'7"	13'4"	20'11"	19'0"	16'7"	25'8"	22'2"	17'11"
1000S162-43	33	15'11"	13'9"	11'3"	14'0"	11'8"	8'9"	10'5"	8'11"	5'11"	7'10"	6'3"	4'5"	13'9"	11'11"	9'9"	11'8"	9'7"	7'1"
1000S162-54	50	20'0"	18'2"	15'1"	20'1"	17'1"	13'5"	13'11"	12'1"	9'10"	12'2"	10'1"	7'7"	18'5"	16'0"	13'0"	17'1"	14'5"	11'2"
1000S162-68	50	21'10"	19'10"	17'4"	24'8"	21'2"	17'1"	16'1"	14'3"	11'7"	15'8"	13'4"	10'7"	21'4"	18'10"	15'4"	21'2"	18'2"	14'7"
1000S162-97	50	24'6"	22'3"	19'5"	31'11"	27'6"	22'4"	18'0"	16'5"	14'4"	20'8"	17'9"	14'4"	24'0"	21'9"	19'0"	27'6"	23'9"	19'3"
1000S200-43	33	17'2"	14'10"	12'2"	14'10"	12'3"	9'2"	11'3"	8'11"	5'11"	8'1"	6'5"	4'6"	14'10"	12'10"	10'5"	12'3"	10'0"	7'3"
1000S200-54	50	20'10"	18'11"	16'2"	21'5"	18'2"	14'2"	15'0"	13'0"	10'7"	12'10"	10'7"	7'10"	19'10"	17'2"	14'0"	18'2"	15'3"	11'9"
1000S200-68	50	22'8"	20'7"	18'0"	26'4"	22'8"	18'2"	16'8"	15'2"	12'5"	16'9"	14'3"	11'2"	22'2"	20'2"	16'6"	22'8"	19'5"	15'6"
1000S200-97	50	25'7"	23'3"	20'4"	34'0"	29'4"	23'10"	18'10"	17'1"	14'11"	22'0"	18'11"	15'3"	25'1"	22'9"	19'10"	29'4"	25'4"	20'6"
1000S250-54	50	22'0"	20'0"	16'8"	22'0"	18'7"	14'6"	15'5"	13'4"	10'11"	13'1"	10'9"	8'0"	20'5"	17'8"	14'5"	18'7"	15'7"	12'0"
1000S250-68	50	23'8"	21'6"	18'9"	27'1"	23'3"	18'8"	17'5"	15'8"	12'10"	17'2"	14'7"	11'5"	23'2"	20'9"	17'0"	23'3"	19'11"	15'11"
1000S250-97	50	26'6"	24'1"	21'0"	35'1"	30'3"	24'7"	19'6"	17'8"	15'6"	22'8"	19'6"	15'8"	25'11"	23'6"	20'7"	30'3"	26'1"	21'2"
1000S300-68	50	23'10"	21'8"	18'11"	27'6"	23'7"	18'11"	17'6"	15'11"	13'0"	17'5"	14'9"	11'7"	23'4"	21'2"	17'3"	23'7"	20'3"	16'2"
1000S300-97	50	27'5"	24'11"	21'9"	35'9"	30'11"	25'1"	20'2"	18'4"	16'0"	23'1"	19'11"	16'0"	26'10"	24'4"	21'3"	30'11"	26'8"	21'7"
1200S162-54	50	23'1"	20'0"	16'4"	20'11"	17'7"	13'5"	15'1"	13'1"	9'10"	12'1"	9'9"	7'0"	20'0"	17'4"	14'2"	17'7"	14'7"	11'0"
1200S162-68	50	25'3"	22'11"	19'4"	26'6"	22'8"	18'1"	17'11"	15'6"	12'8"	16'7"	13'11"	10'10"	23'9"	20'7"	16'9"	22'8"	19'4"	15'4"
1200S162-97	50	28'6"	25'10"	22'7"	35'1"	30'4"	24'7"	19'0"	16'4"	14'4"	22'8"	19'6"	15'9"	27'10"	25'4"	21'8"	30'4"	26'2"	21'2"
1200S200-54	50	23'11"	21'9"	17'9"	22'4"	18'8"	14'2"	16'5"	14'3"	9'10"	12'8"	10'1"	7'3"	21'9"	18'10"	15'4"	18'8"	15'4"	11'5"
1200S200-68	50	26'2"	23'9"	20'9"	28'5"	24'4"	19'4"	19'3"	16'9"	13'8"	17'8"	14'10"	11'5"	25'7"	22'2"	18'1"	24'4"	20'8"	16'3"
1200S200-97	50	29'8"	26'11"	23'6"	37'7"	32'6"	26'4"	21'10"	19'10"	17'4"	24'4"	20'11"	16'10"	29'0"	26'4"	23'0"	32'6"	28'0"	22'8"
1200S250-54	50	24'10"	22'6"	18'4"	22'11"	19'1"	14'5"	17'0"	14'8"	9'10"	12'10"	10'3"	7'3"	22'6"	19'6"	15'11"	19'1"	15'8"	11'7"
1200S250-68	50	26'11"	24'6"	21'5"	29'4"	25'1"	19'10"	19'10"	17'4"	14'2"	18'2"	15'2"	11'8"	26'5"	23'0"	18'9"	25'1"	21'3"	16'9"
1200S250-97	50	30'7"	27'9"	24'3"	38'11"	33'7"	27'3"	22'6"	20'5"	17'10"	25'2"	21'7"	17'4"	29'11"	27'2"	23'9"	33'7"	28'11"	23'5"
1200S300-54	50	26'0"	22'11"	18'9"	23'3"	19'4"	14'7"	17'4"	14'9"	9'10"	13'0"	10'4"	7'4"	22'11"	19'10"	16'3"	19'4"	15'10"	11'8"
1200S300-68	50	27'7"	25'1"	21'11"	29'11"	25'6"	20'2"	20'4"	17'9"	14'5"	18'5"	15'5"	11'9"	27'0"	23'5"	19'2"	25'6"	21'8"	17'0"
1200S300-97	50	31'8"	28'9"	25'2"	39'9"	34'4"	27'10"	23'4"	21'2"	18'6"	25'8"	22'1"	17'8"	31'0"	28'2"	24'7"	34'4"	29'7"	23'11"
1400S162-68	50	28'6"	25'6"	20'10"	27'10"	23'8"	18'8"	19'3"	16'8"	13'7"	17'0"	14'1"	10'8"	25'6"	22'1"	18'0"	23'8"	20'0"	15'7"
1400S162-97	50	32'4"	29'4"	25'8"	38'5"	33'2"	26'10"	23'9"	21'7"	17'11"	24'9"	21'3"	17'1"	31'7"	28'9"	23'9"	33'2"	28'7"	23'1"
1400S200-68	50	29'6"	26'10"	22'8"	30'0"	25'5"	19'11"	20'11"	18'2"	14'10"	18'1"	14'11"	11'1"	27'9"	24'0"	19'7"	25'5"	21'5"	16'6"
1400S200-97	50	33'7"	30'6"	26'8"	40'9"	35'2"	28'6"	24'9"	22'6"	19'1"	26'3"	22'6"	18'0"	32'10"	29'10"	25'3"	35'2"	30'3"	24'5"
1400S250-68	50	30'4"	27'7"	23'7"	31'1"	26'4"	20'6"	21'10"	18'11"	15'5"	18'7"	15'3"	11'4"	28'10"	25'0"	20'5"	26'4"	22'1"	17'0"
1400S250-97	50	34'6"	31'4"	27'5"	42'5"	36'6"	29'7"	25'5"	23'1"	19'10"	27'3"	23'4"	18'8"	33'9"	30'8"	26'3"	36'6"	31'5"	25'4"
1400S300-68	50	30'5"	27'8"	24'2"	31'9"	26'10"	20'11"	22'4"	19'4"	15'10"	18'11"	15'6"	11'5"	29'7"	25'8"	20'11"	26'10"	22'6"	17'3"
1400S300-97	50	35'7"	32'4"	28'3"	43'5"	37'5"	30'3"	26'2"	23'10"	20'5"	27'11"	23'11"	19'1"	34'10"	31'8"	27'0"	37'5"	32'3"	26'0"

Span limit checks are performed for each of the following conditions:
- Span limit based on Moment for single & two span condition.
- Span limit based on combined bending and shear per Eq.C3.3.1-1 for multi-span.
- Span limited by deflection based on total load for L/240.
- Span limited by deflection based on Live Load only for L/360.
- Span limit based on shear alone, for single span condition.

Web stiffeners required at all interior supports.

Spans are based on continuous support of compression flange over the full length of the joist.

Joists must be braced against rotation at supports.

Deflection checks are based on the following conditions:
- Total load/240
- Live load/360

No skip loading has been considered.

Joist bridging required at spacings not to exceed 6'-8".

Allowable Floor Joist Spans

Member	Fy (KSI)	10 PSF DL + 50 PSF LL						15 PSF DL + 125 PSF LL						40 PSF DL + 40 PSF LL					
		Single Span			Double Span			Single Span			Double Span			Single Span			Double Span		
		12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
600S162-33	33	8'4"	7'3"	5'11"	7'3"	6'0"	4'6"	6'8"	5'9"	4'6"	5'5"	4'5"	3'2"	6'2"	5'4"	3'10"	4'10"	3'11"	2'9"
600S162-43	33	10'0"	8'8"	7'1"	9'6"	8'1"	6'4"	8'0"	6'11"	5'8"	7'5"	6'3"	4'10"	7'4"	6'5"	5'2"	6'8"	5'7"	4'4"
600S162-54	50	12'8"	11'6"	9'5"	12'10"	11'0"	8'9"	10'8"	9'3"	7'7"	10'1"	8'7"	6'9"	9'10"	8'6"	7'0"	9'2"	7'9"	6'1"
600S162-68	50	13'8"	12'5"	10'10"	15'2"	13'1"	10'6"	11'6"	10'5"	8'10"	12'0"	10'3"	8'2"	10'8"	9'8"	8'1"	11'0"	9'5"	7'5"
600S162-97	50	15'2"	13'9"	12'0"	18'5"	15'10"	12'9"	12'9"	11'7"	10'1"	14'7"	12'6"	10'0"	11'10"	10'9"	9'5"	13'5"	11'5"	9'1"
600S200-33	33	8'11"	7'8"	6'3"	7'8"	6'3"	4'8"	7'2"	6'2"	4'6"	5'8"	4'7"	3'3"	6'7"	5'8"	3'10"	5'0"	4'0"	2'10"
600S200-43	33	10'8"	9'3"	7'6"	10'0"	8'6"	6'8"	8'6"	7'5"	6'0"	7'9"	6'6"	5'0"	7'10"	6'10"	5'6"	7'1"	5'11"	4'6"
600S200-54	50	13'3"	12'0"	10'1"	13'8"	11'8"	9'3"	11'2"	9'10"	8'1"	10'8"	9'0"	7'1"	10'4"	9'1"	7'5"	9'8"	8'2"	6'4"
600S200-68	50	14'3"	13'0"	11'4"	16'1"	13'10"	11'1"	12'1"	10'11"	9'4"	12'9"	10'10"	8'7"	11'2"	10'2"	8'7"	11'7"	9'11"	7'10"
600S200-97	50	15'11"	14'6"	12'8"	19'10"	17'1"	13'9"	13'5"	12'3"	10'8"	15'9"	13'5"	10'9"	12'6"	11'4"	9'11"	14'5"	12'3"	9'9"
800S162-33	33	9'8"	7'10"	5'3"	7'1"	5'7"	3'11"	6'9"	5'0"	3'4"	4'11"	3'10"	2'7"	5'8"	4'3"	2'10"	4'3"	3'3"	2'3"
800S162-43	33	11'8"	10'1"	8'3"	10'7"	8'10"	6'9"	9'4"	8'1"	6'7"	8'0"	6'7"	4'11"	8'7"	7'5"	6'1"	7'2"	5'11"	4'4"
800S162-54	50	15'7"	13'6"	11'0"	14'11"	12'9"	10'1"	12'6"	10'10"	8'10"	11'8"	9'10"	7'8"	11'6"	10'0"	8'2"	10'7"	8'11"	6'11"
800S162-68	50	17'2"	15'7"	12'11"	17'10"	15'4"	12'4"	14'6"	12'8"	10'4"	14'1"	12'1"	9'7"	13'5"	11'8"	9'6"	12'11"	11'0"	8'9"
800S162-97	50	19'2"	17'5"	15'2"	22'9"	19'8"	15'11"	16'2"	14'8"	12'10"	18'2"	15'7"	12'7"	15'0"	13'7"	11'11"	16'8"	14'4"	11'6"
800S200-33	33	10'5"	7'10"	5'3"	7'3"	5'9"	4'0"	6'9"	5'0"	3'4"	5'0"	3'10"	3'7"	5'8"	4'3"	2'10"	4'4"	3'4"	2'3"
800S200-43	33	12'6"	10'10"	8'10"	11'2"	9'4"	7'1"	10'0"	8'8"	7'1"	8'5"	6'11"	5'1"	9'2"	8'0"	6'4"	7'6"	6'1"	4'5"
800S200-54	50	16'8"	14'5"	11'9"	15'10"	13'6"	10'8"	13'4"	11'7"	9'5"	12'4"	10'5"	8'1"	12'4"	10'8"	8'8"	11'3"	9'5"	7'3"
800S200-68	50	18'0"	16'4"	13'9"	19'0"	16'3"	13'1"	15'2"	13'6"	11'0"	15'0"	12'9"	10'2"	14'1"	12'5"	10'2"	13'8"	11'8"	9'3"
800S200-97	50	20'1"	18'3"	15'11"	24'2"	20'10"	16'10"	16'11"	15'5"	13'5"	19'3"	16'7"	13'4"	15'9"	14'3"	12'6"	17'8"	15'2"	12'2"
1000S162-43	33	13'0"	11'3"	9'2"	10'9"	8'9"	6'5"	10'5"	8'11"	5'11"	7'10"	6'3"	4'5"	9'7"	7'7"	5'0"	6'11"	5'5"	3'10"
1000S162-54	50	17'5"	15'1"	12'3"	15'11"	13'5"	10'4"	13'11"	12'1"	9'10"	12'2"	10'1"	7'7"	12'10"	11'1"	9'1"	10'11"	9'0"	6'8"
1000S162-68	50	20'6"	17'9"	14'6"	19'11"	17'1"	13'8"	16'5"	14'3"	11'7"	15'8"	13'4"	10'7"	15'2"	13'1"	10'8"	14'4"	12'2"	9'7"
1000S162-97	50	23'1"	20'11"	18'3"	25'11"	22'4"	18'2"	19'5"	17'8"	14'10"	20'8"	17'9"	14'4"	18'0"	16'5"	13'8"	19'0"	16'4"	13'2"
1000S200-43	33	14'0"	12'2"	9'3"	11'3"	9'2"	6'7"	11'3"	8'11"	5'11"	8'1"	6'5"	4'6"	10'1"	7'7"	5'0"	7'1"	5'7"	3'10"
1000S200-54	50	18'9"	16'2"	13'3"	16'11"	14'2"	10'10"	15'0"	13'0"	10'7"	12'10"	10'7"	7'10"	13'10"	12'0"	9'9"	11'6"	9'5"	6'11"
1000S200-68	50	21'4"	19'1"	15'7"	21'3"	18'2"	14'6"	17'8"	15'3"	12'5"	16'9"	14'3"	11'2"	16'3"	14'1"	11'6"	15'3"	12'11"	10'1"
1000S200-97	50	24'1"	21'11"	19'1"	27'8"	23'10"	19'4"	20'4"	18'5"	15'10"	22'0"	18'11"	15'3"	18'10"	17'1"	14'7"	20'2"	17'4"	13'11"
1000S250-54	50	19'3"	16'8"	13'7"	17'4"	14'6"	11'0"	15'5"	13'4"	10'11"	13'1"	10'9"	8'0"	14'2"	12'4"	10'0"	11'9"	9'7"	7'0"
1000S250-68	50	22'3"	19'7"	16'0"	21'10"	18'8"	14'10"	18'2"	15'8"	12'10"	17'2"	14'7"	11'5"	16'8"	14'6"	11'10"	15'8"	13'3"	10'4"
1000S250-97	50	24'11"	22'8"	19'9"	28'6"	24'7"	19'11"	21'0"	19'1"	16'4"	22'8"	19'6"	15'8"	19'6"	17'8"	15'1"	20'10"	17'11"	14'4"
1000S300-68	50	22'5"	19'11"	16'3"	22'2"	18'11"	15'1"	18'5"	16'0"	13'0"	17'5"	14'9"	11'7"	17'0"	14'9"	12'0"	15'10"	13'5"	10'6"
1000S300-97	50	25'9"	23'5"	20'5"	29'1"	25'1"	20'3"	21'9"	19'9"	16'8"	23'1"	19'11"	16'0"	20'2"	18'4"	15'4"	21'3"	18'3"	14'8"
1200S162-54	50	18'10"	16'4"	13'4"	16'3"	13'5"	10'0"	15'1"	13'1"	9'10"	12'1"	9'9"	7'0"	13'11"	12'1"	8'4"	10'9"	8'7"	6'1"
1200S162-68	50	22'4"	19'4"	15'10"	21'3"	18'1"	14'3"	17'11"	15'6"	12'8"	16'7"	13'11"	10'10"	16'6"	14'4"	11'8"	15'0"	12'7"	9'8"
1200S162-97	50	26'9"	24'4"	20'5"	28'6"	24'7"	19'11"	22'7"	20'0"	16'4"	22'8"	19'6"	15'9"	21'0"	18'5"	15'1"	20'10"	17'11"	14'5"
1200S200-54	50	20'6"	17'9"	14'6"	17'3"	14'2"	10'5"	16'5"	14'3"	9'10"	12'8"	10'1"	7'3"	15'1"	12'6"	8'4"	11'2"	8'10"	6'3"
1200S200-68	50	24'2"	20'11"	17'1"	22'9"	19'4"	15'2"	19'5"	16'9"	13'8"	17'8"	14'10"	11'5"	17'10"	15'5"	12'7"	16'0"	13'4"	10'2"
1200S200-97	50	27'11"	25'4"	21'11"	30'7"	26'4"	21'4"	23'6"	21'4"	17'7"	24'4"	20'11"	16'10"	21'10"	19'10"	16'2"	22'4"	19'2"	15'4"
1200S250-54	50	21'2"	18'4"	15'0"	17'8"	14'5"	10'7"	17'0"	14'8"	9'10"	12'10"	10'3"	7'3"	15'8"	12'6"	8'4"	11'4"	8'11"	6'3"
1200S250-68	50	25'0"	21'8"	17'8"	23'5"	19'10"	15'7"	20'0"	17'4"	14'2"	18'2"	15'2"	11'8"	18'5"	16'0"	13'0"	16'5"	13'8"	10'4"
1200S250-97	50	28'9"	26'1"	22'8"	31'7"	27'3"	22'0"	24'3"	22'0"	18'2"	25'2"	21'7"	17'4"	22'6"	20'5"	16'9"	23'1"	19'9"	15'10"
1200S300-54	50	21'8"	18'9"	15'3"	17'10"	14'7"	10'8"	17'4"	14'9"	9'10"	13'0"	10'4"	7'4"	16'0"	12'6"	8'4"	11'5"	9'0"	6'4"
1200S300-68	50	25'6"	22'1"	18'0"	23'10"	20'2"	15'9"	20'5"	17'9"	14'5"	18'5"	15'5"	11'9"	18'10"	16'4"	13'4"	16'8"	13'10"	10'6"
1200S300-97	50	29'10"	27'1"	23'2"	32'4"	27'10"	22'6"	25'2"	22'9"	18'7"	25'8"	22'1"	17'8"	23'4"	21'0"	17'1"	23'6"	20'2"	16'2"
1400S162-68	50	24'0"	20'10"	17'0"	22'2"	18'8"	14'5"	19'3"	16'8"	13'7"	17'0"	14'1"	10'8"	17'9"	15'4"	12'6"	15'3"	12'7"	9'5"
1400S162-97	50	30'5"	27'5"	22'5"	31'2"	26'10"	21'8"	25'5"	22'0"	17'11"	24'9"	21'3"	17'1"	23'5"	20'3"	16'6"	22'8"	19'5"	15'7"
1400S200-68	50	26'2"	22'8"	18'6"	23'9"	19'11"	15'3"	20'11"	18'2"	14'10"	18'1"	14'11"	11'1"	19'4"	16'8"	13'8"	16'2"	13'3"	9'9"
1400S200-97	50	31'7"	28'8"	23'10"	33'1"	28'6"	22'11"	26'8"	23'5"	19'1"	26'3"	22'6"	18'0"	24'9"	21'7"	17'7"	24'1"	20'7"	16'5"
1400S250-68	50	27'2"	23'7"	19'3"	24'6"	20'6"	15'8"	21'10"	18'11"	15'5"	18'7"	15'3"	11'4"	20'1"	17'5"	14'2"	16'8"	13'7"	9'11"
1400S250-97	50	32'6"	29'6"	24'9"	34'4"	29'7"	23'10"	27'5"	24'4"	19'10"	27'3"	23'4"	18'8"	25'5"	22'5"	18'3"	24'11"	21'4"	17'0"
1400S300-68	50	27'11"	24'2"	19'9"	25'0"	20'11"	15'11"	22'4"	19'4"	15'10"	18'11"	15'6"	11'5"	20'7"	17'10"	14'3"	16'11"	13'9"	10'0"
1400S300-97	50	33'6"	30'5"	25'5"	35'3"	30'3"	24'4"	28'3"	25'0"	20'5"	27'11"	23'11"	19'1"	26'2"	23'0"	18'9"	25'7"	21'10"	17'4"

Span limit checks are performed for each of the following conditions:

- Span limit based on Moment for single & two span condition.
- Span limit based on combined bending and shear per Eq. C3.3.1-1 for multi-span.
- Span limited by deflection based on total load for L/240.
- Span limited by deflection based on Live Load only for L/360.
- Span limit based on shear alone, for single span condition.

Web stiffeners required at all interior supports.

Spans are based on continuous support of compression flange over the full length of the joist.

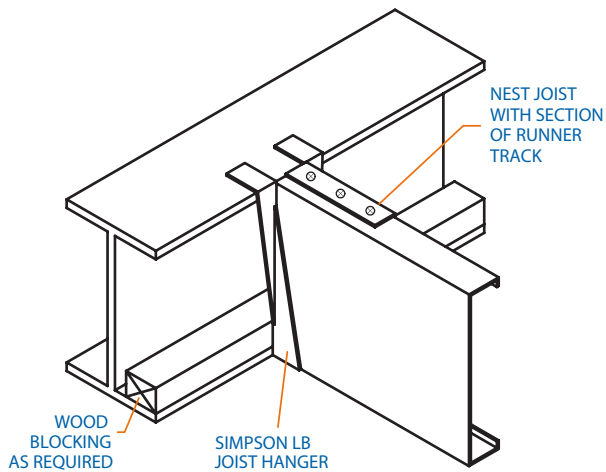
Joists must be braced against rotation at supports.

Deflection checks are based on the following conditions:

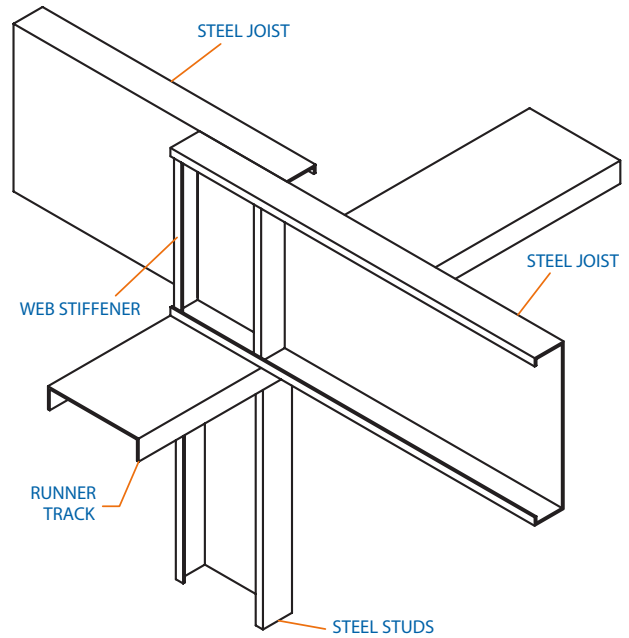
- Total load/240
- Live load/360

No skip loading has been considered.

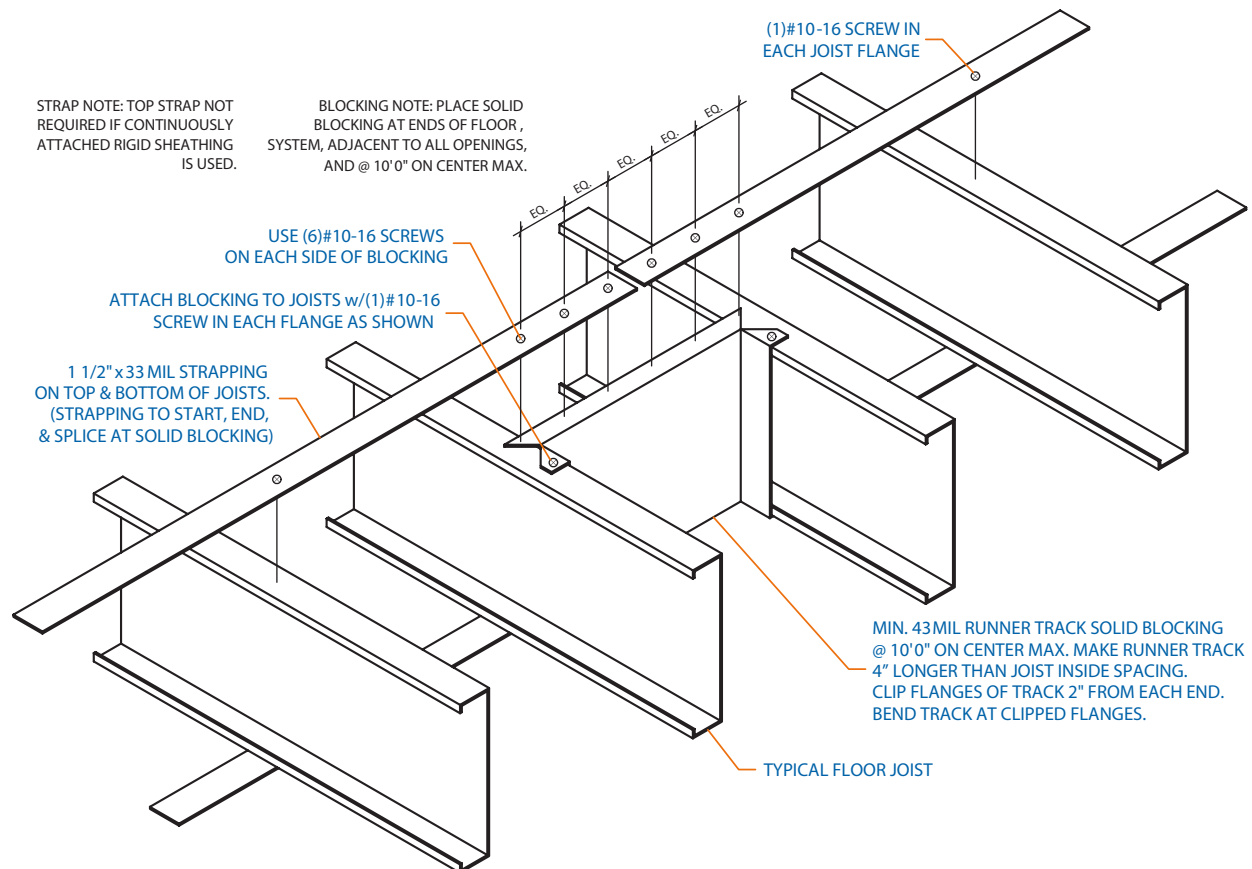
Joist bridging required at spacings not to exceed 6'-8".



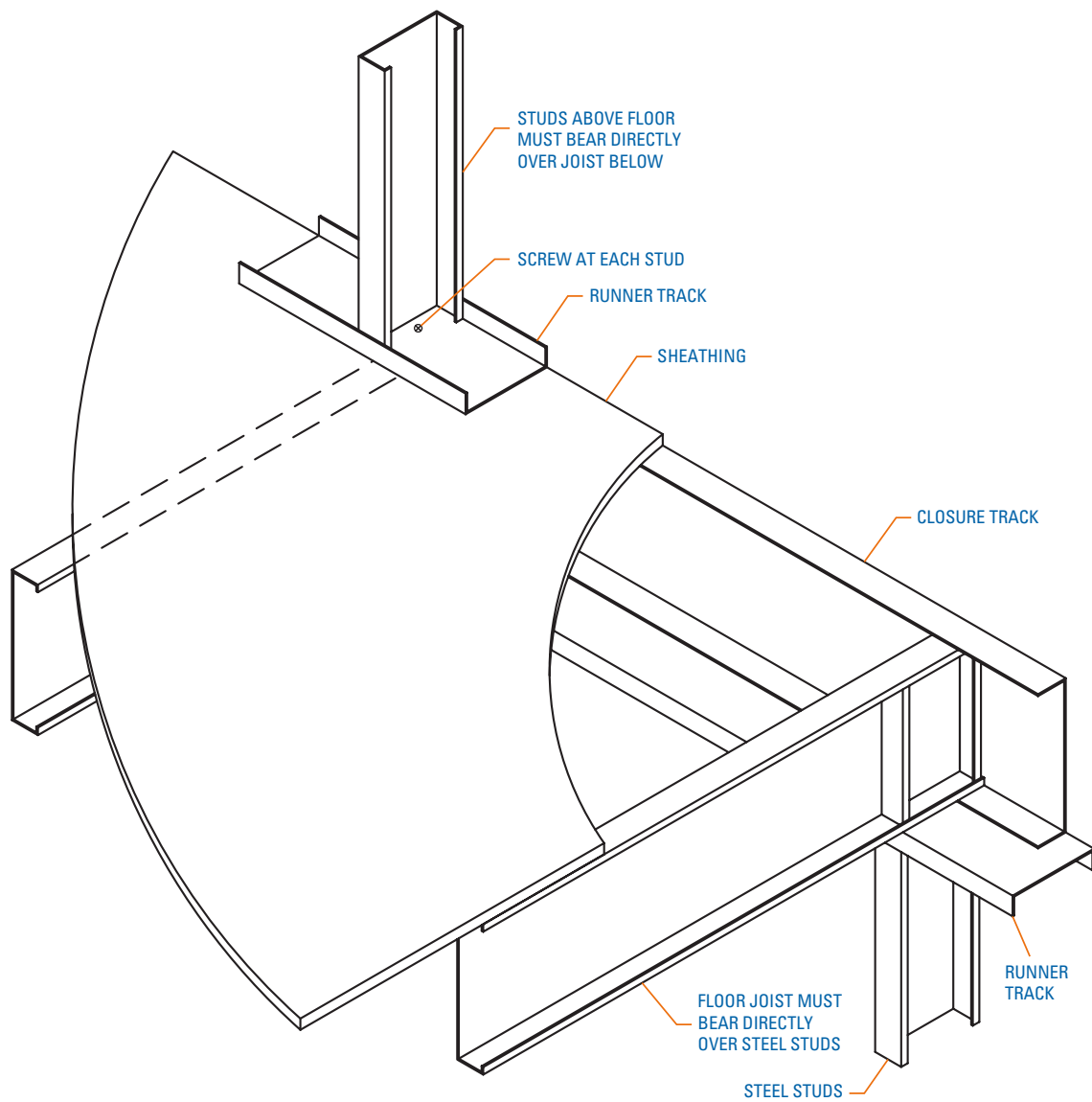
JOIST TO BEAM



JOIST BEARING OVER INTERIOR SUPPORT



JOIST BRIDGING



JOIST BRIDGING: JOIST END OVER LOAD BEARING STUD

Maximum Axial Loads for 8’ Studs with Combined Lateral Pressures (KLF)

Member	Fy (KSI)	5 PSF			15 PSF			20 PSF			25 PSF			30 PSF			35 PSF			40 PSF			50 PSF		
		12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
362S162-33	33	1.91	1.38	0.86	1.52	1.00	0.47	1.33	0.80	0.27	1.14	0.61	-	0.94	0.41	-	0.75	-	-	0.55	-	-	-	-	-
362S162-43	33	2.69	1.97	1.25	2.31	1.59	0.86	2.12	1.40	0.67	1.93	1.20	0.48	1.73	1.01	-	1.54	0.82	-	1.35	-	-	0.97	-	-
362S162-54	50	4.20	3.11	2.02	3.88	2.79	1.70	3.72	2.63	1.54	3.56	2.47	1.38	3.40	2.31	1.22	3.24	2.15	-	3.08	1.99	-	2.76	-	-
362S162-68	50	5.44	4.04	2.64	5.13	3.73	2.33	4.97	3.57	2.17	4.82	3.42	2.02	4.66	3.26	1.86	4.51	3.11	1.71	4.35	2.95	-	4.04	2.64	-
362S162-97	50	7.94	5.91	3.88	7.61	5.58	3.56	7.44	5.42	3.39	7.28	5.25	3.23	7.12	5.09	3.06	6.95	4.92	2.90	6.79	4.76	2.73	6.46	4.43	2.41
362S200-33	33	2.30	1.67	1.04	1.88	1.25	0.62	1.67	1.04	0.41	1.46	0.83	-	1.25	0.62	-	1.04	0.41	-	0.83	-	-	-	-	-
362S200-43	33	3.33	2.45	1.56	2.92	2.04	1.15	2.72	1.84	0.95	2.52	1.63	0.75	2.31	1.43	0.54	2.11	1.22	-	1.91	1.02	-	1.50	-	-
362S200-54	50	5.25	3.89	2.53	4.89	3.53	2.17	4.71	3.35	1.99	4.53	3.17	1.81	4.34	2.99	1.63	4.16	2.81	1.45	3.98	2.63	-	3.62	2.27	-
362S200-68	50	6.75	5.02	3.29	6.41	4.68	2.95	6.25	4.52	2.79	6.08	4.35	2.62	5.91	4.19	2.46	5.75	4.02	2.29	5.58	3.85	2.12	5.25	3.52	-
362S200-97	50	11.07	8.26	5.44	10.69	7.87	5.06	10.50	7.68	4.87	10.31	7.49	4.67	10.12	7.30	4.48	9.93	7.11	4.29	9.74	6.92	4.10	9.35	6.54	3.72
400S162-33	33	2.06	1.50	0.94	1.69	1.13	0.57	1.51	0.95	0.38	1.32	0.76	0.20	1.14	0.58	-	0.96	0.39	-	0.77	-	-	0.40	-	-
400S162-43	33	2.90	2.13	1.36	2.54	1.76	0.99	2.35	1.58	0.81	2.17	1.40	0.63	1.99	1.22	0.45	1.81	1.04	-	1.63	0.85	-	1.26	-	-
400S162-54	50	4.66	3.45	2.25	4.34	3.14	1.93	4.18	2.98	1.77	4.03	2.82	1.62	3.87	2.66	1.46	3.71	2.51	1.30	3.55	2.35	-	3.24	2.03	-
400S162-68	50	6.23	4.63	3.03	5.91	4.31	2.72	5.75	4.16	2.56	5.60	4.00	2.40	5.44	3.84	2.24	5.28	3.68	2.08	5.12	3.52	1.92	4.80	3.20	-
400S162-97	50	9.14	6.82	4.49	8.82	6.49	4.16	8.65	6.32	3.99	8.49	6.16	3.83	8.32	5.99	3.66	8.16	5.83	3.50	7.99	5.66	3.33	7.66	5.33	3.01
400S200-33	33	2.45	1.79	1.12	2.06	1.39	0.73	1.86	1.20	0.53	1.66	1.00	0.34	1.46	0.80	-	1.27	0.60	-	1.07	0.41	-	0.68	-	-
400S200-43	33	3.59	2.64	1.70	3.20	2.26	1.31	3.01	2.06	1.11	2.81	1.87	0.92	2.62	1.67	0.72	2.42	1.48	0.53	2.23	1.28	-	1.84	0.89	-
400S200-54	50	5.83	4.32	2.82	5.47	3.97	2.46	5.29	3.79	2.29	5.11	3.61	2.11	4.93	3.43	1.93	4.76	3.25	1.75	4.58	3.08	1.57	4.22	2.72	-
400S200-68	50	7.69	5.72	3.76	7.35	5.39	3.42	7.18	5.22	3.25	7.01	5.05	3.08	6.84	4.88	2.91	6.67	4.71	2.74	6.50	4.54	2.57	6.16	4.20	2.23
400S200-97	50	12.78	9.54	6.29	12.40	9.15	5.91	12.20	8.96	5.71	12.01	8.77	5.52	11.82	8.57	5.33	11.63	8.38	5.13	11.43	8.19	4.94	11.05	7.80	4.55
600S162-33	33	2.46	1.81	1.16	2.20	1.55	0.90	2.07	1.42	0.77	1.94	1.29	0.64	1.81	1.16	0.51	1.67	1.03	0.38	1.54	0.90	0.25	1.28	0.63	-
600S162-43	33	3.46	2.56	1.66	3.20	2.31	1.41	3.08	2.18	1.28	2.95	2.05	1.16	2.83	1.93	1.03	2.70	1.80	0.90	2.57	1.68	0.78	2.32	1.42	0.53
600S162-54	50	5.84	4.35	2.86	5.61	4.12	2.62	5.49	4.00	2.51	5.37	3.88	2.39	5.25	3.76	2.27	5.14	3.65	2.15	5.02	3.53	2.04	4.78	3.29	1.80
600S162-68	50	7.90	5.90	3.89	7.67	5.66	3.66	7.55	5.55	3.54	7.43	5.43	3.42	7.32	5.31	3.30	7.20	5.19	3.19	7.08	5.08	3.07	6.85	4.84	2.84
600S162-97	50	12.69	9.48	6.28	12.43	9.23	6.02	12.30	9.10	5.89	12.18	8.97	5.76	12.05	8.84	5.64	11.92	8.71	5.51	11.79	8.58	5.38	11.53	8.33	5.12
600S200-33	33	2.87	2.12	1.37	2.60	1.85	1.10	2.47	1.72	0.97	2.34	1.58	0.83	2.20	1.45	0.70	2.07	1.32	0.57	1.94	1.19	0.43	1.67	0.92	0.17
600S200-43	33	4.32	3.20	2.09	4.04	2.93	1.81	3.90	2.79	1.67	3.77	2.65	1.53	3.63	2.51	1.40	3.49	2.37	1.26	3.35	2.24	1.12	3.07	1.96	0.84
600S200-54	50	7.48	5.57	3.67	7.21	5.31	3.40	7.08	5.18	3.27	6.95	5.04	3.14	6.81	4.91	3.01	6.68	4.78	2.87	6.55	4.64	2.74	6.28	4.38	2.48
600S200-68	50	9.98	7.45	4.92	9.72	7.19	4.66	9.59	7.06	4.53	9.46	6.93	4.40	9.33	6.80	4.27	9.20	6.67	4.14	9.06	6.54	4.01	8.80	6.28	3.75
600S200-97	50	15.65	11.70	7.75	15.38	11.43	7.48	15.24	11.30	7.35	15.11	11.16	7.21	14.97	11.03	7.08	14.84	10.89	6.94	14.70	10.75	6.81	14.43	10.48	6.54
600S250-43	33	4.82	3.58	2.33	4.53	3.28	2.04	4.38	3.14	1.89	4.23	2.99	1.75	4.09	2.84	1.60	3.94	2.70	1.46	3.79	2.55	1.31	3.50	2.26	1.02
600S250-68	50	11.82	8.83	5.84	11.53	8.54	5.54	11.38	8.39	5.40	11.24	8.24	5.25	11.09	8.10	5.10	10.94	7.95	4.96	10.80	7.80	4.81	10.51	7.51	4.52
600S250-97	50	18.29	13.68	9.07	18.00	13.39	8.78	17.86	13.25	8.64	17.71	13.11	8.50	17.57	12.96	8.35	17.43	12.82	8.21	17.29	12.68	8.07	17.00	12.39	7.78
600S300-54	50	8.70	6.49	4.28	8.42	6.21	3.99	8.28	6.06	3.85	8.13	5.92	3.71	7.99	5.78	3.57	7.85	5.64	3.42	7.71	5.49	3.28	7.42	5.21	3.00
600S300-68	50	12.30	9.19	6.07	12.01	8.89	5.78	11.86	8.75	5.63	11.71	8.60	5.49	11.57	8.45	5.34	11.42	8.31	5.19	11.27	8.16	5.05	10.98	7.87	4.76
600S300-97	50	20.73	15.51	10.29	20.43	15.20	9.98	20.27	15.05	9.82	20.12	14.89	9.67	19.96	14.74	9.52	19.81	14.59	9.36	19.65	14.43	9.21	19.35	14.12	8.90
800S162-33	33	2.58	1.91	1.24	2.38	1.71	1.04	2.28	1.61	0.94	2.18	1.51	0.84	2.08	1.41	0.74	1.98	1.31	0.64	1.88	1.21	0.54	1.68	1.01	0.34
800S162-43	33	3.62	2.69	1.76	3.43	2.50	1.57	3.33	2.40	1.47	3.24	2.31	1.38	3.14	2.21	1.28	3.05	2.12	1.19	2.95	2.02	1.09	2.76	1.83	0.90
800S162-54	50	6.17	4.60	3.04	5.99	4.42	2.86	5.90	4.33	2.77	5.81	4.24	2.68	5.72	4.15	2.59	5.63	4.06	2.50	5.54	3.97	2.41	5.36	3.79	2.23
800S162-68	50	8.35	6.24	4.13	8.17	6.06	3.95	8.08	5.97	3.86	8.00	5.89	3.77	7.91	5.80	3.69	7.82	5.71	3.60	7.73	5.62	3.51	7.55	5.44	3.33
800S162-97	50	13.50	10.10	6.70	13.32	9.92	6.52	13.23	9.83	6.43	13.14	9.74	6.34	13.05	9.65	6.25	12.96	9.56	6.16	12.87	9.47	6.07	12.69	9.29	5.89
800S200-33	33	3.01	2.23	1.45	2.81	2.03	1.25	2.71	1.93	1.15	2.61	1.83	1.05	2.51	1.73	0.95	2.41	1.63	0.85	2.30	1.53	0.75	2.10	1.32	0.55
800S200-43	33	4.56	3.40	2.23	4.36	3.19	2.02	4.25	3.08	1.91	4.15	2.98	1.81	4.04	2.87	1.70	3.94	2.77	1.60	3.83	2.66	1.49	3.62	2.45	1.28
800S200-54	50	8.03	5.99	3.96	7.82	5.79	3.76	7.72	5.69	3.65	7.62	5.58	3.55	7.52	5.48	3.45	7.41	5.38	3.35	7.31	5.28	3.24	7.11	5.07	3.04
800S200-68	50	10.73	8.02	5.31	10.53	7.82	5.11	10.43	7.72	5.01	10.33	7.62	4.91	10.23	7.52	4.81	10.13	7.42	4.71	10.03	7.32	4.61	9.83	7.12	4.41
800S200-97	50	16.97	12.70	8.43	16.77	12.50	8.23	16.67	12.40	8.13	16.57	12.30	8.03	16.47	12.20	7.93	16.37	12.10	7.83	16.27	12.00	7.73	16.07	11.80	7.53
800S250-43	33	5.09	3.79	2.49	4.87	3.57	2.27	4.76	3.46	2.15	4.65	3.34	2.04	4.54	3.23	1.93	4.42	3.12	1.82	4.31	3.01	1.71	4.09	2.79	1.49
800S250-54	50	9.39	7.01	4.63	9.16	6.78	4.41	9.05	6.67	4.29	8.93	6.55	4.18	8.82	6.44	4.06	8.70	6.33	3.95	8.59	6.21	3.84	8.36	5.98	3.61
800S250-68	50	12.89	9.64	6.39	12.66	9.41	6.16	12.55	9.30	6.04	12.43	9.18	5.93	12.32	9.07	5.82	12.21	8.95	5.70	12.09	8.84	5.59	11.86	8.61	5.36
800S250-97	50	20.10	15.04																						

Maximum Axial Loads for 9' Studs with Combined Lateral Pressures (KLF)

Member	Fy (KSI)	5 PSF			15 PSF			20 PSF			25 PSF			30 PSF			35 PSF			40 PSF			50 PSF		
		12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
362S162-33	33	1.80	1.29	0.78	1.32	0.81	-	1.09	0.58	-	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-
362S162-43	33	2.55	1.85	1.15	2.08	1.38	0.69	1.85	1.15	-	1.61	0.92	-	1.38	-	-	1.15	-	-	-	-	-	-	-	-
362S162-54	50	3.94	2.90	1.87	3.55	2.52	1.49	3.36	2.33	1.30	3.17	2.14	-	2.98	1.95	-	2.79	-	-	2.60	-	-	-	-	-
362S162-68	50	5.08	3.76	2.44	4.71	3.39	2.07	4.52	3.20	1.89	4.34	3.02	1.70	4.15	2.83	-	3.96	2.65	-	3.78	2.46	-	3.41	-	-
362S162-97	50	7.38	5.49	3.59	6.99	5.10	3.20	6.80	4.90	3.01	6.61	4.71	2.81	6.41	4.52	2.62	6.22	4.32	2.43	6.02	4.13	-	5.63	3.74	-
362S200-33	33	2.17	1.56	0.95	1.66	1.05	0.44	1.40	0.79	-	1.14	-	-	0.89	-	-	-	-	-	-	-	-	-	-	-
362S200-43	33	3.15	2.30	1.45	2.65	1.80	0.95	2.41	1.56	0.71	2.16	1.31	-	1.91	1.06	-	1.66	-	-	1.42	-	-	-	-	-
362S200-54	50	4.89	3.61	2.34	4.46	3.18	1.91	4.25	2.97	1.69	4.03	2.75	1.48	3.82	2.54	-	3.60	2.33	-	3.39	-	-	2.96	-	-
362S200-68	50	6.27	4.65	3.03	5.87	4.26	2.64	5.68	4.06	2.44	5.48	3.86	2.25	5.28	3.67	2.05	5.09	3.47	-	4.89	3.27	-	4.50	-	-
362S200-97	50	10.28	7.65	5.02	9.83	7.20	4.57	9.60	6.97	4.35	9.37	6.75	4.12	9.15	6.52	3.89	8.92	6.30	3.67	8.70	6.07	3.44	8.25	5.62	-
400S162-33	33	1.96	1.41	0.86	1.51	0.96	0.41	1.28	0.73	-	1.05	0.50	-	0.83	-	-	0.60	-	-	-	-	-	-	-	-
400S162-43	33	2.78	2.03	1.27	2.33	1.58	0.83	2.11	1.35	0.60	1.88	1.13	-	1.66	0.90	-	1.43	-	-	1.21	-	-	-	-	-
400S162-54	50	4.43	3.28	2.12	4.05	2.89	1.73	3.86	2.70	1.54	3.67	2.51	1.35	3.47	2.32	-	3.28	2.13	-	3.09	1.93	-	2.71	-	-
400S162-68	50	5.94	4.40	2.87	5.55	4.01	2.48	5.35	3.82	2.29	5.16	3.63	2.09	4.97	3.43	1.90	4.77	3.24	-	4.58	3.05	-	4.19	2.66	-
400S162-97	50	8.65	6.44	4.23	8.26	6.04	3.83	8.06	5.85	3.63	7.86	5.65	3.43	7.66	5.45	3.23	7.47	5.25	3.04	7.27	5.05	2.84	6.87	4.66	-
400S200-33	33	2.34	1.69	1.04	1.85	1.20	0.56	1.61	0.96	0.32	1.37	0.72	-	1.12	0.48	-	0.88	-	-	0.64	-	-	-	-	-
400S200-43	33	3.43	2.51	1.59	2.96	2.04	1.12	2.72	1.80	0.88	2.48	1.56	0.64	2.24	1.32	-	2.00	1.08	-	1.76	0.84	-	1.28	-	-
400S200-54	50	5.51	4.08	2.65	5.08	3.65	2.22	4.87	3.43	2.00	4.65	3.22	1.79	4.44	3.00	1.57	4.22	2.79	-	4.01	2.57	-	3.58	-	-
400S200-68	50	7.29	5.41	3.54	6.88	5.00	3.13	6.67	4.80	2.92	6.47	4.59	2.72	6.26	4.39	2.51	6.06	4.18	2.31	5.85	3.98	2.10	5.44	3.57	-
400S200-97	50	12.05	8.98	5.91	11.59	8.52	5.44	11.36	8.29	5.21	11.13	8.05	4.98	10.89	7.82	4.75	10.66	7.59	4.52	10.43	7.36	4.29	9.97	6.90	3.83
600S162-33	33	2.41	1.76	1.12	2.08	1.43	0.79	1.91	1.27	0.63	1.75	1.11	0.46	1.59	0.94	0.30	1.42	0.78	0.13	1.26	0.61	-	0.93	0.28	-
600S162-43	33	3.40	2.51	1.62	3.09	2.19	1.30	2.93	2.03	1.14	2.77	1.87	0.98	2.61	1.72	0.82	2.45	1.56	0.66	2.29	1.40	0.50	1.97	1.08	0.19
600S162-54	50	5.76	4.28	2.80	5.46	3.99	2.51	5.32	3.84	2.36	5.17	3.69	2.21	5.02	3.54	2.06	4.87	3.40	1.92	4.73	3.25	1.77	4.43	2.95	1.47
600S162-68	50	7.80	5.81	3.83	7.51	5.52	3.53	7.36	5.37	3.38	7.21	5.23	3.24	7.07	5.08	3.09	6.92	4.93	2.94	6.77	4.78	2.79	6.48	4.49	2.50
600S162-97	50	12.54	9.36	6.19	12.22	9.04	5.87	12.06	8.88	5.70	11.90	8.72	5.54	11.74	8.56	5.38	11.57	8.40	5.22	11.41	8.24	5.06	11.09	7.91	4.74
600S200-33	33	2.81	2.07	1.32	2.48	1.73	0.98	2.31	1.56	0.82	2.14	1.40	0.65	1.97	1.23	0.48	1.81	1.06	0.31	1.64	0.89	0.15	1.30	0.56	-
600S200-43	33	4.24	3.14	2.03	3.90	2.79	1.68	3.72	2.62	1.51	3.55	2.44	1.34	3.37	2.27	1.16	3.20	2.09	0.99	3.03	1.92	0.82	2.68	1.57	0.47
600S200-54	50	7.34	5.46	3.59	7.01	5.13	3.25	6.84	4.97	3.09	6.68	4.80	2.92	6.51	4.63	2.76	6.35	4.47	2.59	6.18	4.30	2.42	5.85	3.97	2.09
600S200-68	50	9.81	7.32	4.82	9.48	6.99	4.49	9.32	6.83	4.33	9.16	6.66	4.17	8.99	6.50	4.00	8.83	6.34	3.84	8.67	6.17	3.68	8.34	5.85	3.35
600S200-97	50	15.40	11.51	7.61	15.06	11.17	7.27	14.89	11.00	7.11	14.72	10.83	6.94	14.55	10.66	6.77	14.39	10.49	6.60	14.22	10.32	6.43	13.88	9.99	6.09
600S250-43	33	4.74	3.50	2.27	4.37	3.14	1.91	4.18	2.95	1.72	4.00	2.77	1.54	3.82	2.59	1.35	3.63	2.40	1.17	3.45	2.22	0.99	3.08	1.85	0.62
600S250-68	50	11.59	8.64	5.70	11.22	8.28	5.34	11.04	8.10	5.15	10.86	7.91	4.97	10.68	7.73	4.79	10.49	7.55	4.61	10.31	7.37	4.42	9.95	7.00	4.06
600S250-97	50	17.94	13.41	8.88	17.59	13.05	8.52	17.41	12.88	8.34	17.23	12.70	8.17	17.05	12.52	7.99	16.87	12.34	7.81	16.69	12.16	7.63	16.34	11.81	7.27
800S300-54	50	8.55	6.37	4.18	8.19	6.01	3.83	8.01	5.83	3.65	7.84	5.65	3.47	7.66	5.47	3.29	7.48	5.30	3.11	7.30	5.12	2.93	6.94	4.76	2.58
800S300-68	50	12.09	9.02	5.95	11.72	8.65	5.58	11.54	8.47	5.40	11.35	8.29	5.22	11.17	8.10	5.03	10.99	7.92	4.85	10.80	7.74	4.67	10.44	7.37	4.30
800S300-97	50	20.31	15.18	10.06	19.93	14.80	9.67	19.73	14.61	9.48	19.54	14.42	9.29	19.35	14.22	9.10	19.16	14.03	8.90	18.97	13.84	8.71	18.58	13.46	8.33
800S162-33	33	2.55	1.88	1.21	2.29	1.62	0.95	2.17	1.50	0.83	2.04	1.37	0.70	1.91	1.24	0.57	1.78	1.11	0.44	1.66	0.99	0.32	1.40	0.73	0.06
800S162-43	33	3.59	2.66	1.73	3.35	2.42	1.49	3.22	2.29	1.37	3.10	2.17	1.24	2.98	2.05	1.12	2.86	1.93	1.00	2.74	1.81	0.88	2.49	1.56	0.63
800S162-54	50	6.13	4.57	3.00	5.90	4.34	2.78	5.79	4.22	2.66	5.67	4.11	2.55	5.56	3.99	2.43	5.44	3.88	2.32	5.33	3.77	2.20	5.10	3.54	1.97
800S162-68	50	8.31	6.20	4.10	8.08	5.98	3.87	7.97	5.86	3.76	7.86	5.75	3.64	7.75	5.64	3.53	7.63	5.53	3.42	7.52	5.41	3.31	7.29	5.19	3.08
800S162-97	50	13.45	10.05	6.66	13.22	9.83	6.44	13.10	9.71	6.32	12.99	9.60	6.21	12.88	9.48	6.09	12.76	9.37	5.98	12.65	9.26	5.86	12.42	9.03	5.64
800S200-33	33	2.98	2.20	1.42	2.72	1.94	1.16	2.59	1.81	1.04	2.46	1.69	0.91	2.33	1.56	0.78	2.21	1.43	0.65	2.08	1.30	0.52	1.82	1.04	0.27
800S200-43	33	4.52	3.36	2.19	4.26	3.09	1.93	4.12	2.96	1.79	3.99	2.82	1.66	3.86	2.69	1.53	3.72	2.56	1.39	3.59	2.43	1.26	3.32	2.16	0.99
800S200-54	50	7.97	5.94	3.92	7.71	5.68	3.66	7.58	5.55	3.53	7.45	5.42	3.40	7.32	5.29	3.27	7.19	5.16	3.14	7.06	5.03	3.00	6.80	4.77	2.74
800S200-68	50	10.66	7.96	5.26	10.40	7.71	5.01	10.28	7.58	4.88	10.15	7.45	4.76	10.02	7.33	4.63	9.90	7.20	4.50	9.77	7.07	4.38	9.52	6.82	4.12
800S200-97	50	16.87	12.62	8.37	16.62	12.37	8.12	16.49	12.24	7.99	16.37	12.12	7.86	16.24	11.99	7.74	16.11	11.86	7.61	15.99	11.74	7.49	15.73	11.48	7.23
800S250-43	33	5.04	3.75	2.45	4.76	3.46	2.17	4.62	3.32	2.03	4.48	3.18	1.88	4.34	3.04	1.74	4.20	2.90	1.60	4.06	2.76	1.46	3.77	2.48	1.18
800S250-54	50	9.31	6.94	4.58	9.02	6.66	4.29	8.88	6.51	4.15	8.73	6.37	4.00	8.59	6.22	3.86	8.44	6.08	3.71	8.30	5.93	3.57	8.01	5.64	3.28
800S250-68	50	12.78	9.55	6.32	12.49	9.26	6.03	12.35	9.11	5.88	12.20	8.97	5.74	12.06	8.83	5.59	11.91	8.68	5.45	11.77	8.54	5.30	11.48	8.25	5.02
800S250-97	50	19.95	14.92	9.90	19.67	14.64	9.62	19.53	14.50	9.48	19.39	14.36	9.34	19.25	14.22	9.20	19.11	14.08	9.06	18.97	13.94	8.92	18.69	13.66	8.64
800S300-54	50																								

Maximum Axial Loads for 10' Studs with Combined Lateral Pressures (KLF)

Member	Fy (KSI)	5 PSF			15 PSF			20 PSF			25 PSF			30 PSF			35 PSF			40 PSF			50 PSF		
		12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
362S162-33	33	1.67	1.18	0.69	1.11	0.62	-	0.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-43	33	2.39	1.72	1.05	1.84	1.17	-	1.56	-	-	1.28	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-54	50	3.64	2.68	1.71	3.20	2.23	1.27	2.98	2.01	-	2.76	-	-	2.54	-	-	-	-	-	-	-	-	-	-	
362S162-68	50	4.67	3.45	2.23	4.25	3.02	1.80	4.03	2.81	1.59	3.82	2.60	-	3.61	2.39	-	3.40	-	-	3.19	-	-	-	-	
362S162-97	50	6.77	5.02	3.27	6.33	4.58	2.83	6.11	4.36	2.61	5.89	4.14	2.39	5.67	3.92	-	5.44	3.69	-	5.22	3.47	-	4.78	-	
362S200-33	33	2.03	1.45	0.86	1.42	0.84	-	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-43	33	2.95	2.14	1.33	2.37	1.56	0.74	2.08	1.26	-	1.78	-	-	1.49	-	-	-	-	-	-	-	-	-	-	
362S200-54	50	4.51	3.32	2.13	4.01	2.82	1.63	3.77	2.58	-	3.52	2.33	-	3.27	-	-	3.03	-	-	-	-	-	-	-	
362S200-68	50	5.75	4.26	2.76	5.30	3.81	2.31	5.08	3.58	2.09	4.85	3.36	-	4.63	3.13	-	4.40	2.91	-	4.18	-	-	-	-	
362S200-97	50	9.42	7.00	4.58	8.91	6.48	4.06	8.65	6.23	3.81	8.39	5.97	3.55	8.13	5.71	3.29	7.88	5.46	-	7.62	5.20	-	7.11	-	
400S162-33	33	1.85	1.32	0.79	1.30	0.77	-	1.03	-	-	0.76	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-43	33	2.64	1.91	1.18	2.10	1.37	0.65	1.83	1.11	-	1.57	0.84	-	1.30	-	-	-	-	-	-	-	-	-	-	
400S162-54	50	4.18	3.07	1.97	3.73	2.62	1.52	3.50	2.40	1.30	3.28	2.17	-	3.05	1.95	-	2.82	-	-	2.60	-	-	-	-	
400S162-68	50	5.59	4.14	2.68	5.14	3.68	2.23	4.91	3.46	2.00	4.68	3.23	1.77	4.46	3.00	-	4.23	2.77	-	4.00	-	-	3.55	-	
400S162-97	50	8.09	6.01	3.93	7.63	5.55	3.47	7.40	5.32	3.24	7.17	5.09	3.01	6.94	4.86	2.78	6.71	4.63	-	6.48	4.40	-	6.02	3.94	
400S200-33	33	2.21	1.59	0.96	1.63	1.00	0.38	1.34	0.71	-	1.05	-	-	0.76	-	-	-	-	-	-	-	-	-	-	
400S200-43	33	3.26	2.37	1.48	2.69	1.80	0.92	2.40	1.52	-	2.12	1.23	-	1.84	-	-	1.55	-	-	-	-	-	-	-	
400S200-54	50	5.17	3.81	2.46	4.66	3.31	1.95	4.41	3.06	1.70	4.16	2.81	-	3.91	2.55	-	3.66	2.30	-	3.41	-	-	-	-	
400S200-68	50	6.83	5.06	3.30	6.36	4.59	2.82	6.12	4.35	2.58	5.88	4.11	2.34	5.64	3.87	-	5.40	3.63	-	5.16	3.39	-	4.69	-	
400S200-97	50	11.24	8.36	5.48	10.70	7.83	4.95	10.44	7.56	4.68	10.17	7.29	4.41	9.90	7.02	4.15	9.63	6.76	3.88	9.37	6.49	3.61	8.83	5.95	
600S162-33	33	2.35	1.71	1.07	1.95	1.31	0.67	1.75	1.11	0.47	1.54	0.90	0.26	1.34	0.70	0.06	1.14	0.50	-	0.94	0.30	-	0.53	-	
600S162-43	33	3.34	2.46	1.57	2.95	2.06	1.18	2.75	1.87	0.98	2.56	1.67	0.79	2.36	1.48	0.59	2.17	1.28	0.40	1.97	1.09	0.20	1.58	0.70	
600S162-54	50	5.66	4.20	2.74	5.30	3.84	2.38	5.12	3.66	2.20	4.94	3.48	2.02	4.76	3.30	1.83	4.58	3.12	1.65	4.40	2.93	1.47	4.04	2.57	
600S162-68	50	7.68	5.71	3.75	7.32	5.35	3.39	7.14	5.17	3.21	6.96	4.99	3.03	6.78	4.81	2.85	6.60	4.63	2.67	6.42	4.46	2.49	6.06	4.10	
600S162-97	50	12.36	9.22	6.08	11.96	8.82	5.68	11.77	8.63	5.49	11.57	8.43	5.29	11.37	8.23	5.09	11.18	8.04	4.90	10.98	7.84	4.70	10.59	7.45	
600S200-33	33	2.75	2.01	1.27	2.34	1.60	0.86	2.13	1.39	0.65	1.93	1.19	0.45	1.72	0.98	0.24	1.52	0.78	0.04	1.31	0.57	-	0.90	0.16	
600S200-43	33	4.16	3.06	1.97	3.73	2.64	1.54	3.52	2.42	1.33	3.31	2.21	1.12	3.09	2.00	0.91	2.88	1.79	0.69	2.67	1.57	0.48	2.24	1.15	
600S200-54	50	7.18	5.33	3.49	6.78	4.93	3.08	6.57	4.73	2.88	6.37	4.53	2.68	6.17	4.32	2.48	5.97	4.12	2.28	5.77	3.92	2.07	5.36	3.52	
600S200-68	50	9.61	7.15	4.70	9.21	6.76	4.30	9.01	6.56	4.11	8.81	6.36	3.91	8.61	6.16	3.71	8.42	5.96	3.51	8.22	5.76	3.31	7.82	5.37	
600S200-97	50	15.09	11.27	7.44	14.68	10.86	7.03	14.48	10.65	6.83	14.27	10.45	6.62	14.07	10.24	6.42	13.86	10.04	6.21	13.66	9.83	6.01	13.25	9.42	
600S250-43	33	4.64	3.42	2.21	4.19	2.97	1.76	3.97	2.75	1.53	3.74	2.52	1.31	3.52	2.30	1.08	3.29	2.08	0.86	3.07	1.85	0.63	2.62	1.40	
600S250-68	50	11.31	8.43	5.54	10.87	7.99	5.10	10.65	7.76	4.88	10.43	7.54	4.66	10.21	7.32	4.44	9.99	7.10	4.22	9.76	6.88	4.00	9.32	6.44	
600S250-97	50	17.53	13.09	8.66	17.10	12.66	8.22	16.89	12.45	8.01	16.67	12.23	7.79	16.45	12.02	7.58	16.24	11.80	7.36	16.02	11.58	7.14	15.59	11.15	
600S300-54	50	8.37	6.22	4.07	7.93	5.79	3.64	7.72	5.57	3.42	7.50	5.35	3.21	7.28	5.14	2.99	7.07	4.92	2.77	6.85	4.70	2.56	6.42	4.27	
600S300-68	50	11.84	8.82	5.81	11.40	8.38	5.36	11.17	8.16	5.14	10.95	7.93	4.92	10.73	7.71	4.69	10.50	7.49	4.47	10.28	7.26	4.25	9.84	6.82	
600S300-97	50	19.82	14.80	9.79	19.35	14.34	9.32	19.12	14.11	9.09	18.89	13.87	8.86	18.65	13.64	8.63	18.42	13.41	8.40	18.19	13.18	8.16	17.73	12.71	
800S162-33	33	2.51	1.84	1.17	2.20	1.53	0.86	2.04	1.37	0.70	1.88	1.21	0.54	1.72	1.05	0.39	1.57	0.90	0.23	1.41	0.74	0.07	1.00	0.42	
800S162-43	33	3.55	2.63	1.70	3.25	2.32	1.40	3.10	2.17	1.25	2.95	2.02	1.10	2.80	1.87	0.95	2.65	1.72	0.79	2.50	1.57	0.64	2.20	1.27	
800S162-54	50	6.08	4.53	2.97	5.80	4.24	2.69	5.66	4.10	2.54	5.52	3.96	2.40	5.38	3.82	2.26	5.24	3.68	2.12	5.09	3.54	1.98	4.81	3.25	
800S162-68	50	8.26	6.16	4.06	7.98	5.88	3.78	7.84	5.74	3.64	7.70	5.60	3.50	7.56	5.46	3.36	7.42	5.32	3.22	7.28	5.18	3.08	7.01	4.91	
800S162-97	50	13.38	10.00	6.62	13.10	9.72	6.34	12.96	9.58	6.20	12.82	9.44	6.05	12.68	9.30	5.91	12.54	9.16	5.77	12.40	9.01	5.63	12.11	8.73	
800S200-33	33	2.94	2.16	1.39	2.62	1.84	1.07	2.46	1.69	0.91	2.30	1.53	0.75	2.14	1.37	0.59	1.98	1.21	0.43	1.83	1.05	0.28	1.51	0.73	
800S200-43	33	4.48	3.31	2.15	4.15	2.99	1.82	3.98	2.82	1.66	3.82	2.66	1.49	3.65	2.49	1.33	3.49	2.33	1.17	3.32	2.16	1.00	2.99	1.83	
800S200-54	50	7.89	5.88	3.86	7.57	5.56	3.54	7.41	5.40	3.38	7.25	5.24	3.22	7.09	5.08	3.06	6.93	4.92	2.90	6.77	4.76	2.74	6.45	4.43	
800S200-68	50	10.57	7.89	5.21	10.26	7.58	4.89	10.10	7.42	4.74	9.95	7.26	4.58	9.79	7.11	4.42	9.63	6.95	4.27	9.48	6.79	4.11	9.17	6.48	
800S200-97	50	16.75	12.53	8.30	16.44	12.21	7.99	16.29	12.06	7.83	16.13	11.90	7.67	15.98	11.75	7.52	15.82	11.59	7.36	15.67	11.44	7.21	15.35	11.13	
800S250-43	33	4.99	3.70	2.40	4.64	3.35	2.06	4.47	3.17	1.88	4.29	3.00	1.71	4.12	2.83	1.53	3.94	2.65	1.36	3.77	2.48	1.19	3.42	2.13	
800S250-54	50	9.22	6.87	4.52	8.86	6.51	4.16	8.68	6.33	3.98	8.50	6.15	3.80	8.32	5.97	3.62	8.14	5.79	3.44	7.97	5.62	3.27	7.61	5.26	
800S250-68	50	12.65	9.44	6.23	12.29	9.08	5.88	12.11	8.91	5.70	11.94	8.73	5.52	11.76	8.55	5.34	11.58	8.37	5.17	11.40	8.20	4.99	11.05	7.84	
800S250-97	50	19.76	14.78	9.79	19.42	14.43	9.45	19.24	14.26	9.27	19.07	14.09	9.10	18.90	13.91	8.93	18.73	13.74	8.76	18.55	13.57	8.59	18.21	13.23	
800S300-54	50	9.17	6.84	4.50	8.83	6.49	4.15	8.66	6.32	3.98	8.48	6.15	3.81	8.31	5.97	3.63	8.14	5.80	3.46	7.97	5.63	3.29	7.62	5.28	
800S300-68	50	13.04	9.73	6.43	12.68	9.38	6.07	12.51	9.20	5.90	12.33	9.02	5.72	12.15	8.85	5.54	11.97	8.67	5.36	11.80	8.49	5.19	11.44	8.14	
800S300-97	50	22.50	16.82	11.15	22.12	16.45	10.77	21.93	16.26	10.59	21.74	16.07	10.40	21.55	15.88	10.21	21.37	15.69	10.02	21.18	15.51	9.83	20.80	15.13</	

Maximum Axial Loads for 12' Studs with Combined Lateral Pressures (KLF)

Member	Fy (KSI)	5 PSF			15 PSF			20 PSF			25 PSF			30 PSF			35 PSF			40 PSF			50 PSF		
		12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
362S162-33	33	1.39	0.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-43	33	2.04	1.44	0.84	1.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-54	50	2.97	2.16	1.35	2.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-68	50	3.79	2.78	1.77	3.28	2.27	-	3.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-97	50	5.45	4.02	2.59	4.93	3.50	2.07	4.67	3.24	-	4.41	-	-	4.15	-	-	-	-	-	-	-	-	-	-	
362S200-33	33	1.73	1.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-43	33	2.52	1.80	1.07	1.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-54	50	3.66	2.67	1.68	3.07	2.08	-	2.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-68	50	4.65	3.42	2.19	4.12	2.89	-	3.86	2.62	-	3.59	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-97	50	7.60	5.63	3.65	7.00	5.02	3.04	6.70	4.72	-	6.40	4.42	-	6.09	-	-	5.79	-	-	-	-	-	-	-	
400S162-33	33	1.59	1.10	0.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-43	33	2.32	1.65	0.98	1.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-54	50	3.58	2.62	1.65	3.01	2.05	-	2.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-68	50	4.75	3.49	2.23	4.18	2.92	-	3.90	2.64	-	3.62	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-97	50	6.82	5.04	3.27	6.26	4.48	2.70	5.97	4.20	-	5.69	3.91	-	5.41	-	-	5.12	-	-	-	-	-	-	-	
400S200-33	33	1.94	1.35	0.77	1.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S200-43	33	2.86	2.05	1.24	2.11	1.30	-	1.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S200-54	50	4.40	3.22	2.04	3.77	2.59	-	3.46	2.28	-	3.14	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S200-68	50	5.80	4.28	2.75	5.21	3.68	2.16	4.91	3.39	-	4.62	3.09	-	4.32	-	-	-	-	-	-	-	-	-	-	
400S200-97	50	9.47	7.02	4.57	8.81	6.36	3.91	8.48	6.03	3.58	8.16	5.71	-	7.83	5.38	-	7.50	5.05	-	7.17	-	-	-	-	
600S162-33	33	2.21	1.59	0.96	1.64	1.02	0.39	1.36	0.73	-	1.07	0.45	-	0.79	-	-	0.50	-	-	-	-	-	-	-	
600S162-43	33	3.18	2.32	1.45	2.63	1.77	0.90	2.36	1.49	0.62	2.08	1.22	0.35	1.81	0.94	-	1.53	0.66	-	1.25	-	-	0.70	-	
600S162-54	50	5.40	3.99	2.57	4.90	3.48	2.07	4.64	3.23	1.82	4.39	2.98	1.56	4.14	2.73	1.31	3.89	2.47	-	3.64	2.22	-	3.13	-	
600S162-68	50	7.35	5.45	3.55	6.85	4.95	3.05	6.60	4.70	2.80	6.35	4.45	2.54	6.10	4.20	2.29	5.85	3.94	2.04	5.60	3.69	-	5.09	3.19	
600S162-97	50	11.84	8.81	5.78	11.30	8.26	5.23	11.02	7.99	4.96	10.75	7.72	4.69	10.47	7.44	4.41	10.20	7.17	4.14	9.93	6.90	3.87	9.38	6.35	
600S200-33	33	2.60	1.87	1.15	2.02	1.29	0.57	1.73	1.00	0.28	1.44	0.72	-	1.15	0.43	-	0.86	-	-	0.57	-	-	-	-	
600S200-43	33	3.94	2.88	1.82	3.34	2.28	1.22	3.05	1.99	0.93	2.75	1.69	0.63	2.45	1.39	-	2.15	1.09	-	1.86	0.80	-	1.26	-	
600S200-54	50	6.76	5.00	3.24	6.21	4.45	2.69	5.93	4.17	2.41	5.65	3.89	2.13	5.38	3.61	1.85	5.10	3.34	-	4.82	3.06	-	4.27	2.50	
600S200-68	50	9.08	6.74	4.40	8.53	6.19	3.86	8.26	5.92	3.58	7.99	5.65	3.31	7.72	5.38	3.04	7.44	5.10	2.76	7.17	4.83	2.49	6.62	4.28	
600S200-97	50	14.29	10.65	7.00	13.73	10.08	6.44	13.45	9.80	6.16	13.17	9.52	5.88	12.88	9.24	5.60	12.60	8.96	5.32	12.32	8.68	5.03	11.76	8.12	
600S250-43	33	4.41	3.23	2.05	3.78	2.60	1.42	3.47	2.29	1.10	3.15	1.97	0.79	2.84	1.66	0.47	2.52	1.34	-	2.21	1.03	-	1.58	-	
600S250-68	50	10.63	7.90	5.16	10.03	7.29	4.56	9.72	6.99	4.26	9.42	6.69	3.95	9.12	6.39	3.65	8.82	6.08	3.35	8.52	5.78	3.05	7.91	5.18	
600S250-97	50	16.51	12.31	8.11	15.93	11.72	7.52	15.63	11.43	7.22	15.34	11.13	6.93	15.04	10.84	6.63	14.75	10.54	6.34	14.45	10.25	6.04	13.86	9.66	
800S300-54	50	7.94	5.88	3.82	7.34	5.28	3.22	7.04	4.98	2.92	6.74	4.68	2.62	6.44	4.38	2.32	6.14	4.08	2.02	5.84	3.78	-	5.24	3.18	
800S300-68	50	11.27	8.38	5.48	10.66	7.76	4.86	10.35	7.45	4.55	10.04	7.14	4.25	9.73	6.83	3.94	9.42	6.53	3.63	9.11	6.22	3.32	8.50	5.60	
800S300-97	50	18.62	13.89	9.15	17.99	13.26	8.52	17.68	12.94	8.20	17.36	12.62	7.89	17.04	12.31	7.57	16.73	11.99	7.26	16.41	11.68	6.94	15.78	11.04	
800S162-33	33	2.43	1.76	1.10	1.97	1.31	0.64	1.75	1.08	0.42	1.52	0.86	0.19	1.29	0.63	-	1.07	0.40	-	0.84	0.17	-	0.39	-	
800S162-43	33	3.47	2.54	1.62	3.03	2.11	1.19	2.82	1.89	0.97	2.60	1.68	0.76	2.38	1.46	0.54	2.17	1.24	0.32	1.95	1.03	0.11	1.52	0.59	
800S162-54	50	5.97	4.43	2.88	5.57	4.02	2.48	5.36	3.82	2.27	5.16	3.62	2.07	4.96	3.41	1.87	4.76	3.21	1.66	4.55	3.01	1.46	4.15	2.60	
800S162-68	50	8.13	6.05	3.96	7.73	5.65	3.56	7.53	5.45	3.37	7.33	5.25	3.17	7.13	5.05	2.97	6.94	4.85	2.77	6.74	4.65	2.57	6.34	4.25	
800S162-97	50	13.22	9.86	6.50	12.81	9.46	6.10	12.61	9.25	5.90	12.41	9.05	5.70	12.21	8.85	5.50	12.01	8.65	5.29	11.80	8.45	5.09	11.40	8.04	
800S200-33	33	2.84	2.07	1.31	2.39	1.62	0.85	2.16	1.39	0.62	1.93	1.16	0.39	1.70	0.94	0.17	1.48	0.71	-	1.25	0.48	-	0.79	0.02	
800S200-43	33	4.36	3.21	2.06	3.89	2.74	1.59	3.65	2.50	1.35	3.41	2.27	1.12	3.18	2.03	0.88	2.94	1.79	0.64	2.71	1.56	0.41	2.24	1.09	
800S200-54	50	7.70	5.72	3.73	7.24	5.26	3.28	7.02	5.03	3.05	6.79	4.80	2.82	6.56	4.58	2.59	6.33	4.35	2.36	6.10	4.12	2.13	5.65	3.66	
800S200-68	50	10.34	7.70	5.06	9.90	7.26	4.61	9.68	7.03	4.39	9.45	6.81	4.17	9.23	6.59	3.94	9.01	6.36	3.72	8.79	6.14	3.50	8.34	5.70	
800S200-97	50	16.43	12.27	8.10	15.99	11.83	7.66	15.77	11.60	7.44	15.55	11.38	7.22	15.33	11.16	7.00	15.11	10.94	6.78	14.88	10.72	6.55	14.44	10.28	
800S250-43	33	4.85	3.58	2.30	4.35	3.08	1.80	4.10	2.83	1.55	3.86	2.58	1.30	3.61	2.33	1.05	3.36	2.08	0.81	3.11	1.83	0.56	2.61	1.34	
800S250-54	50	8.97	6.66	4.36	8.46	6.16	3.85	8.21	5.90	3.59	7.96	5.65	3.34	7.70	5.39	3.09	7.45	5.14	2.83	7.19	4.89	2.58	6.69	4.38	
800S250-68	50	12.29	9.15	6.02	11.79	8.65	5.52	11.54	8.40	5.26	11.29	8.15	5.01	11.04	7.90	4.76	10.78	7.65	4.51	10.53	7.40	4.26	10.03	6.89	
800S250-97	50	19.25	14.38	9.50	18.77	13.89	9.02	18.52	13.65	8.77	18.28	13.40	8.53	18.04	13.16	8.29	17.79	12.92	8.04	17.55	12.67	7.80	17.06	12.19	
800S300-54	50	8.92	6.63	4.34	8.43	6.14	3.85	8.19	5.89	3.60	7.94	5.65	3.35	7.70	5.40	3.11	7.45	5.16	2.86	7.21	4.91	2.62	6.71	4.42	
800S300-68	50	12.70	9.46	6.22	12.20	8.96	5.72	11.94	8.71	5.47	11.69	8.45	5.22	11.44	8.20	4.97	11.19	7.95	4.71	10.94	7.70	4.46	10.44	7.20	
800S300-97	50	21.83	16.30	10.78	21.30	15.77	10.25	21.03	15.51	9.98	20.77	15.24	9.72	20.50	14.98	9.45	20.24	14.71	9.19	19.97	14.45	8.93	19.44	13.92	

Load capacities shown are pounds-per-linear-foot (PLF), NOT pounds-per-stud. For per stud capacity, multiply capacity shown by span/12.

Wind loads of 15 PSF or greater are multiplied by 0.7 for deflection check.

Axial load capacities based on unfactored lateral and axial loading.

WARNING: No eccentricity of axial load or p-delta effects have been considered, which is very rare in application.

If lateral loads causes failure in moment, shear, or deflection limits, no capacity is provided.

Deflection limits based on a maximum deflection of L/600.

Axial capacities shown are in kips (1,000 Lb increments).

Strength increase from cold working has been used where appropriate.

Web crippling has not been considered. See web crippling tables for effects.

Allowable loads are all based on single span condition.

Studs considered to be braced at 48" on center.

Maximum Axial Loads for 14' Studs with Combined Lateral Pressures (KLF)

Member	Fy (KSI)	5 PSF			15 PSF			20 PSF			25 PSF			30 PSF			35 PSF			40 PSF			50 PSF		
		12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
362S162-33	33	1.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-43	33	1.66	1.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-54	50	2.35	1.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-68	50	3.01	2.19	1.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S162-97	50	4.30	3.15	2.00	3.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-33	33	1.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-43	33	2.07	1.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-54	50	2.89	2.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-68	50	3.69	2.69	1.70	3.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
362S200-97	50	6.02	4.43	2.84	5.36	3.77	-	5.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-33	33	1.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-43	33	1.97	1.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-54	50	2.94	2.12	1.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-68	50	3.84	2.80	1.76	3.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S162-97	50	5.48	4.03	2.58	4.85	3.40	-	4.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S200-33	33	1.63	1.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S200-43	33	2.44	1.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S200-54	50	3.60	2.61	1.62	2.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S200-68	50	4.69	3.43	2.17	4.02	2.77	-	3.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400S200-97	50	7.64	5.64	3.64	6.91	4.91	-	6.55	4.54	-	6.18	-	-	-	-	-	-	-	-	-	-	-	-	-	
600S162-33	33	2.04	1.43	0.83	1.29	0.68	-	0.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
600S162-43	33	2.98	2.14	1.31	2.26	1.42	0.58	1.89	1.06	-	1.53	-	-	1.17	-	-	-	-	-	-	-	-	-	-	
600S162-54	50	5.04	3.70	2.35	4.39	3.05	1.70	4.06	2.72	-	3.74	2.39	-	3.41	-	-	3.08	-	-	-	-	-	-	-	
600S162-68	50	6.89	5.08	3.28	6.24	4.44	2.63	5.92	4.11	2.31	5.59	3.79	-	5.27	3.46	-	4.94	3.14	-	4.62	-	-	-	-	
600S162-97	50	11.10	8.23	5.37	10.39	7.53	4.67	10.04	7.18	4.31	9.69	6.83	3.96	9.34	6.47	3.61	8.99	6.12	-	8.63	5.77	-	7.93	-	
600S200-33	33	2.41	1.71	1.01	1.65	0.95	-	1.26	0.57	-	0.88	-	-	-	-	-	-	-	-	-	-	-	-	-	
600S200-43	33	3.67	2.65	1.64	2.89	1.88	0.86	2.50	1.49	-	2.12	1.10	-	1.73	-	-	1.34	-	-	-	-	-	-	-	
600S200-54	50	6.24	4.59	2.94	5.53	3.88	2.23	5.17	3.53	1.88	4.82	3.17	-	4.47	2.82	-	4.11	-	-	3.76	-	-	-	-	
600S200-68	50	8.40	6.21	4.03	7.71	5.52	3.33	7.36	5.17	2.98	7.01	4.82	2.63	6.66	4.48	-	6.32	4.13	-	5.97	3.78	-	5.27	-	
600S200-97	50	13.25	9.84	6.44	12.53	9.13	5.73	12.18	8.77	5.37	11.82	8.42	5.01	11.46	8.06	4.66	11.10	7.70	4.30	10.75	7.34	-	10.03	6.63	
800S162-33	33	4.14	3.00	1.86	3.31	2.17	1.03	2.90	1.76	0.62	2.49	1.35	-	2.07	0.93	-	1.66	-	-	1.25	-	-	-	-	
800S250-68	50	9.80	7.26	4.71	9.04	6.49	3.94	8.65	6.11	3.56	8.27	5.72	3.17	7.89	5.34	2.79	7.50	4.96	-	7.12	4.57	-	6.35	-	
800S250-97	50	15.27	11.36	7.45	14.52	10.61	6.70	14.15	10.24	6.32	13.77	9.86	5.95	13.40	9.49	5.58	13.03	9.12	5.20	12.65	8.74	4.83	11.91	8.00	
800S300-54	50	7.42	5.47	3.51	6.64	4.69	2.74	6.26	4.30	2.35	5.87	3.92	-	5.48	3.53	-	5.10	3.14	-	4.71	-	-	-	-	
800S300-68	50	10.60	7.85	5.10	9.81	7.05	4.30	9.41	6.65	3.90	9.01	6.26	3.50	8.61	5.86	3.10	8.21	5.46	-	7.81	5.06	-	7.01	-	
800S300-97	50	17.21	12.81	8.40	16.41	12.01	7.60	16.01	11.61	7.20	15.61	11.21	6.80	15.21	10.81	6.40	14.81	10.41	6.00	14.41	10.01	5.60	13.61	9.21	
800S162-33	33	2.32	1.67	1.01	1.71	1.05	0.39	1.40	0.74	0.09	1.10	0.44	-	0.79	0.13	-	0.48	-	-	0.18	-	-	-	-	
800S162-43	33	3.36	2.44	1.53	2.77	1.86	0.94	2.48	1.57	0.65	2.19	1.27	0.36	1.89	0.98	0.07	1.60	0.69	-	1.31	0.39	-	0.72	-	
800S162-54	50	5.82	4.30	2.77	5.28	3.75	2.23	5.00	3.48	1.95	4.73	3.20	1.68	4.46	2.93	1.41	4.18	2.66	1.13	3.91	2.38	-	3.36	1.84	
800S162-68	50	7.95	5.90	3.84	7.42	5.36	3.30	7.15	5.09	3.04	6.88	4.82	2.77	6.61	4.56	2.50	6.34	4.29	2.23	6.08	4.02	1.96	5.54	3.48	
800S162-97	50	12.97	9.66	6.35	12.43	9.12	5.80	12.16	8.84	5.53	11.89	8.57	5.26	11.61	8.30	4.99	11.34	8.03	4.72	11.07	7.76	4.45	10.53	7.22	
800S200-33	33	2.73	1.97	1.21	2.11	1.35	0.59	1.81	1.05	0.29	1.50	0.74	-	1.19	0.43	-	0.89	0.13	-	0.58	-	-	-	-	
800S200-43	33	4.20	3.07	1.94	3.57	2.44	1.31	3.25	2.12	0.99	2.94	1.81	0.68	2.62	1.49	0.36	2.30	1.17	0.04	1.99	0.86	-	1.36	0.23	
800S200-54	50	7.43	5.50	3.56	6.82	4.89	2.95	6.52	4.58	2.65	6.21	4.28	2.35	5.91	3.98	2.04	5.61	3.67	1.74	5.30	3.37	1.43	4.70	2.76	
800S200-68	50	10.01	7.43	4.85	9.42	6.84	4.26	9.12	6.54	3.97	8.83	6.25	3.67	8.53	5.95	3.37	8.23	5.66	3.08	7.94	5.36	2.78	7.35	4.77	
800S200-97	50	15.95	11.89	7.82	15.36	11.30	7.24	15.07	11.00	6.94	14.77	10.71	6.65	14.48	10.42	6.35	14.18	10.12	6.06	13.89	9.83	5.77	13.30	9.24	
800S250-43	33	4.68	3.42	2.17	4.01	2.76	1.50	3.68	2.42	1.17	3.34	2.09	0.84	3.01	1.76	0.50	2.68	1.42	0.17	2.34	1.09	-	1.68	0.42	
800S250-54	50	8.64	6.39	4.15	7.96	5.72	3.47	7.63	5.38	3.14	7.29	5.05	2.80	6.95	4.71	2.46	6.62	4.37	2.13	6.28	4.04	1.79	5.61	3.36	
800S250-68	50	11.80	8.77	5.73	11.14	8.11	5.07	10.81	7.77	4.74	10.48	7.44	4.41	10.15	7.11	4.08	9.81	6.78	3.74	9.48	6.45	3.41	8.82	5.79	
800S250-97	50	18.54	13.82	9.11	17.90	13.18	8.47	17.58	12.86	8.14	17.26	12.54	7.82	16.94	12.22	7.50	16.61	11.90	7.18	16.29	11.58	6.86	15.65	10.93	
800S300-54	50	8.59	6.36	4.13	7.94	5.71	3.48	7.62	5.39	3.16	7.29	5.06	2.83	6.97	4.74	2.50	6.64	4.41	2.18	6.32	4.09	1.85	5.67	3.43	
800S300-68	50	12.26	9.11	5.96	11.59	8.44	5.29	11.26	8.11	4.96	10.92	7.78	4.63	10.59	7.44	4.29	10.26	7.11	3.96	9.92	6.78	3.63	9.26	6.11	
800S300-97	50	20.94	15.62	10.29	20.25	14.92	9.60	19.90	14.57	9.25	19.55	14.23	8.90	19.20	13.88	8.56	18.86	13.53	8.21	18.51	13.18	7.86	17.81	12.49	

Load capacities shown are pounds-per-linear-foot (PLF), NOT pounds-per-stud. For per stud capacity, multiply capacity shown by span/12.

Wind loads of 15 PSF or greater are multiplied by 0.7 for deflection check.

Axial load capacities based on unfactored lateral and axial loading.

WARNING: No eccentricity of axial load or p-delta effects have been considered, which is very rare in application.

If lateral loads causes failure in moment, shear, or deflection limits, no capacity is provided.

Deflection limits based on a maximum deflection of L/600.

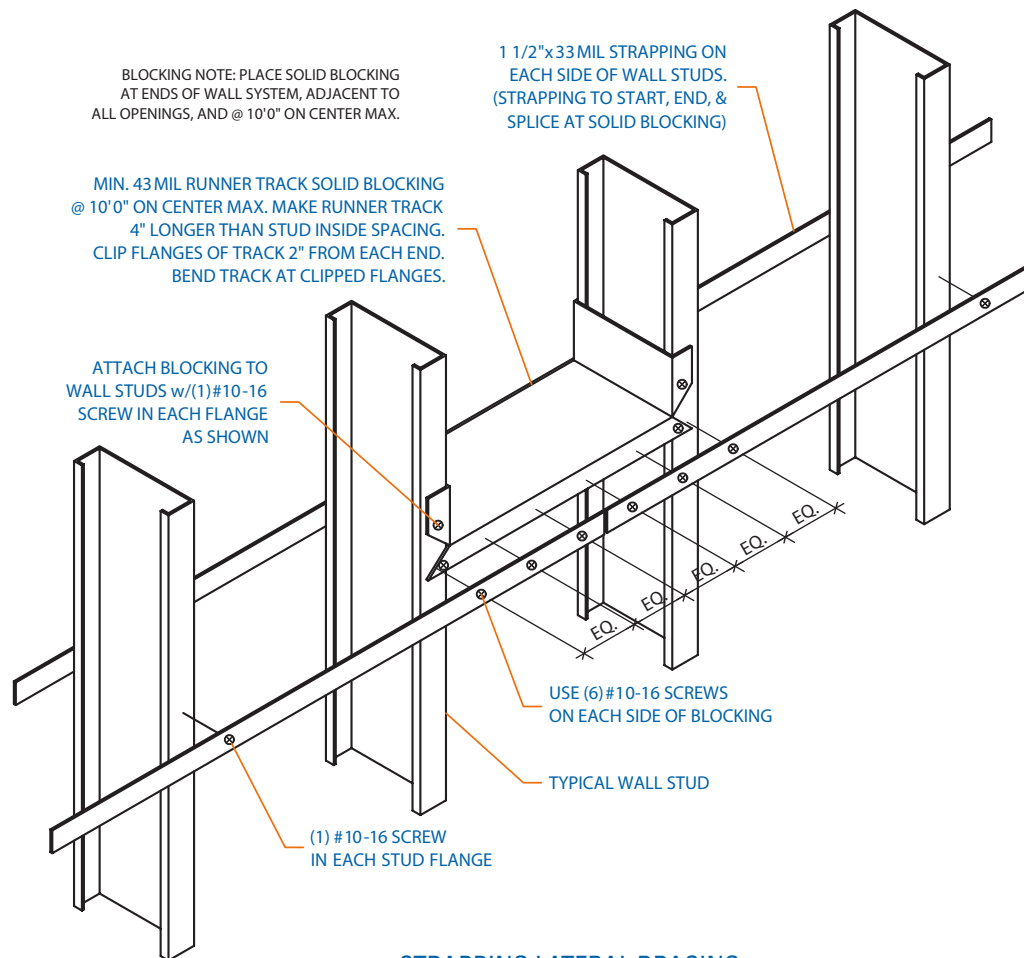
Axial capacities shown are in kips (1,000 Lb increments).

Strength increase from cold working has been used where appropriate.

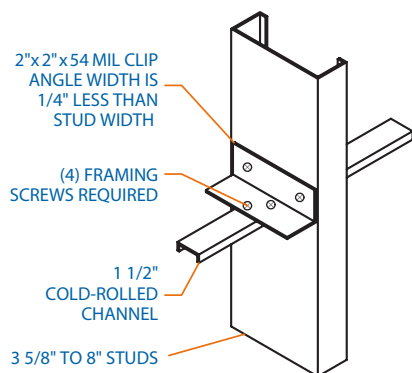
Web crippling has not been considered. See web crippling tables for effects.

Allowable loads are all based on single span condition.

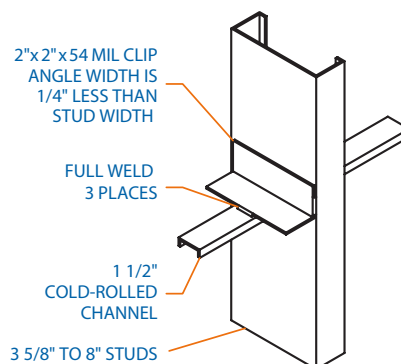
Studs considered to be braced at 48" on center.



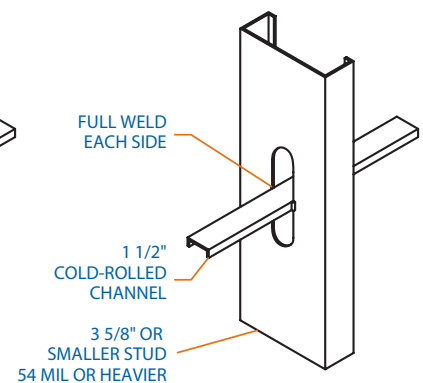
STRAPPING LATERAL BRACING



LATERAL BRACING SCREW ATTACHMENT



LATERAL BRACING WELD ATTACHMENT



Web Crippling Loads - Single Members (Stud or Joist)

Member	Design Thickness	Fy (KSI)	Values Expressed in Pounds											
			One Flange End (Cond. 1)			One Flange Interior (Cond. 2)			Two Flange End (Cond. 3)			Two Flange Interior (Cond. 4)		
			Bearing Length			Bearing Length			Bearing Length			Bearing Length		
			1"	3.5"	6"	1"	3.5"	6"	1"	3.5"	6"	1"	3.5"	6"
162S__-18	0.0188"	33	55	90 ¹	112 ^{1,2}	87	125 ¹	151 ^{1,2}	45	64 ¹	76 ^{1,2}	115	152 ¹	176 ^{1,2}
162S__-27	0.0283"	33	122	194 ¹	242 ^{1,2}	218	304 ¹	361 ^{1,2}	111	151 ¹	178 ^{1,2}	274	351 ¹	402 ^{1,2}
162S__-30	0.0312"	33	148	233 ¹	290 ¹	269	373 ¹	442 ¹	137	185 ¹	217 ¹	336	428 ¹	488 ^{1,2}
250S__-18	0.0188"	33	52	84	106 ^{1,2}	85	122	147 ^{1,2}	37	51	61 ^{1,2}	103	137	159 ^{1,2}
250S__-27	0.0283"	33	117	186	231 ^{1,2}	213	298	354 ^{1,2}	96	130	153 ^{1,2}	253	324	371 ^{1,2}
250S__-30	0.0312"	33	141	223	277 ¹	264	366	433 ¹	119	161	189 ¹	312	397	453 ¹
250S__-33	0.0346"	33	173	271	336 ¹	330	453	535 ¹	150	201	235 ¹	389	491	559 ¹
250S__-43	0.0451"	33	287	443	547 ¹	580	780	913 ¹	267	351	407 ¹	681	844	952 ¹
250S__-54	0.0566"	33	433	657	806 ¹	891	1,178	1,369 ¹	430	556	639 ¹	1,080	1,317	1,474 ¹
250S__-54	0.0566"	50	656	996	1,222 ¹	1,350	1,785	2,075 ¹	652	842	968 ¹	1,637	1,995	2,234 ¹
250S__-68	0.0713"	33	654	977	1,191 ¹	1,368	1,778	2,050 ¹	693	880	1,004 ¹	1,717	2,061	2,291 ¹
250S__-68	0.0713"	50	990	1,480	1,805 ¹	2,073	2,694	3,106 ¹	1,049	1,333	1,521 ¹	2,601	3,123	3,470 ¹
362S__-18	0.0188"	33	49	79	99 ²	82	119	143 ²	27	39	46 ²	92	121	141 ²
362S__-27	0.0283"	33	111	177	220 ²	209	291	346 ²	80	108	127 ²	232	296	340 ²
362S__-30	0.0312"	33	135	213	265	258	358	424	101	136	160	287	365	417
362S__-33	0.0346"	33	165	259	322	323	444	525	129	173	202	360	454	517
362S__-43	0.0451"	33	277	427	526	570	767	898	236	311	360	639	791	892
362S__-54	0.0566"	33	419	636	780	877	1,160	1,348	388	501	577	1,021	1,245	1,393
362S__-54	0.0566"	50	634	963	1,182	1,329	1,758	2,043	588	760	874	1,547	1,886	2,111
362S__-68	0.0713"	33	635	948	1,157	1,349	1,754	2,022	635	806	920	1,634	1,962	2,180
362S__-68	0.0713"	50	962	1,437	1,753	2,044	2,657	3,064	961	1,221	1,393	2,476	2,973	3,304
362S__-97	0.1017"	33	1,206	1,755	2,120	2,626	3,324	3,787	1,333	1,651	1,862	3,355	3,941	4,331
362S__-97	0.1017"	50	1,827	2,659	3,212	3,979	5,036	5,738	2,020	2,501	2,821	5,084	5,972	6,562
400S__-18	0.0188"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
400S__-27	0.0283"	33	109	174	217 ²	207	289	344 ²	75	102	120 ²	225	288	330 ²
400S__-30	0.0312"	33	133	210	261	257	356	421	95	129	151	280	356	406
400S__-33	0.0346"	33	163	256	317	322	442	522	122	164	192	352	444	505
400S__-43	0.0451"	33	274	422	520	567	763	893	227	299	346	626	775	874
400S__-54	0.0566"	33	415	629	772	873	1,155	1,342	376	485	558	1,003	1,223	1,370
400S__-54	0.0566"	50	628	954	1,170	1,323	1,750	2,034	569	735	846	1,520	1,854	2,075
400S__-68	0.0713"	33	629	940	1,147	1,344	1,746	2,014	617	784	895	1,610	1,933	2,148
400S__-68	0.0713"	50	953	1,424	1,737	2,036	2,646	3,051	936	1,188	1,356	2,439	2,929	3,255
400S__-97	0.1017"	33	1,197	1,742	2,105	2,617	3,312	3,774	1,305	1,616	1,823	3,315	3,894	4,278
400S__-97	0.1017"	50	1,814	2,640	3,189	3,965	5,018	5,718	1,978	2,448	2,761	5,022	5,899	6,482
600S__-18	0.0188"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
600S__-27	0.0283"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
600S__-30	0.0312"	33	124	196	244	249	345	409	70	95	111	246	312	356
600S__-33	0.0346"	33	153	240	297	313	430	507	93	125	146	312	393	448
600S__-43	0.0451"	33	259	400	493	553	745	872	185	243	282	567	702	792
600S__-54	0.0566"	33	395	600	736	855	1,131	1,314	318	411	473	923	1,125	1,259
600S__-54	0.0566"	50	599	909	1,116	1,295	1,713	1,991	482	623	716	1,398	1,704	1,908
600S__-68	0.0713"	33	604	902	1,100	1,319	1,714	1,976	539	684	781	1,498	1,799	1,998
600S__-68	0.0713"	50	914	1,366	1,666	1,998	2,596	2,994	816	1,036	1,183	2,270	2,725	3,028
600S__-97	0.1017"	33	1,157	1,684	2,034	2,576	3,260	3,714	1,175	1,455	1,641	3,128	3,674	4,037
600S__-97	0.1017"	50	1,752	2,551	3,081	3,902	4,939	5,628	1,781	2,205	2,487	4,739	5,567	6,116
800S__-118	0.1242"	50	2,528	3,625	4,354	5,698	7,108	8,046	2,734	3,339	3,741	7,146	8,298	9,063
800S__-33	0.0346"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
800S__-43	0.0451"	33	247	381	470	542	730	854	150	197	228	518	642	724
800S__-54	0.0566"	33	379	576	706	839	1,110	1,290	270	349	402	855	1,042	1,167
800S__-54	0.0566"	50	575	872	1,070	1,272	1,682	1,955	409	529	608	1,296	1,579	1,768
800S__-68	0.0713"	33	582	870	1,061	1,297	1,686	1,944	473	601	685	1,405	1,686	1,874
800S__-68	0.0713"	50	882	1,318	1,607	1,966	2,555	2,946	716	910	1,038	2,128	2,555	2,839
800S__-97	0.1017"	33	1,123	1,635	1,975	2,541	3,216	3,665	1,068	1,322	1,491	2,973	3,492	3,837
800S__-97	0.1017"	50	1,702	2,477	2,992	3,850	4,873	5,553	1,618	2,003	2,259	4,504	5,291	5,813
800S__-118	0.1242"	50	2,462	3,531	4,241	5,629	7,023	7,949	2,518	3,075	3,445	6,833	7,933	8,665
1000S__-43	0.0451"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
1000S__-54	0.0566"	33	365	554	680	826	1,092	1,269	228	295	339	796	970	1,086
1000S__-54	0.0566"	50	553	840	1,031	1,251	1,655	1,923	346	447	514	1,206	1,470	1,646
1000S__-68	0.0713"	33	563	842	1,027	1,279	1,662	1,917	415	527	602	1,323	1,588	1,765
1000S__-68	0.0713"	50	854	1,275	1,556	1,938	2,518	2,904	629	799	912	2,004	2,406	2,674
1000S__-97	0.1017"	33	1,094	1,592	1,923	2,511	3,178	3,622	974	1,206	1,360	2,837	3,333	3,662

¹ Bearing length to web height ratio, N/h exceeds limit of 2.

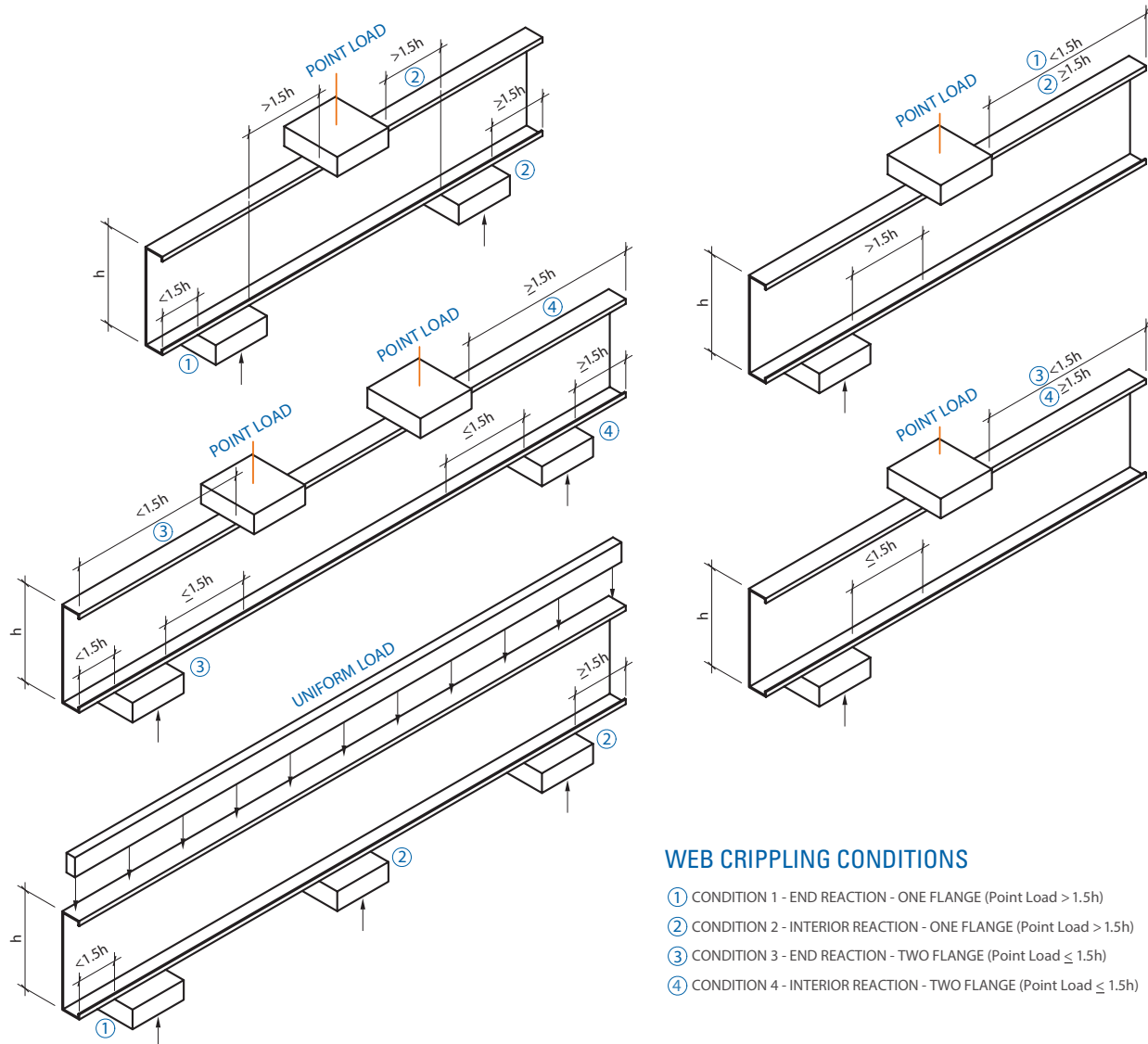
² Bearing length to thickness ratio, N/t exceeds limit of 210.

All members assumed fastened to support.

h/t: web depth to thickness ratio exceeds 200; bearing stiffeners required at supports and at concentrated loads.

Web Crippling Loads - Single Members (Stud or Joist)

Member	Design Thickness	F _y (KSI)	Values Expressed in Pounds											
			One Flange End (Cond. 1)			One Flange Interior (Cond. 2)			Two Flange End (Cond. 3)			Two Flange Interior (Cond. 4)		
			Bearing Length			Bearing Length			Bearing Length			Bearing Length		
			1"	3.5"	6"	1"	3.5"	6"	1"	3.5"	6"	1"	3.5"	6"
1000S__97	0.1017"	50	1,657	2,413	2,914	3,805	4,816	5,488	1,476	1,827	2,060	4,299	5,050	5,549
1000S__118	0.1242"	50	2,405	3,449	4,143	5,569	6,948	7,864	2,330	2,845	3,187	6,559	7,616	8,318
1200S__54	0.0566"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
1200S__54	0.0566"	50	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
1200S__68	0.0713"	33	547	817	996	1,262	1,641	1,892	363	462	527	1,249	1,500	1,666
1200S__68	0.0713"	50	828	1,237	1,509	1,913	2,486	2,866	551	699	798	1,892	2,272	2,525
1200S__97	0.1017"	33	1,068	1,554	1,877	2,484	3,144	3,583	889	1,101	1,242	2,716	3,190	3,505
1200S__97	0.1017"	50	1,618	2,355	2,844	3,764	4,764	5,429	1,348	1,668	1,882	4,115	4,833	5,311
1200S__118	0.1242"	50	2,354	3,375	4,054	5,515	6,881	7,788	2,161	2,638	2,956	6,314	7,331	8,007
1400S__68	0.0713"	33	531	793	968	1,247	1,621	1,869	316	401	458	1,181	1,419	1,576
1400S__68	0.0713"	50	805	1,202	1,466	1,890	2,456	2,832	479	608	694	1,790	2,149	2,388
1400S__97	0.1017"	33	1,044	1,519	1,835	2,460	3,113	3,547	812	1,005	1,134	2,604	3,059	3,361
1400S__97	0.1017"	50	1,581	2,302	2,780	3,727	4,717	5,375	1,230	1,523	1,718	3,946	4,635	5,093



WEB CRIPPLING CONDITIONS

- ① CONDITION 1 - END REACTION - ONE FLANGE (Point Load $> 1.5h$)
- ② CONDITION 2 - INTERIOR REACTION - ONE FLANGE (Point Load $> 1.5h$)
- ③ CONDITION 3 - END REACTION - TWO FLANGE (Point Load $\leq 1.5h$)
- ④ CONDITION 4 - INTERIOR REACTION - TWO FLANGE (Point Load $\leq 1.5h$)

Web Crippling Loads - Double Members (Stud or Joist)

Member	Design Thickness	Fy (KSI)	Values Expressed in Pounds											
			One Flange End (Cond. 1)			One Flange Interior (Cond. 2)			Two Flange End (Cond. 3)			Two Flange Interior (Cond. 4)		
			Bearing Length			Bearing Length			Bearing Length			Bearing Length		
			1"	3.5"	6"	1"	3.5"	6"	1"	3.5"	6"	1"	3.5"	6"
162S__-18	0.0188"	33	247 ¹	392 ¹	488 ^{1,2}	312	434 ¹	514 ^{1,2}	151	200 ¹	232 ^{1,2}	305	403 ¹	468 ^{1,2}
162S__-27	0.0283"	33	535	826 ¹	1,020 ^{1,2}	727	977 ¹	1,144 ^{1,2}	368	472 ¹	540 ^{1,2}	771	987 ¹	1,131 ^{1,2}
162S__-30	0.0312"	33	642	985 ¹	1,213 ¹	887	1,183 ¹	1,380 ¹	454	577 ¹	659 ¹	957	1,216 ¹	1,389 ¹
250S__-18	0.0188"	33	247	391	487 ^{1,2}	312	433	513 ^{1,2}	129	171	198 ^{1,2}	261	345	401 ^{1,2}
250S__-27	0.0283"	33	534	825	1,018 ^{1,2}	726	975	1,141 ^{1,2}	329	421	482 ^{1,2}	688	881	1,010 ^{1,2}
250S__-30	0.0312"	33	641	983	1,211 ¹	885	1,181	1,378 ¹	408	519	593 ¹	861	1,094	1,250 ¹
250S__-33	0.0346"	33	777	1,184	1,455 ¹	1,092	1,445	1,680 ¹	512	647	736 ¹	1,088	1,373	1,562 ¹
250S__-43	0.0451"	33	1,273	1,904	2,323 ¹	1,864	2,418	2,786 ¹	910	1,127	1,271 ¹	1,964	2,432	2,743 ¹
250S__-54	0.0566"	33	1,895	2,787	3,380 ¹	2,850	3,635	4,156 ¹	1,461	1,781	1,993 ¹	3,159	3,851	4,311 ¹
250S__-54	0.0566"	50	2,871	4,223	5,121 ¹	4,318	5,507	6,297 ¹	2,213	2,698	3,020 ¹	4,786	5,835	6,532 ¹
250S__-68	0.0713"	33	2,832	4,094	4,933 ¹	4,370	5,481	6,219 ¹	2,347	2,819	3,132 ¹	5,077	6,096	6,774 ¹
250S__-68	0.0713"	50	4,291	6,204	7,475 ¹	6,622	8,304	9,422 ¹	3,557	4,271	4,745 ¹	7,692	9,237	10,263 ¹
362S__-18	0.0188"	33	246	390	486 ²	311	431	512 ²	107	141	164 ²	215	285	331 ²
362S__-27	0.0283"	33	533	823	1,015 ²	724	973	1,139 ²	288	369	422 ²	603	772	884 ²
362S__-30	0.0312"	33	640	981	1,208	883	1,179	1,375	361	459	524	761	968	1,105
362S__-33	0.0346"	33	776	1,182	1,452	1,090	1,443	1,677	458	578	657	972	1,226	1,395
362S__-43	0.0451"	33	1,271	1,901	2,319	1,861	2,414	2,781	830	1,027	1,159	1,790	2,217	2,501
362S__-54	0.0566"	33	1,892	2,783	3,375	2,846	3,629	4,150	1,349	1,645	1,842	2,918	3,558	3,983
362S__-54	0.0566"	50	2,867	4,217	5,113	4,312	5,499	6,288	2,045	2,493	2,790	4,422	5,391	6,035
362S__-68	0.0713"	33	2,828	4,089	4,927	4,365	5,474	6,210	2,193	2,633	2,925	4,742	5,694	6,327
362S__-68	0.0713"	50	4,285	6,196	7,465	6,613	8,293	9,410	3,322	3,989	4,432	7,185	8,627	9,586
362S__-97	0.1017"	33	5,282	7,432	8,861	8,469	10,360	11,617	4,584	5,385	5,917	9,915	11,647	12,797
362S__-97	0.1017"	50	8,002	11,261	13,425	12,832	15,697	17,602	6,946	8,159	8,965	15,023	17,646	19,390
400S__-18	0.0188"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
400S__-27	0.0283"	33	533	822	1,015 ²	724	973	1,138 ²	276	353	405 ²	577	739	847 ²
400S__-30	0.0312"	33	639	981	1,208	883	1,178	1,374	347	441	504	732	931	1,063
400S__-33	0.0346"	33	776	1,182	1,451	1,089	1,442	1,676	442	557	634	938	1,183	1,346
400S__-43	0.0451"	33	1,271	1,900	2,318	1,860	2,413	2,780	806	998	1,126	1,739	2,154	2,429
400S__-54	0.0566"	33	1,891	2,782	3,373	2,845	3,628	4,148	1,317	1,605	1,797	2,848	3,472	3,886
400S__-54	0.0566"	50	2,866	4,215	5,111	4,310	5,497	6,285	1,995	2,432	2,723	4,315	5,260	5,889
400S__-68	0.0713"	33	2,827	4,088	4,925	4,363	5,471	6,208	2,147	2,578	2,865	4,644	5,576	6,196
400S__-68	0.0713"	50	4,284	6,193	7,462	6,611	8,290	9,406	3,253	3,906	4,340	7,036	8,449	9,387
400S__-97	0.1017"	33	5,280	7,430	8,858	8,466	10,357	11,613	4,508	5,295	5,819	9,750	11,453	12,584
400S__-97	0.1017"	50	8,000	11,257	13,421	12,827	15,692	17,596	6,831	8,023	8,816	14,773	17,353	19,067
600S__-18	0.0188"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
600S__-27	0.0283"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
600S__-30	0.0312"	33	638	978	1,204	881	1,175	1,371	283	359	410	596	758	865
600S__-33	0.0346"	33	774	1,179	1,448	1,087	1,438	1,672	366	462	526	778	982	1,117
600S__-43	0.0451"	33	1,268	1,896	2,313	1,856	2,408	2,774	696	862	972	1,501	1,859	2,097
600S__-54	0.0566"	33	1,888	2,776	3,367	2,839	3,621	4,140	1,165	1,420	1,590	2,520	3,072	3,439
600S__-54	0.0566"	50	2,860	4,207	5,101	4,302	5,486	6,273	1,765	2,152	2,409	3,818	4,654	5,210
600S__-68	0.0713"	33	2,822	4,080	4,916	4,355	5,462	6,197	1,937	2,326	2,584	4,189	5,030	5,589
600S__-68	0.0713"	50	4,276	6,182	7,449	6,599	8,276	9,390	2,935	3,524	3,915	6,347	7,621	8,468
600S__-97	0.1017"	33	5,272	7,418	8,845	8,453	10,341	11,596	4,157	4,884	5,366	8,992	10,562	11,605
600S__-97	0.1017"	50	7,988	11,240	13,401	12,808	15,669	17,569	6,299	7,399	8,130	13,624	16,003	17,584
800S__-118	0.1242"	50	11,392	15,784	18,703	18,650	22,513	25,081	9,616	11,165	12,195	20,797	24,147	26,374
800S__-33	0.0346"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
800S__-43	0.0451"	33	1,266	1,892	2,309	1,853	2,403	2,769	603	747	843	1,302	1,613	1,819
800S__-54	0.0566"	33	1,885	2,772	3,361	2,834	3,615	4,133	1,038	1,266	1,417	2,246	2,738	3,065
800S__-54	0.0566"	50	2,855	4,200	5,093	4,295	5,477	6,263	1,573	1,918	2,147	3,402	4,148	4,643
800S__-68	0.0713"	33	2,818	4,074	4,909	4,349	5,454	6,188	1,762	2,115	2,350	3,810	4,575	5,083
800S__-68	0.0713"	50	4,270	6,173	7,438	6,589	8,263	9,376	2,669	3,205	3,561	6,932	8,432	9,302
800S__-97	0.1017"	33	5,265	7,409	8,834	8,443	10,328	11,581	3,867	4,542	4,991	8,363	9,823	10,794
800S__-97	0.1017"	50	7,978	11,226	13,384	12,792	15,649	17,548	5,859	6,882	7,562	12,671	14,884	16,354
800S__-118	0.1242"	50	11,379	15,766	18,682	18,629	22,488	25,052	9,028	10,482	11,449	19,524	22,670	24,760
1000S__-43	0.0451"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
1000S__-54	0.0566"	33	1,882	2,768	3,356	2,830	3,610	4,127	927	1,130	1,265	2,005	2,445	2,737
1000S__-54	0.0566"	50	2,851	4,194	5,086	4,288	5,469	6,254	1,405	1,713	1,917	3,038	3,704	4,146
1000S__-68	0.0713"	33	2,815	4,069	4,903	4,343	5,447	6,180	1,608	1,931	2,146	3,478	4,176	4,640
1000S__-68	0.0713"	50	4,264	6,165	7,428	6,581	8,253	9,364	2,437	2,926	3,251	5,270	6,328	7,031
1000S__-97	0.1017"	33	5,260	7,401	8,824	8,434	10,317	11,569	3,613	4,244	4,663	7,814	9,178	10,085

¹ Bearing length to web height ratio, N/h exceeds limit of 2.

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

All members assumed fastened to support.

h/t: web depth to thickness ratio exceeds 200; bearing stiffeners required at supports and at concentrated loads.

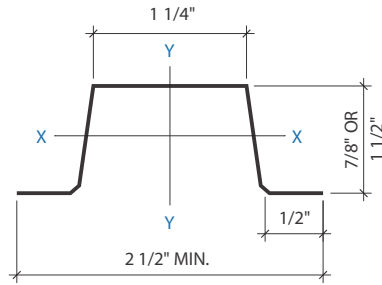
Web Crippling Loads - Double Members (Stud or Joist)

			Values Expressed in Pounds											
			One Flange End (Cond. 1)			One Flange Interior (Cond. 2)			Two Flange End (Cond. 3)			Two Flange Interior (Cond. 4)		
			Bearing Length			Bearing Length			Bearing Length			Bearing Length		
Member	Design Thickness	Fy (KSI)	1"	3.5"	6"	1"	3.5"	6"	1"	3.5"	6"	1"	3.5"	6"
1000S__-97	0.1017"	50	7,969	11,214	13,370	12,778	15,632	17,529	5,474	6,430	7,065	11,839	13,907	15,280
1000S__-118	0.1242"	50	11,368	15,751	18,663	18,610	22,466	25,027	8,515	9,887	10,798	18,416	21,383	23,354
1200S__-54	0.0566"	33	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
1200S__-54	0.0566"	50	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t	h/t
1200S__-68	0.0713"	33	2,811	4,064	4,897	4,338	5,440	6,173	1,470	1,765	1,961	3,179	3,817	4,241
1200S__-68	0.0713"	50	4,259	6,158	7,420	6,573	8,243	9,353	2,227	2,674	2,971	4,817	5,784	6,426
1200S__-97	0.1017"	33	5,255	7,394	8,815	8,425	10,307	11,558	3,385	3,976	4,368	7,320	8,598	9,448
1200S__-97	0.1017"	50	7,961	11,203	13,357	12,766	15,617	17,511	5,128	6,024	6,619	11,091	13,028	14,315
1200S__-118	0.1242"	50	11,358	15,737	18,647	18,594	22,446	25,005	8,055	9,352	10,215	17,420	20,227	22,091
1400S__-68	0.0713"	33	2,808	4,060	4,892	4,334	5,435	6,166	1,343	1,613	1,792	2,905	3,488	3,876
1400S__-68	0.0713"	50	4,255	6,152	7,412	6,566	8,234	9,343	2,035	2,444	2,715	4,401	5,285	5,872
1400S__-97	0.1017"	33	5,250	7,387	8,808	8,418	10,298	11,547	3,175	3,730	4,099	6,868	8,067	8,864
1400S__-97	0.1017"	50	7,954	11,193	13,345	12,754	15,603	17,496	4,811	5,652	6,210	10,406	12,223	13,430



Physical Dimensions of Furring (Hat) Channels

Member	Fy (KSI)	Fu (KSI)	Web Depth (in)	Design Thickness (in)	Inside Bend Radius (in)	Flange Width (in)	Lip (in)
087F125-18	33	45	0.875	0.0188	0.08435	1.25	0.5
087F125-27	33	45	0.875	0.0283	0.0796	1.25	0.5
087F125-30	33	45	0.875	0.0312	0.07815	1.25	0.5
087F125-33	33	45	0.875	0.0346	0.07645	1.25	0.5
150F125-18	33	45	1.50	0.0188	0.08435	1.25	0.5
150F125-27	33	45	1.50	0.0283	0.0796	1.25	0.5
150F125-30	33	45	1.50	0.0312	0.07815	1.25	0.5
150F125-33	33	45	1.50	0.0346	0.07645	1.25	0.5
75U050-54	33	45	2.50	0.0566	0.0849	0.5	0.5
150U050-54	33	45	2.50	0.0566	0.0849	0.5	0.5



Properties of Furring (Hat) Channels

Member	Design Thickness	Fy (KSI)	Gross Properties							Effective Properties			
			Area (in ²)	Weight (lb/ft)	I _x (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	R _y (in)	A _e (in ²)	I _{xe} (in ⁴)	S _{xe} (in ³)	M _a (in-K)
087F125-18	0.0188	33	0.072	0.246	0.009	0.020	0.356	0.0363	0.709	0.057	0.008	0.016	0.323
087F125-27	0.0283	33	0.108	0.367	0.013	0.029	0.352	0.0546	0.711	0.106	0.013	0.028	0.548
087F125-30	0.0312	33	0.119	0.404	0.015	0.032	0.352	0.0597	0.709	0.118	0.015	0.031	0.618
087F125-33	0.0188	33	0.131	0.447	0.016	0.035	0.350	0.0665	0.711	0.131	0.016	0.035	0.684
150F125-18	0.0283	33	0.095	0.324	0.032	0.040	0.576	0.0474	0.706	0.067	0.029	0.035	0.686
150F125-27	0.0312	33	0.142	0.484	0.047	0.059	0.572	0.0707	0.705	0.129	0.046	0.058	1.138
150F125-30	0.0188	33	0.157	0.533	0.051	0.065	0.571	0.0778	0.705	0.148	0.051	0.065	1.278
150F125-33	0.0283	33	0.173	0.589	0.056	0.072	0.570	0.0864	0.706	0.170	0.056	0.072	1.413
75U050-54	0.0312	33	0.087	0.296	0.007	0.019	0.289	0.0021	0.156	0.087	0.007	0.019	0.459
150U050-54	0.0188	33	0.130	0.441	0.039	0.052	0.549	0.0027	0.146	0.130	0.039	0.052	1.230

If web height (w) to thickness (t) ratio exceeds 200, web stiffeners are required at all support locations and concentrated loads.

Allowable moment includes cold work forming.

If web height (w) to thickness (t) ratio exceeds 260, or flange width-to-thickness ratio exceeds 60, no effective properties are calculated.

Properties for "F" members are given as the minimum value for positive or negative bending.

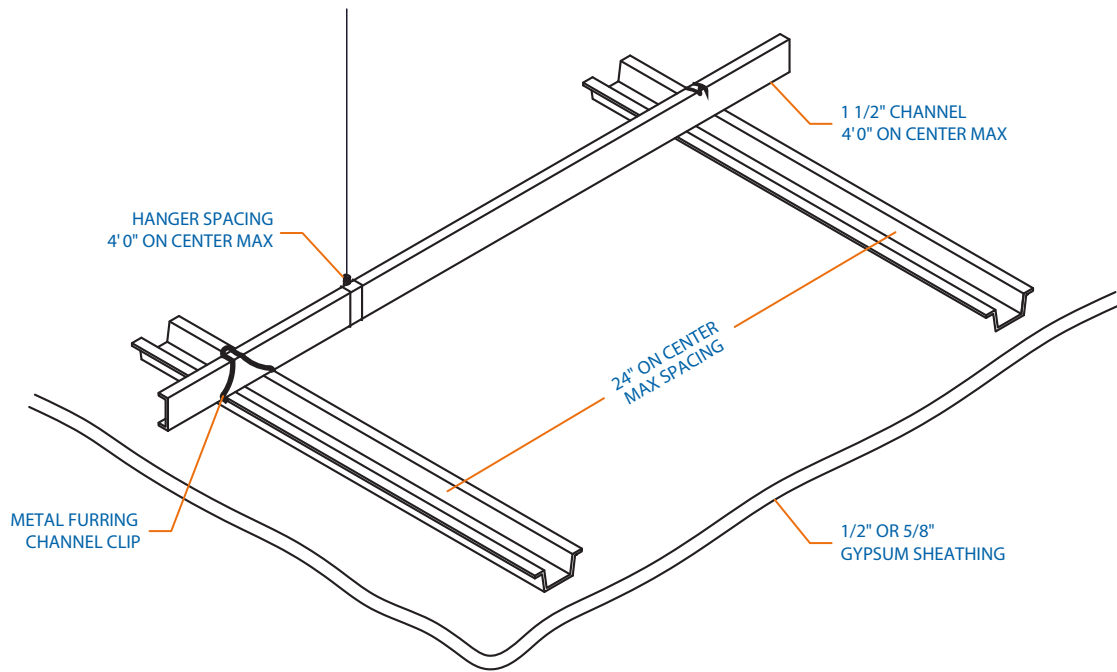
Furring (Hat) Channel Allowable Ceiling Spans: L/240

Member	Span	4 PSF			6 PSF			13 PSF		
		Spacing (inches on center)			Spacing (inches on center)			Spacing (inches on center)		
		12"	16"	24"	12"	16"	24"	12"	16"	24"
087F125-18	single	61.3	55.7	48.6	53.5	48.6	42.5	41.4	37.6	32.8
	multi	82.1	74.6	65.2	71.8	65.2	56.9	55.4	50.4	44.0
087F125-27	single	71.8	65.3	57.0	62.7	57.0	49.8	48.5	44.1	38.5
	multi	96.3	87.5	76.4	84.1	76.4	66.8	65.0	59.1	51.6
087F125-30	single	74.5	67.7	59.1	65.1	59.1	51.7	50.3	45.7	39.9
	multi	99.9	90.7	79.3	87.2	79.3	69.2	67.4	61.3	53.5
087F125-33	single	76.9	69.9	61.1	67.2	61.1	53.4	51.9	47.2	41.2
	multi	103.2	93.7	81.9	90.1	81.9	71.5	69.6	63.3	55.3
150F125-18	single	93.3	84.8	74.0	81.5	74.0	64.7	63.0	57.2	50.0
	multi	125.1	113.6	99.3	109.3	99.3	86.7	84.4	76.7	67.0
150F125-27	single	109.0	99.0	86.5	95.2	86.5	75.6	73.6	66.9	58.4
	multi	146.1	132.8	116.0	127.6	116.0	101.3	98.6	89.6	78.3
150F125-30	single	113.0	102.7	89.7	98.7	89.7	78.3	76.3	69.3	60.5
	multi	151.5	137.6	120.2	132.3	120.2	105.0	102.3	92.9	81.2
150F125-33	single	116.8	106.1	92.7	102.0	92.7	81.0	78.8	71.6	62.6
	multi	156.5	142.2	124.3	136.8	124.3	108.5	105.7	96.0	83.9

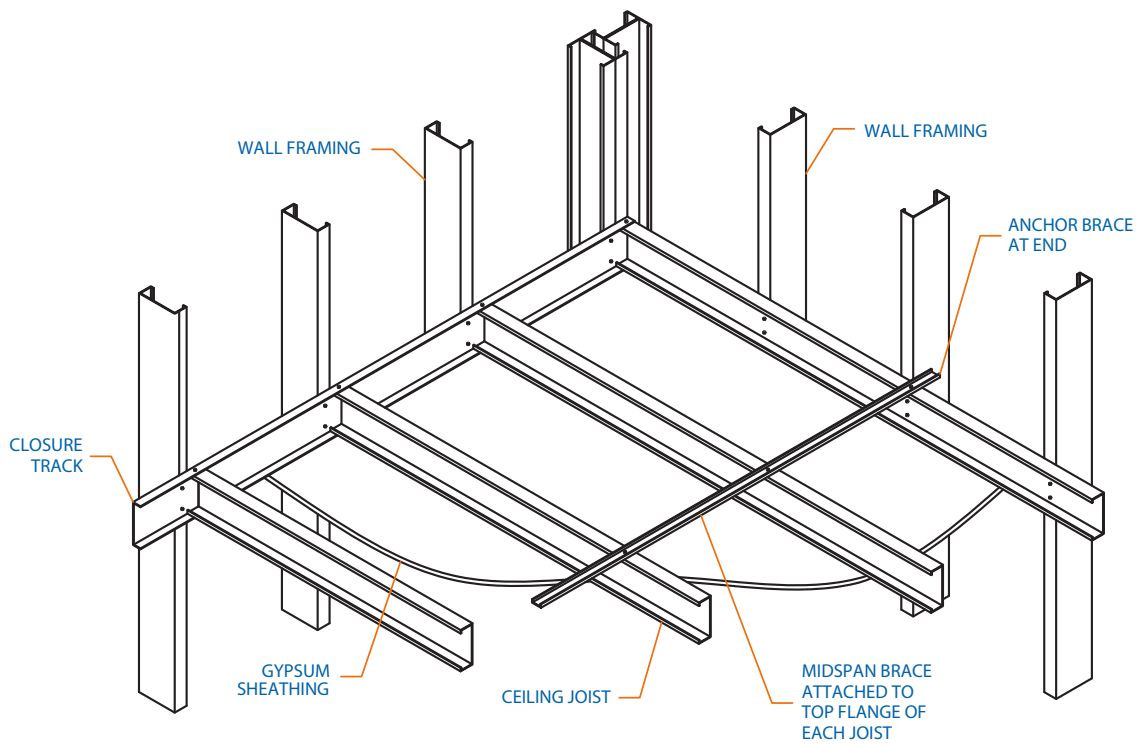
Furring (Hat) Channel Allowable Ceiling Spans: L/360

Member	Span	4 PSF			6 PSF			13 PSF		
		Spacing (inches on center)			Spacing (inches on center)			Spacing (inches on center)		
		12"	16"	24"	12"	16"	24"	12"	16"	24"
087F125-18	single	53.5	48.6	42.5	46.8	42.5	37.1	36.1	32.8	28.7
	multi	71.8	65.2	56.9	62.7	56.9	49.7	48.4	44.0	38.4
087F125-27	single	62.7	57.0	49.8	54.8	49.8	43.5	42.4	38.5	33.6
	multi	84.1	76.4	66.8	73.5	66.8	58.3	56.8	51.6	45.1
087F125-30	single	65.1	59.1	51.7	56.9	51.7	45.1	43.9	39.9	34.9
	multi	87.2	79.3	69.2	76.2	69.2	60.5	58.9	53.5	46.7
087F125-33	single	67.2	61.1	53.4	58.7	53.4	46.6	45.4	41.2	36.0
	multi	90.1	81.9	71.5	78.7	71.5	62.5	60.8	55.3	48.3
150F125-18	single	81.5	74.0	64.7	71.2	64.7	56.5	55.0	50.0	43.7
	multi	109.3	99.3	86.7	95.4	86.7	75.8	73.8	67.0	58.5
150F125-27	single	95.2	86.5	75.6	83.2	75.6	66.0	64.3	58.4	51.0
	multi	127.6	116.0	101.3	111.5	101.3	88.5	86.2	78.3	68.4
150F125-30	single	98.7	89.7	78.3	86.2	78.3	68.4	66.6	60.5	52.9
	multi	132.3	120.2	105.0	115.6	105.0	91.8	89.3	81.2	70.9
150F125-33	single	102.0	92.7	81.0	89.1	81.0	70.7	68.9	62.6	54.7
	multi	136.8	124.3	108.5	119.5	108.5	94.8	92.3	83.9	73.3

Ceiling attachment to bottom flange is assumed to provide continuous member torsional restraint.



METAL FURRING CHANNEL



MIDSPAN BRACING

Specification Guide for Cold-Formed Steel Framing

DIVISION 5: METALS

(REF NO. 0540 - COLD-FORMED FRAMING)

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

1.02 QUALITY ASSURANCE

1.03 SUBMITTALS

PART 2 PRODUCTS

2.01 ALL STUD JOIST FRAMING MEMBERS shall be of the type, size and gauge as shown on the plans and shall be manufactured by Studs Unlimited, LLC.

2.02 MATERIALS

2.02.01 All structural members shall be designed in accordance with American Iron & Steel Institute (AISI). Specifications for the Design of Cold Formed Steel Structural (ASTM C-955).

2.02.02 All galvanized studs and/or joists, 16, 14, 12 gauge, shall be formed from steel that corresponds to the requirements of ASTM A446, Grade D, with a minimum yield of 50 KSI.

2.02.03 All galvanized 18 gauge studs and/or joists, and all galvanized track, bridging, end closures and accessories shall be formed from steel that corresponds to the requirements of ASTM A446, Grade C with a minimum yield of 33 KSI (50 KSI if required).

2.02.04 All galvanized 20 & 22 gauge studs and/or joists, and all galvanized track, bridging, end closures and accessories shall be formed from steel that corresponds to the requirements of ASTM A446, Grade A with a minimum yield of 33 KSI or as required by architect/engineer.

2.02.05 All drywall and curtain wall materials shall have a minimum 33 KSI yield strength. All 25 gauge materials shall be in accordance with ASTM C-645.

2.02.06 All galvanized studs, joists, track, bridging accessories shall be formed from steel having a minimum G-60 galvanized coating meeting the requirements of ASTM A525. (G-90 available upon request.)

2.03 PROPERTIES

2.03.01 The physical and structural properties listed shall be considered the minimum permitted for all framing members. Specifically, the following minimum properties, calculated in accordance with the latest AISI Specification shall be provide: Ix (in⁴), Area (in²), Rx (in), Fy (KSI), Resisting Moment (lbs).

2.04 FABRICATION

2.04.01 Prior to prefabrication of framing, the contractor shall submit fabrication and erection drawings to the architect or engineer to obtain approval.

2.04.02 Framing components may be pre-assembled into panels prior to erecting. Prefabricated panels shall be square with components attached in manner as to prevent racking.

2.04.03 All framing components shall be cut squarely for attachment to perpendicular members, or as required for an angular fit against abutting members. Members shall be hold positively in place until properly fastened.

2.04.04 Axially loaded studs shall be installed in a manner which will assure that ends of the studs are positioned against the inside track web, prior to stud and track attachment.

2.04.05 Provide insulation equal to that specified elsewhere in all doubled jamb studs and doubled header members which will not be accessible to the insulation contractor.

PART 3 EXECUTION

3.01 INSPECTION

3.02 ERECTION (WIND LOAD ONLY)

3.02.01 Handling and lifting of prefabricated panels shall be done in a manner as to not cause distortion in any member.

3.02.02 Track shall be securely anchored to the supporting structure as shown on the plans.

3.02.03 At track butt joints, abutting pieces of track shall be securely anchored to a common structural element or they shall be butt-welded or spliced together.

3.02.04 Studs shall be plumbed aligned and securely attached to the flanges or webs of both upper and lower track.

3.02.05 Jack studs or cripples shall be installed below window sills, above window and door heads, at free standing stair rails, and elsewhere to furnish support, and shall be securely attached to supporting members.

3.02.06 Where required, bridging rows shall be spaced according to the following schedule, Walls up to 10'-0" height: One row at mid-height. From 14-14 feet high-two rows of bridging; walls above 14 feet high bridging rows equally spaced, not to exceed 4'0" on center.

3.02.07 Provision for structure vertical movement shall be provided where indicated on the plans.

3.03 ERECTION (AXIAL LOAD-BEARING)

3.03.01 Handling and lifting of prefabricated frame panels shall be done in a manner as to not cause distortion in any member.

3.03.02 Track shall be securely anchored to the supporting structure as shown on the plans.

3.03.03 Complete uniform and level bearing support shall be provided for the bottom track.

3.03.04 At track butt joints, abutting pieces of track shall be securely anchored to a common structural element, Or they shall be butt welded or spliced together.

3.03.05 Studs shall be plumbed aligned and securely attached to the flanges or webs of both upper and lower track.

3.03.06 Framed wall openings shall include headers and supporting studs as shown on the plans.

3.03.07 Jack studs shall be installed below window sills, above window and door heads, at free standing stair rails, and elsewhere to furnish support, and shall be secure attached to supporting members,

3.03.08 Temporary bracing shall be provided until erection is completed.

3.03.09 Wall stud bridging shall be installed in a manner to provide resistance to both minor axis bending and rotation. Walls up to 10'0" height-one row at mid-height; from 10-14 feet high-two rows of bridging; walls above 14 feet high-bridging rows shall be equally spaced not to exceed 4'0" on-center.

3.03.10 Provide stud walls at locations indicated on plans as "shear walls" for frame stability and lateral load resistance. Such stud walls shall be braced as indicated on plans and specifications. Additional studs shall be positioned to resist the vertical components as indicated on plans.

3.03.11 Splices in axially loaded studs shall not be permitted.

3.03.12 Provide insulation equal to that specified elsewhere in all doubled jamb studs and doubled header members which will not be accessible to the insulation contractor.

3.04 ERECTION (COLD-FORMED STEEL JOISTS)

3.04.01 Joists shall be located directly over bearing studs of a load distribution member.

3.04.02 Provide web stiffeners at reaction points where indicated by plans.

3.04.03 Joist bridging shall be provided as shown on the plans.

3.04.04 Provide an additional joist under parallel partitions when the partition length exceeds one-half the joist span and around all floor and roof openings which interrupt one or more spanning members unless otherwise noted.

3.04.05 End blocking shall be provided where joist.



809-D S Agnew, Oklahoma City, OK 73108
(405) 236 0076 · TF 1 800 522 4074
www.studsunlimited.com