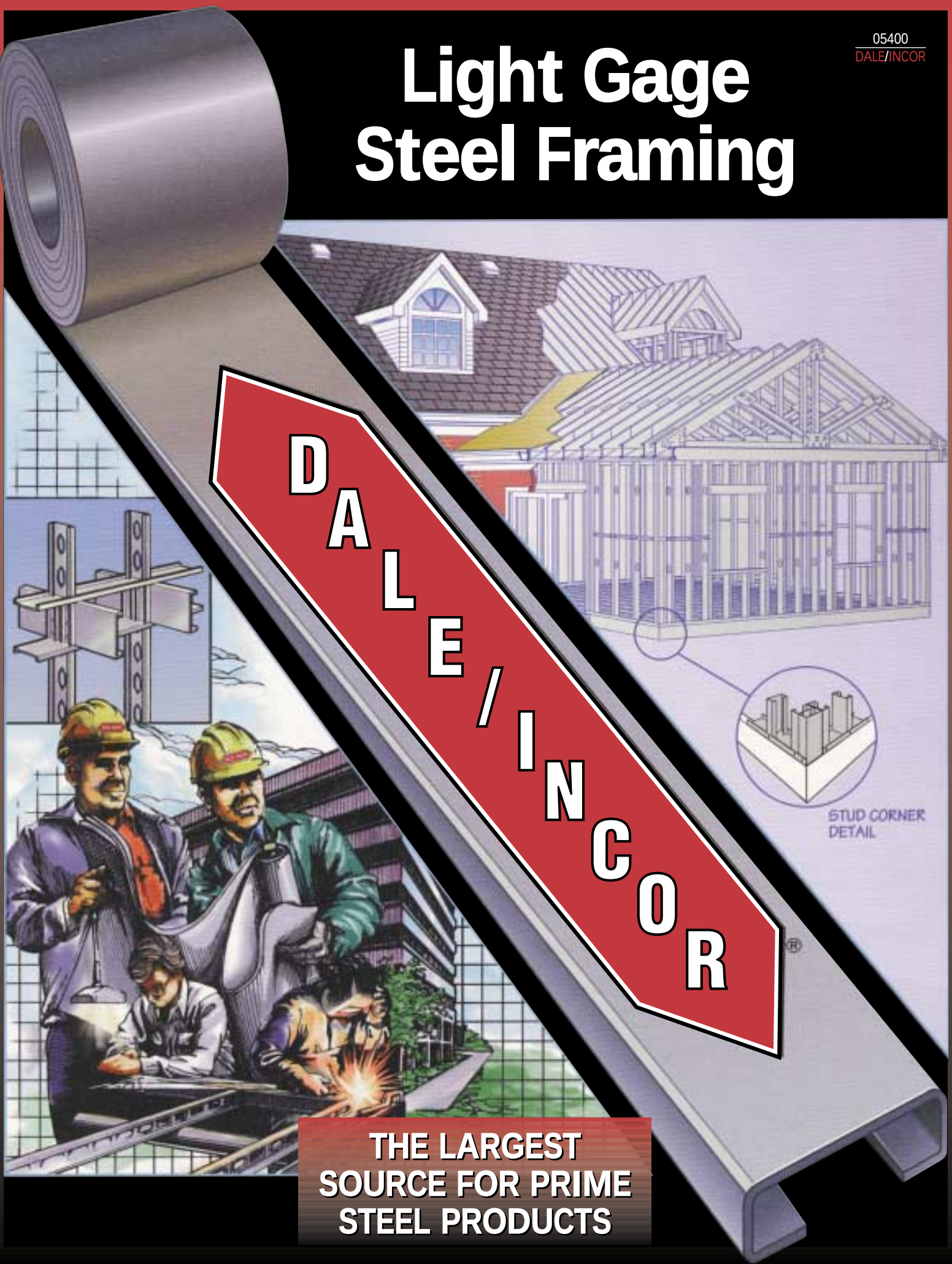
01 Jan 2001

Light gage steel framing

Dale Industries

05400
DALE/INCOR

Light Gage Steel Framing



THE LARGEST SOURCE FOR PRIME STEEL PRODUCTS

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The Company:

Dale Industries was founded in May, 1952. With the purchase of Allied Structural Industries' assets in 1987, the acquisition of Incor, Inc. in 1988, the purchase of Amico's Light Gage Metal Framing Plant in 1996, and the acquisition of South Lath's operations in Tampa, Florida and Houston, Texas, Dale has evolved into a major manufacturer of building supplies and accessories. These acquisitions bring with them years of manufacturing and technical experience. Incor, is particularly proud of its former affiliation with the Inryco/Milcor subsidiary of the Inland Steel Company, which divested itself from the light-gage steel framing market in 1986. Dale/Incor, as we are known today, is committed to continue the high quality products of the former Inryco Plant. During the past 40 years, Dale/Incor has evolved into a major supplier of building products in the U.S. as well as in many foreign countries.

Having manufacturing facilities in Dearborn, Michigan; Baltimore, Maryland; Birmingham, Alabama; Ft. Lauderdale, Florida; Tampa, Florida; and Houston Texas, Dale / Incor is now poised to provide exceptional service to the building products market. All six facilities are capable of servicing distributorships within their geographic area or providing back-up service to any of the other facilities. Dale / Incor will continue to add new locations in the future in order to expand its delivery and geographical service capability.

Steel Values:

The thicknesses used in this catalog are the standard minimum thicknesses specified by A.I.S.I. with respect to A.S.T.M. standards. Other manufacturer's catalogs may show higher values for similar products. This is usually the result of using heavier steel thicknesses for calculation purposes. This catalog is based upon design thicknesses for a conservative approach. Calculations used in this brochure have been based upon the 1996 A.I.S.I. "Specification for the Design of Cold Formed Steel Structural Members". Gages and thicknesses used are as follows:

Gage	Design Thicknesses
10GA.	0.118 in.
12GA.	0.101 in.
14GA.	0.071 in.
16GA.	0.056 in.
18GA.	0.045 in.
20GA.	0.034 in.

Values for 12,14 and 16 Gage Studs, Joists and Purlins were calculated on the basis of 33,000 and 50,000 P.S.I. Steel for Axial and Joist Tables.

Other Products:

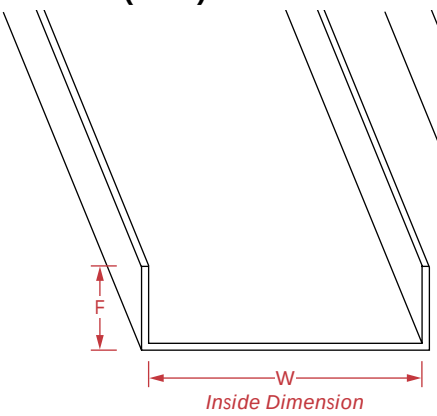
In addition to steel framing DALE/INCOR manufactures a complete line of Drywall Steel Studs, Drywall Accessories and Lath. As these products are non-structural, they are grouped together in a separate catalog which is positioned in Section **09250/DAL** of Sweets.

DALE/INCOR also manufactures a complete line of metal products for the residential market. Principal product lines are Roof Drainage Items, Louvers, Roof Vents, Valley Coil and Drip Edge. These products are primarily sold to lumber yards and are marketed in the Midwest. Most items are manufactured in aluminum as well as steel.

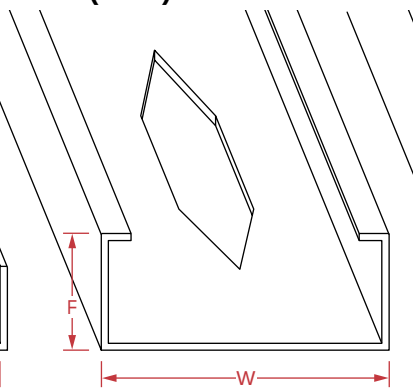
Complete Dale/Incor Library

DALE/INCOR assumes no liability for failure of our products resulting from the misapplication of information shown in this publication or for failure resulting from improper installation. The data and tables are prepared for the sole purpose of aiding the Architect or Engineer of record.

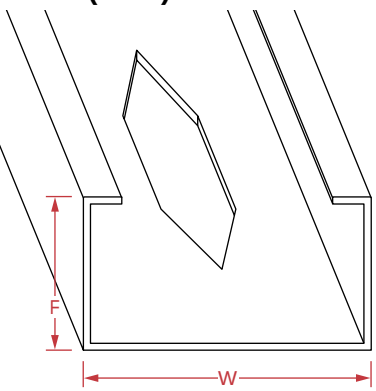
TD Deep Leg Track
1-1/4" Leg
(T125)

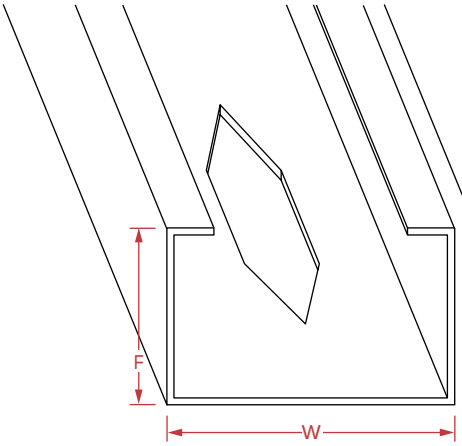


CN Stud
1-3/8" Flange
(S137)

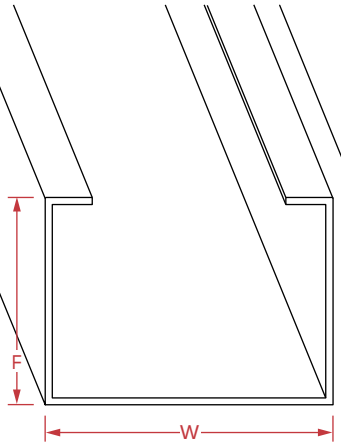


CEE Stud
1-5/8" Flange
(S162)

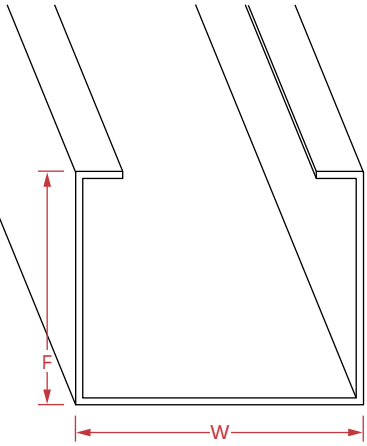




JW Joist
2" Flange
(S200)



JWE Joist
2-1/2" Flange
(S250)



SCJ Super C Joist
3-1/2" Flange
(S350)

FOOT NOTES: Physical Property Tables

1. All section properties are based on the 1996 edition of the American Iron & Steel Institute (Specification for the design of cold-formed steel structural members).
2. Gross and torsional properties are based upon the full unreduced cross section of the studs, away from punchouts.
3. The effective moment of inertia and section modulus are based on procedure I for deflection determination at the allowable moment. See section B2 of AISI Code.
4. Allowable bending moment, Ma, was calculated according to AISI Section C3.
5. Weak axis (Y-Y) effective properties are calculated assuming the web is in compression.
6. All products- punched 12" from one end and 24" on center thereafter, unless specified differently.
7. Standard track (TD) is 10'-0". Special lengths to 40' -0" on request.
8. Design return lips are as follows: CN - 3/8", CEE -1/2", JW & JWE - 5/8".

Ix	- Moment of inertia for deflection about the x-axis.
Sx	- Section modulus for load about the x-ais.
Rx	- Radius of gyration about the x-axis.
Iy	- Moment of inertia about the y-axis.
Sy	- Section modulus about the y-axis.
Ry	- Radius of gyration about the y-axis.
Cw	- Torsional Warping Constant.
J	- St. Venant Torsion Constant.
Ro	- Polar Radius of gyration taken about the shear center.
Xo	- Location of shear center from the centroid along the x-axis.
Beta	- Torsional-flexural constant.
Ma	- Allowable resisting moment. Listed values incorporate the effects of cold forming as allowed per section A7.2 of the 1996 edition of AISI "Specification for Design of Cold Formed Steel Structural Members". Values shown are in inch-kips.

All SSMA products have a four part identification code which identifies the size (both depth and flange width), style, and material thickness of each member.

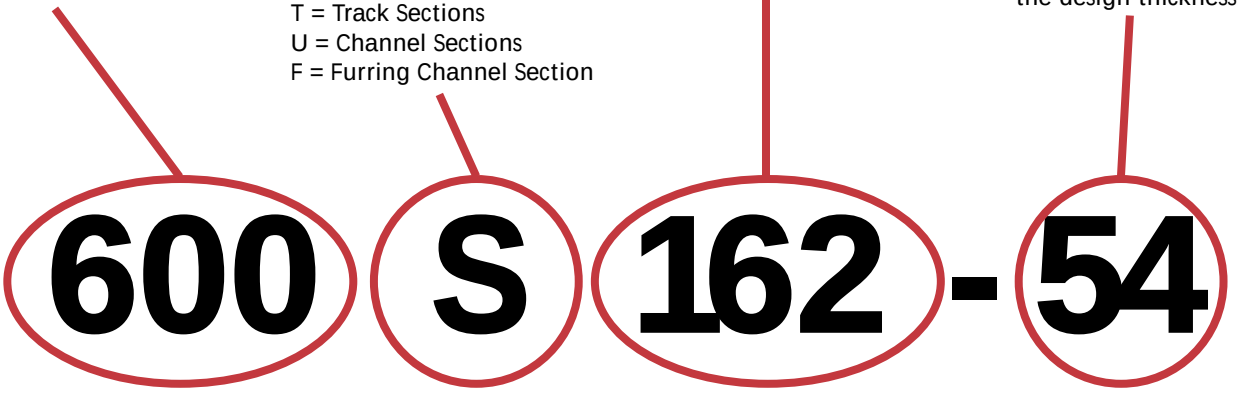
Examples:

Member Depth:
*(Example: 6" = **600** x 1/100 inches)*
All member depths are taken in 1/100 inches. For all "T" sections member depth is the inside to the dimension.

Style:
*(Example: Stud or Joist section = **S**)*
The four alpha characters utilized by the designator system are:
S = Stud or Joist System
T = Track Sections
U = Channel Sections
F = Furring Channel Section

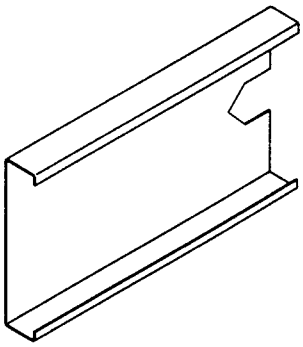
Flange Width:
*(Example: 1-5/8" = 1.625" ≈ **162** x 1/100 inches)*
All flange widths are taken in 1/100 inches.

Material Thickness:
*(Example: 0.054 in. = **54** mils; 1 mil = 1/1000 inches)*
Material thickness is the minimum base metal thickness in mils. Minimum base metal thickness represents 95% of the design thickness.

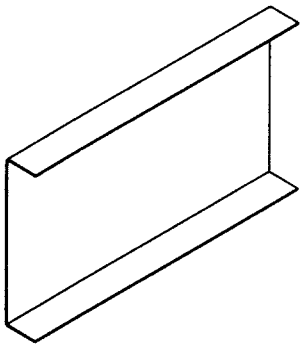


Dale Equivelant: **6" CEE 16 Gage**

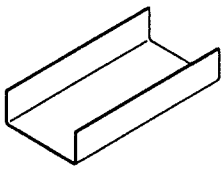
Note: For those sections where two different yield strengths (33ksi and 50ksi) are shown, the yield strength used in the design, if greater than 33 ksi, needs to be identified on the design and ordering of steel. (i.e., 600S162-54 (50 ksi))



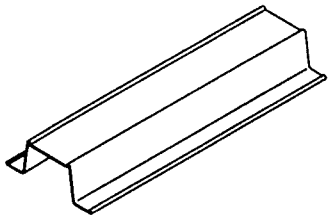
C-Stud/Joist
S-Sections



Track
T-Sections



Channel
U-Sections



Furring Channel
F-Sections

SSMA MEMBER

WEB in. (1/100 in)	SECTION (1/100 in)	GAGE (mils)	GROSS SECTIONAL PROPERTIES							EFFECTIVE PROPERTIES			TORSIONAL PROPERTIES				
			WT (lb / ft)	A (in^2)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)	Ix (in^4)	Sx (in^3)	Ma (in-k)	Xo (in)	Jx1000 (in^4)	Cw (in^6)	Ro (in)	ß BETA
2-1/2" (250)	CN (137)	20, (33)	0.67	0.197	0.203	0.163	1.015	0.052	0.515	0.203	0.156	3.09	-1.170	.0079	0.075	1.633	0.486
		18, (43)	0.87	0.255	0.261	0.208	1.010	0.067	0.511	0.261	0.205	4.53	-1.158	0.173	0.094	1.620	0.489
		(33 ksi) 16, (54)	1.07	0.316	0.318	0.255	1.004	0.080	0.504	0.318	0.255	5.76	-1.150	0.337	0.133	1.608	0.488
		(33 ksi) 14, (68)	1.33	0.390	0.386	0.309	0.994	0.095	0.495	0.386	0.309	7.19	-1.142	0.661	0.134	1.593	0.486
		(50 ksi) 16, (54)	1.07	0.316	0.318	0.255	1.004	0.080	0.504	0.318	0.244	8.22	-1.150	0.337	0.133	1.608	0.488
		(50 ksi) 14, (68)	1.33	0.390	0.386	0.309	0.994	0.095	0.495	0.386	0.308	10.65	-1.142	0.661	0.134	1.593	0.486
	CEE (162)	20, (33)	0.76	0.233	0.235	0.188	1.027	0.087	0.624	0.235	0.180	3.55	-1.501	0.089	0.144	1.923	0.390
		18, (43)	0.98	0.289	0.302	0.242	1.022	0.111	0.620	0.302	0.240	5.22	-1.489	0.196	0.182	1.909	0.392
		(33 ksi) 16, (54)	1.22	0.358	0.370	0.296	1.016	0.135	0.613	0.370	0.296	6.57	-1.482	0.383	0.219	1.898	0.391
		(33 ksi) 14, (68)	1.51	0.433	0.450	0.360	1.007	0.162	0.605	0.450	0.360	8.21	-1.474	0.752	0.262	1.885	0.389
		(50 ksi) 16, (54)	1.22	0.358	0.370	0.296	1.016	0.135	0.613	0.370	0.288	8.62	-1.482	0.383	0.219	1.898	0.391
		(50 ksi) 14, (68)	1.51	0.433	0.450	0.360	1.007	0.162	0.605	0.450	0.357	12.10	-1.474	0.752	0.262	1.885	0.389
	JW (200)	20, (33)	0.88	0.258	0.279	0.223	1.040	0.154	0.773	0.276	0.196	3.87	-1.960	0.103	0.299	2.350	0.304
		18, (43)	1.14	0.334	0.358	0.287	1.036	0.198	0.769	0.358	0.278	5.49	-1.948	0.227	0.379	2.336	0.305
		16, (54)	1.41	0.415	0.440	0.352	1.030	0.241	0.763	0.440	0.315	9.43	-1.942	0.433	0.459	2.326	0.303
		14, (68)	1.75	0.515	0.537	0.430	1.022	0.293	0.754	0.537	0.417	13.84	-1.935	0.872	0.554	2.315	0.301
	JWE (250)	18, (43)	1.29	0.379	0.426	0.341	1.060	0.336	0.941	0.426	0.297	5.87	-2.439	0.257	0.634	2.821	0.253
		16, (54)	1.60	0.471	0.524	0.419	1.055	0.412	0.935	0.521	0.341	10.22	-2.433	0.503	0.771	2.812	0.251
		14, (68)	1.99	0.586	0.643	0.514	1.047	0.503	0.926	0.643	0.427	12.80	-2.427	0.993	0.934	2.800	0.249
3-1/2" (350)	CEE (162)	20, (33)	0.88	0.258	0.508	0.290	1.404	0.098	0.617	0.508	0.279	5.50	-1.351	0.103	0.273	2.044	0.563
		18, (43)	1.14	0.334	0.654	0.374	1.400	0.125	0.612	0.654	0.372	8.08	-1.339	0.227	0.345	2.031	0.565
		(33 ksi) 16, (54)	1.41	0.415	0.804	0.460	1.392	0.152	0.606	0.804	0.460	10.20	-1.331	0.433	0.418	2.019	0.566
		(33 ksi) 14, (68)	1.75	0.515	0.985	0.563	1.383	0.184	0.597	0.985	0.563	12.83	-1.321	0.872	0.503	2.004	0.565
		(50 ksi) 16, (54)	1.41	0.415	0.804	0.460	1.392	0.152	0.606	0.804	0.477	13.37	-1.331	0.433	0.418	2.019	0.566
		(50 ksi) 14, (68)	1.75	0.515	0.985	0.563	1.383	0.184	0.597	0.985	0.577	18.89	-1.321	0.872	0.503	2.004	0.565
	JW (200)	20, (33)	0.99	0.292	0.598	0.342	1.431	0.175	0.773	0.593	0.304	6.00	-1.789	0.117	0.535	2.418	0.452
		18, (43)	1.29	0.379	0.771	0.441	1.426	0.224	0.768	0.771	0.428	8.46	-1.777	0.257	0.679	2.405	0.454
		16, (54)	1.60	0.471	0.950	0.543	1.420	0.274	0.762	0.950	0.487	14.57	-1.769	0.503	0.827	2.393	0.453
		14, (68)	1.99	0.586	1.167	0.667	1.411	0.333	0.754	1.167	0.643	21.35	-1.761	0.993	1.001	2.379	0.452
		12, (97)	2.77	0.813	1.576	0.901	1.393	0.440	0.736	1.576	0.901	31.08	-1.744	2.803	1.313	2.350	0.449
3-5/8" (362)	CN (137)	20, (33)	0.80	0.236	0.479	0.264	1.424	0.059	0.501	0.479	0.254	5.02	-1.026	0.094	0.162	1.826	0.684
		18, (43)	1.04	0.306	0.616	0.340	1.419	0.075	0.497	0.616	0.334	7.38	-1.015	0.207	0.204	1.814	0.687
		(33 ksi) 16, (54)	1.29	0.379	0.756	0.417	1.411	0.091	0.490	0.756	0.417	9.43	-1.006	0.405	0.246	1.801	0.688
		(33 ksi) 14, (68)	1.60	0.470	0.922	0.509	1.401	0.109	0.480	0.922	0.509	11.87	-0.996	0.797	0.294	1.784	0.689
		(50 ksi) 16, (54)	1.29	0.379	0.756	0.417	1.411	0.091	0.490	0.756	0.400	13.47	-1.006	0.405	0.246	1.801	0.688
		(50 ksi) 14, (68)	1.60	0.470	0.922	0.509	1.401	0.109	0.480	0.922	0.508	17.56	-0.996	0.797	0.294	1.784	0.689
	CEE (162)	20, (33)	0.89	0.262	0.551	0.304	1.450	0.099	0.616	0.551	0.292	5.77	-1.335	0.105	0.293	2.065	0.582
		18, (43)	1.16	0.340	0.710	0.392	1.445	0.127	0.611	0.710	0.389	8.46	-1.323	0.230	0.371	2.052	0.585
		(33 ksi) 16, (54)	1.44	0.422	0.873	0.481	1.438	0.154	0.604	0.873	0.481	10.69	-1.314	0.451	0.449	2.040	0.585
		(33 ksi) 14, (68)	1.78	0.524	1.069	0.590	1.429	0.186	0.596	1.069	0.590	13.44	-1.305	0.887	0.540	2.024	0.585
		(50 ksi) 16, (54)	1.44	0.422	0.873	0.481	1.438	0.154	0.604	0.873	0.468	14.00	-1.314	0.451	0.449	2.040	0.585
		(50 ksi) 14, (68)	1.78	0.524	1.069	0.590	1.429	0.186	0.596	1.069	0.584	19.80	-1.305	0.887	0.540	2.024	0.585
		12, (97)	2.46	0.724	1.435	0.792	1.408	0.241	0.577	1.435	0.792	28.08	-1.286	2.496	0.699	1.992	0.583
	JW (200)	20, (33)	1.01	0.297	0.648	0.358	1.478	0.177	0.772	0.643	0.318	6.29	-1.770	0.118	0.571	2.432	0.470
		18, (43)	1.31	0.385	0.836	0.461	1.474	0.227	0.767	0.836	0.448	8.85	-1.758	0.261	0.726	2.419	0.472
		16, (54)	1.63	0.479	1.030	0.568	1.467	0.277	0.761	1.030	0.509	15.25	-1.750	0.511	0.884	2.407	0.471
		14, (68)	2.02	0.595	1.265	0.698	1.458	0.337	0.753	1.265	0.673	22.34	-1.741	1.008	1.070	2.393	0.470
		12, (97)	2.81	0.826	1.711	0.944	1.440	0.446	0.735	1.711	0.944	32.57	-1.724	2.847	1.404	2.363	0.468
	JWE (250)	18, (43)	1.46	0.430	0.980	0.541	1.510	0.385	0.946	0.980	0.475	9.39	-2.230	0.292	1.219	2.854	0.390
		16, (54)	1.82	0.535	1.210	0.668	1.504	0.473	0.940	1.198	0.548	16.40	-2.222	0.571	1.489	2.843	0.389
		14, (68)	2.27	0.666	1.490	0.822	1.496	0.578	0.931	1.490	0.687	20.58	-2.213	1.129	1.812	2.829	0.388
		12, (97)	3.16	0.927	2.027	1.118	1.478	0.772	0.912	2.027	1.066	35.85	-2.196	3.197	2.402	2.800	0.385
4" (400)	CN (137)	20, (33)	0.85	0.249	0.603	0.301	1.556	0.061	0.496	0.603	0.290	5.74	-0.987	0.099	0.200	1.908	0.732
		18, (43)	1.10	0.323	0.776	0.388	1.551	0.078	0.491	0.776	0.382	8.43	-0.976	0.219	0.253	1.897	0.735
		(33 ksi) 16, (54)	1.36	0.401	0.953	0.477	1.542	0.094	0.484	0.953	0.477	10.78	-0.967	0.428	0.305	1.884	0.737
		(33 ksi) 14, (68)	1.69	0.497	1.165	0.582	1.531	0.112	0.475	1.165	0.582	13.58	-0.956	0.842	0.365	1.886	0.738
		(50 ksi) 16, (54)	1.36	0.401	0.953	0.477	1.542	0.094	0.484	0.953	0.457	15.40	-0.967	0.428	0.305	1.884	0.737
		(50 ksi) 14, (68)	1.69	0.497	1.165	0.582	1.531	0.112	0.475	1.165	0.581	20.10	-0.956	0.842	0.365	1.886	0.738
	CEE (162)	20, (33)	0.94	0.275	0.692	0.346	1.586	0.103	0.611	0.692	0.332	6.57	-1.288	0.110	0.358	2.133	0.635
		18, (43)	1.21	0.357	0.892	0.446	1.581	0.131	0.606	0.892	0.443	9.63	-1.276	0.242	0.453	2.121	0.638
		(33 ksi) 16, (54)	1.51	0.443	1.098	0.549	1.574	0.159	0.600	1.098	0.549	12.18	-1.268	0.473	0.550	2.108	0.638
		(33 ksi) 14, (68)	1.87	0.550	1.346	0.673	1.564	0.192	0.591	1.346	0.673	15.34	-1.258	0.933	0.663	2.092	0.639
		(50 ksi) 16, (54)	1.51	0.443	1.098	0.549	1.574	0.159	0.600	1.098	0.533	15.96	-1.268	0.473	0.550	2.108	0.638
		(50 ksi) 14, (68)	1.87	0.550	1.346	0.673	1.564	0.192	0.591	1.346	0.666	22.60	-1.258	0.933	0.663	2.092	0.639
		12, (97)	2.59	0.762	1.812	0.8919	1.542	0.249	0.572	1.812	.8919	26.70	-1.238	2.628	0.860	2.059	0.638
	JW (200)	20, (33)	1.05	0.310	0.812	0.406	1.619	0.183	0.769	0.805	0.362	7.16	-1.715	0.124	0.689	2.481	0.522
		18, (43)	1.37	0.402	1.047	0.524	1.615	0.235	0.764	1.047	0.509	10.06	-1.703	0.272	0.876	2.468	0.524
		16, (54)	1.70	0.500	1.292	0.646	1.608	0.287	0.758	1.292	0.580	17.36	-1.695	0.534	1.068	2.456	0.524
		14, (68)	2.12	0.622	1.589	0.795	1.599	0.349	0.750	1.589	0.766	25.41	-1.686	1.054	1.295	2.441	0.523
		12, (97)	2.94	0.864	2.155	1.077	1.579	0.462	0.731	2.155	1.077	37.17	-1.668	2.978	1.704	2.410	0.521
	JWE (250)	18, (43)	1.52	0.447	1.224	0.612	1.655	0.399	0.945	1.224	0.539	10.66	-2.168	0.303	1.473	2.887	0.436
		16, (54)	1.89	0.556	1.512	0.756	1.649	0.490	0.938	1.496	0.623	18.64	-2.160	0.594	1.801	2.875	0.435
		14, (68)	2.36	0.693	1.864	0.932	1.640	0.599	0.929	1.864	0.781	23.39	-2.151	1.174	2.193	2.860	0.434
		12, (97)	3.29	0.966	2.541	1.271	1.622	0.801	0.911	2.541	1.210	40.70	-2.133	3.329	2.915	2.830	0.432

*Contact DALE/INCOR for Availability

WEB in. (1/100 in)	SECTION (1/100 in)	GAGE (mils)	GROSS SECTIONAL PROPERTIES							EFFECTIVE PROPERTIES			TORSIONAL PROPERTIES				
			WT (lb / ft)	A (in^2)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)	Ix (in^4)	Sx (in^3)	Ma (in-k)	Xo (in)	Jx1000 (in^4)	Cw (in^6)	Ro (in)	ß BETA
5-1/2" (550)	CEE (162)	20, (33)	1.11	0.327	1.458	0.530	2.112	0.113	0.589	1.458	0.512	10.11	-1.134	0.130	0.704	2.468	0.789
		18, (43)	1.44	0.424	1.883	0.685	2.107	0.145	0.584	1.883	0.681	14.79	-1.123	0.288	0.894	2.458	0.791
		(33 ksi) 16, (54)	1.80	0.528	2.324	0.845	2.098	0.176	0.577	2.324	0.845	18.76	-1.114	0.564	1.088	2.445	0.792
		(33 ksi) 14, (68)	2.24	0.657	2.861	1.040	2.086	0.212	0.568	2.861	1.040	23.72	-1.103	1.114	1.316	2.427	0.793
		(50 ksi) 16, (54)	1.80	0.528	2.324	0.845	2.098	0.176	0.577	2.324	0.821	24.59	-1.114	0.564	1.088	2.445	0.792
		(50 ksi) 14, (68)	2.24	0.657	2.861	1.040	2.086	0.212	0.568	2.861	1.031	34.94	-1.103	1.114	1.316	2.427	0.793
	JW (200)	20, (33)	1.23	0.362	1.694	0.616	2.164	0.204	0.751	1.678	0.556	10.99	-1.531	0.144	1.312	2.755	0.691
		18, (43)	1.60	0.469	2.189	0.796	2.159	0.261	0.746	2.189	0.776	15.33	-1.519	0.318	1.673	2.744	0.693
		16, (54)	1.99	0.585	2.706	0.984	2.152	0.320	0.739	2.706	0.889	26.62	-1.511	0.624	2.045	2.731	0.694
		14, (68)	2.48	0.729	3.341	1.215	2.141	0.389	0.731	3.341	1.170	38.83	-1.500	1.235	2.488	2.715	0.695
6" (600)	CN (137)	20, (33)	1.08	0.318	1.582	0.527	2.229	0.069	0.464	1.582	0.510	10.07	-0.823	0.127	0.493	2.421	0.884
		18, (43)	1.41	0.413	2.042	0.681	2.223	0.087	0.459	2.042	0.670	14.80	-0.813	0.280	0.625	2.411	0.886
		(33 ksi) 16, (54)	1.75	0.514	2.518	0.839	2.213	0.105	0.452	2.518	0.839	18.98	-0.804	0.549	0.757	2.398	0.888
		(33 ksi) 14, (68)	2.18	0.640	3.094	1.031	2.200	0.125	0.443	3.094	1.031	24.05	-0.793	1.084	0.911	2.380	0.889
		(50 ksi) 16, (54)	1.75	0.514	2.518	0.839	2.213	0.105	0.452	2.518	0.809	27.23	-0.804	0.549	0.757	2.398	0.888
		(50 ksi) 14, (68)	2.18	0.640	3.094	1.031	2.200	0.125	0.443	3.094	1.029	35.60	-0.793	1.084	0.911	2.380	0.889
	CEE (162)	20, (33)	1.17	0.344	1.793	0.598	2.282	0.116	0.581	1.793	0.577	11.41	-1.091	0.137	0.851	2.595	0.823
		18, (43)	1.52	0.447	2.316	0.772	2.276	0.148	0.576	2.316	0.767	16.68	-1.081	0.303	1.082	2.585	0.825
		(33 ksi) 16, (54)	1.89	0.556	2.860	0.953	2.267	0.180	0.570	2.860	0.953	21.17	-1.072	0.594	1.318	2.572	0.826
		(33 ksi) 14, (68)	2.36	0.693	3.525	1.175	2.255	0.218	0.560	3.525	1.175	26.79	-1.061	1.174	1.596	2.554	0.828
		(50 ksi) 16, (54)	1.89	0.556	2.860	0.953	2.267	0.180	0.570	2.860	0.927	27.76	-1.072	0.594	1.318	2.572	0.826
		(50 ksi) 14, (68)	2.36	0.693	3.525	1.175	2.255	0.218	0.560	3.525	1.164	39.46	-1.061	1.174	1.596	2.554	0.828
		12, (97)	3.29	0.966	4.797	1.599	2.229	0.283	0.541	4.797	1.599	56.73	-1.039	3.329	2.093	2.518	0.830
	JW (200)	20, (33)	1.29	0.379	2.075	0.692	2.340	0.209	0.743	2.059	0.617	12.20	-1.479	0.151	1.577	2.866	0.734
		18, (43)	1.67	0.492	2.683	0.894	2.335	0.268	0.739	2.683	0.873	17.24	-1.468	0.334	2.012	2.855	0.736
		16, (54)	2.09	0.613	3.319	1.106	2.327	0.328	0.732	3.319	1.002	30.01	-1.459	0.655	2.461	2.842	0.737
		14, (68)	2.60	0.764	4.101	1.367	2.316	0.400	0.723	4.101	1.317	43.71	-1.448	1.295	2.997	2.826	0.737
		12, (97)	3.63	1.067	5.612	1.871	2.293	0.530	0.705	5.612	1.871	64.53	-1.427	3.679	3.981	2.791	0.739
	JWE (250)	18, (54)	1.83	0.537	3.082	1.027	2.396	0.458	0.923	3.082	0.918	18.14	-1.898	0.364	3.379	3.193	0.647
		16, (54)	2.28	0.670	3.819	1.273	2.388	0.562	0.917	3.760	1.069	32.00	-1.889	0.715	4.146	3.180	0.647
		14, (68)	2.84	0.836	4.727	1.576	2.378	0.688	0.908	4.727	1.342	40.19	-1.878	1.416	5.071	3.164	0.647
		12, (97)	3.98	1.169	6.496	2.165	2.357	0.923	0.889	6.496	2.063	69.38	-1.857	4.030	6.798	3.130	0.648
		10*, (118)	4.79	1.407	7.713	2.571	2.342	1.075	0.874	7.713	2.498	85.92	-1.841	7.234	7.924	3.104	0.648
	SCJ (350)	16, (54)	2.81	0.825	5.022	1.674	2.467	1.491	1.344	4.715	1.323	39.62	-3.072	0.881	12.844	4.163	0.456
		14, (68)	3.51	1.032	6.237	2.079	2.459	1.841	1.336	6.170	1.761	52.73	-3.062	1.748	15.814	4.148	0.455
		12, (97)	4.93	1.449	8.631	2.877	2.441	2.518	1.318	8.631	2.537	75.95	-3.044	4.994	21.504	4.118	0.454
		10*, (118)	5.95	1.748	10.304	3.435	2.428	2.978	1.305	10.304	3.303	98.88	-3.030	8.990	25.340	4.096	0.453
7-1/4" (725)	CEE (162)	20, (33)	1.32	0.388	2.822	0.778	2.698	0.122	0.562	2.822	0.691	13.65	-0.999	0.155	1.295	2.931	0.884
		18, (43)	1.71	0.503	3.648	1.006	2.692	0.156	0.557	3.648	1.001	21.75	-0.989	0.341	1.648	2.922	0.886
		(33 ksi) 16, (54)	2.13	0.627	4.513	1.245	2.683	0.190	0.550	4.513	1.245	27.63	-0.980	0.670	2.010	2.908	0.887
		(33 ksi) 14, (68)	2.66	0.782	5.572	1.537	2.669	0.229	0.541	5.572	1.537	35.04	-0.969	1.325	2.439	2.891	0.888
		(50 ksi) 16, (54)	2.13	0.627	4.513	1.245	2.683	0.190	0.550	4.513	1.212	36.29	-0.980	0.670	2.010	2.908	0.887
		(50 ksi) 14, (68)	2.66	0.782	5.572	1.537	2.669	0.229	0.541	5.572	1.523	51.65	-0.969	1.325	2.439	2.891	0.888
		12, (97)	3.72	1.093	7.618	2.101	2.640	0.297	0.522	7.618	2.101	74.54	-0.946	3.767	3.213	2.583	0.890
	JW (200)	18, (54)	1.87	0.548	4.193	1.157	2.765	0.284	0.719	4.193	1.131	22.34	-1.354	0.372	3.030	3.162	0.817
		16, (54)	2.33	0.684	5.195	1.433	2.756	0.347	0.713	5.195	1.306	39.09	-1.345	0.730	3.711	3.149	0.817
		14, (68)	2.90	0.853	6.428	1.773	2.744	0.423	0.704	6.428	1.710	56.77	-1.334	1.446	4.528	3.132	0.818
		12, (97)	4.06	1.194	8.831	2.436	2.719	0.561	0.685	8.831	2.436	84.04	-1.312	4.118	6.038	3.096	0.820
	JWE (250)	18, (54)	2.02	0.593	4.778	1.318	2.838	0.486	0.905	4.778	1.186	23.44	-1.765	0.402	5.088	3.462	0.740
		16, (54)	2.52	0.740	5.927	1.635	2.829	0.597	0.898	5.813	1.388	41.55	-1.756	0.791	6.251	3.449	0.741
		14, (68)	3.15	0.925	7.347	2.027	2.819	0.730	0.889	7.347	1.744	52.20	-1.745	1.567	7.658	3.432	0.742
		12, (97)	4.41	1.296	10.130	2.794	2.796	0.980	0.869	10.130	2.666	89.66	-1.722	4.468	10.304	3.397	0.743
8" (800)	CN (137)	20, (33)	1.32	0.388	3.198	0.799	2.873	0.073	0.435	3.198	0.633	13.10	-0.709	0.155	0.948	2.991	0.944
		18, (43)	1.71	0.503	4.134	1.033	2.866	0.093	0.430	4.134	1.033	20.42	-0.700	0.341	1.202	2.981	0.945
		(33 ksi) 16, (54)	2.13	0.627	5.110	1.277	2.855	0.112	0.423	5.110	1.277	28.89	-0.691	0.670	1.460	2.967	0.946
		(33 ksi) 14, (68)	2.66	0.782	6.303	1.576	2.839	0.134	0.414	6.303	1.576	36.74	-0.680	1.325	1.762	2.948	0.947
		(50 ksi) 16, (54)	2.13	0.627	5.110	1.277	2.855	0.112	0.423	5.110	1.249	37.38	-0.691	0.670	1.460	2.967	0.946
		(50 ksi) 14, (68)	2.66	0.782	6.303	1.576	2.839	0.134	0.414	6.303	1.573	54.40	-0.680	1.325	1.762	2.948	0.947
	CEE (162)	20, (33)	1.41	0.413	3.582	0.896	2.943	0.125	0.550	3.582	0.757	14.96	-0.951	0.165	1.615	3.142	0.908
		18, (43)	1.83	0.537	4.633	1.158	2.937	0.160	0.546	4.633	1.158	22.89	-0.941	0.364	2.056	3.132	0.910
		(33 ksi) 16, (54)	2.28	0.670	5.736	1.434	2.927	0.194	0.539	5.736	1.434	31.83	-0.932	0.715	2.509	3.119	0.911
		(33 ksi) 14, (68)	2.84	0.836	7.089	1.772	2.913	0.235	0.530	7.089	1.772	40.41	-0.921	1.416	3.047	3.101	0.912
		(50 ksi) 16, (54)	2.28	0.670	5.736	1.434	2.927	0.194	0.539	5.736	1.397	41.84	-0.932	0.715	2.509	3.119	0.911
		(50 ksi) 14, (68)	2.84	0.836	7.089	1.772	2.913	0.235	0.530	7.089	1.757	59.57	-0.921	1.416	3.047	3.101	0.912
		12, (97)	3.98	1.169	9.713	2.428	2.883	0.305	0.510	9.713	2.428	86.14	-0.899	4.030	4.023	3.062	0.914
	JW (200)	20, (33)	1.52	0.448	4.096	1.024	3.023	0.227	0.712	4.096	0.812	16.04	-1.306	0.179	2.945	3.369	0.850
		18, (43)	1.98	0.582	5.302	1.325	3.018	0.292	0.708	5.302	1.293	25.54	-1.295	0.395	3.763	3.359	0.851
		16, (54)	2.47	0.726	6.573	1.643	3.009	0.357	0.701	6.573	1.475	44.15	-1.286	0.775	4.612	3.346	0.852
		14, (68)	3.09	0.907	8.140	2.035	2.996	0.435	0.692	8.140	1.964	65.21	-1.275	1.537	5.631	3.329	0.853
		12, (97)	4.32	1.271	11.203	2.801	2.969	0.576	0.673	11.203	2.801	96.63	-1.253	4.381	7.524	3.292	0.855
	JWE (250)	18, (43)	2.13	0.627	6.015	1.504	3.097	0.500	0.893	6.015	1.313	25.95	-1.695	0.425	6.320	3.641	0.783
		16, (54)	2.66	0.783	7.465	1.866	3.088	0.614	0.886	7.378	1.525	45.66	-1.686	0.836	7.769	3.628	0.784
		14, (68)	3.33	0.978	9.261	2.315	3.077	0.752	0.877	9.261	2.003	59.96	-1.674	1.658	9.526	3.611	0.785
		12, (97)	4.67	1.372	12.789	3.197	3.053	1.009	0.857	12.789	3.053	102.70	-1.652	4.731	12.838	3.575	0.787
		10*, (118)	5.63	1.655	15.242	3.810	3.035	1.175	0.843	15.242	3.706	127.50	-1.635	8.511	15.024	3.549	0.788
	SCJ (350)	16, (54)	3.19	0.938	9.683	2.421	3.212	1.646	1.325	9.184	1.853	55.47	-2.797	1.002	22.719	4.460	0.607
		14, (68)	4.00	1.174	12.046	3.012	3.203	2.034	1.316	11.914	2.584	77.37	-2.786	1.990	28.029	4.445	0.607
		12, (97)	5.62	1.652	16.737	4.184	3.183	2.784	1.298	16.737	3.711	111.11	-2.765	5.696	38.275	4.412	0.607
		10*, (118)	6.79	1.997	20.041	5.010	3.168	3.295	1.285	20.041	4.812	144.08	-2.750	10.267	45.245	4.388	0.607

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WEB in. (1/100 in)	SECTION (1/100 in)	GAGE (mils)	GROSS SECTIONAL PROPERTIES							EFFECTIVE PROPERTIES			TORSIONAL PROPERTIES				
			WT (lb / ft)	A (in^2)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)	Ix (in^4)	Sx (in^3)	Ma (in-k)	Xo (in)	Jx1000 (in^4)	Cw (in^6)	Ro (in)	ß BETA
9-1/4"	CEE	18, (43)	2.02	0.593	6.616	1.430	3.339	0.165	0.528	6.616	1.320	26.07	-0.872	0.402	2.853	3.491	0.938
(925)	(162)	(33 ksi) 16, (54)	2.52	0.740	8.198	1.773	3.328	0.201	0.521	8.198	1.773	39.35	-0.863	0.791	3.485	3.477	0.938
		(33 ksi) 14, (68)	3.15	0.925	10.148	2.194	3.313	0.242	0.512	10.148	2.194	50.02	-0.853	1.567	4.237	3.459	0.939
		(50 ksi) 16, (54)	2.52	0.740	8.198	1.773	3.328	0.201	0.521	8.198	1.598	47.85	-0.863	0.791	3.485	3.477	0.938
		(50 ksi) 14, (68)	3.15	0.925	10.148	2.194	3.313	0.242	0.512	10.148	2.176	73.78	-0.853	1.567	4.237	3.459	0.939
		12, (97)	4.41	1.296	13.947	3.016	3.280	0.315	0.493	13.947	3.016	106.97	-0.831	4.468	5.609	3.420	0.941
	JW	18, (43)	2.17	0.639	7.519	1.626	3.431	0.303	0.689	7.519	1.472	29.08	-1.208	0.433	5.197	3.703	0.893
	(200)	16, (54)	2.71	0.797	9.329	2.017	3.422	0.371	0.682	9.329	1.680	50.30	-1.199	0.851	6.375	3.689	0.894
		14, (68)	3.39	0.996	11.568	2.501	3.408	0.451	0.673	11.568	2.418	80.26	-1.188	1.688	7.794	3.671	0.895
		12, (97)	4.76	1.398	15.963	3.451	3.379	0.598	0.654	15.963	3.451	119.07	-1.166	4.819	10.440	3.634	0.897
	JWE	18, (43)	2.33	0.684	8.474	1.832	3.521	0.520	0.872	8.474	1.502	29.69	-1.591	0.464	8.733	3.961	0.839
	(250)	16, (54)	2.90	0.853	10.525	2.276	3.512	0.640	0.866	10.469	1.746	52.27	-1.581	0.911	10.744	3.947	0.839
		14, (68)	3.63	1.067	13.070	2.826	3.499	0.783	0.856	13.070	2.465	73.79	-1.570	1.809	13.188	3.930	0.840
		12, (97)	5.10	1.499	18.090	3.911	3.473	1.050	0.837	18.090	3.742	125.86	-1.547	5.170	17.815	3.893	0.842
10"	CEE	18, (43)	2.13	0.627	8.025	1.605	3.577	0.168	0.518	8.025	1.414	27.94	-0.836	0.425	3.404	3.709	0.949
(1000)	(162)	(33 ksi) 16, (54)	2.66	0.783	9.950	1.990	3.565	0.204	0.511	9.950	1.990	39.32	-0.827	0.836	4.160	3.696	0.950
		(33 ksi) 14, (68)	3.33	0.978	12.325	2.465	3.550	0.246	0.502	12.325	2.465	56.20	-0.817	1.658	5.060	3.677	0.951
		(50 ksi) 16, (54)	2.66	0.783	9.950	1.990	3.565	0.204	0.511	9.950	1.712	51.26	-0.827	0.836	4.160	3.696	0.950
		(50 ksi) 14, (68)	3.33	0.978	12.325	2.465	3.550	0.246	0.502	12.325	2.465	73.80	-0.817	1.658	5.060	3.677	0.951
		12, (97)	4.67	1.372	16.967	3.393	3.516	0.320	0.483	16.967	3.393	120.37	-0.795	4.731	6.708	3.637	0.952
	JW	18, (43)	2.29	0.672	9.085	1.817	3.676	0.309	0.677	9.085	1.580	31.23	-1.162	0.456	6.189	3.914	0.912
	(200)	16, (54)	2.86	0.839	11.278	2.256	3.666	0.378	0.671	11.278	1.805	54.04	-1.153	0.896	7.595	3.901	0.913
		14, (68)	3.57	1.050	13.994	2.799	3.652	0.460	0.662	13.994	2.744	82.15	-1.142	1.779	9.291	3.883	0.913
		12, (97)	5.02	1.474	19.336	3.867	3.622	0.609	0.643	19.336	3.867	133.42	-1.120	5.082	12.460	3.845	0.915
	JWE	18, (43)	2.44	0.717	10.203	2.041	3.771	0.531	0.860	10.203	1.617	31.95	-1.535	0.486	10.404	4.161	0.864
	(250)	16, (54)	3.05	0.896	12.677	2.535	3.762	0.653	0.854	12.660	1.879	56.26	-1.525	0.957	12.805	4.148	0.865
		14, (68)	3.81	1.121	15.751	3.150	3.749	0.799	0.844	15.751	2.670	79.94	-1.514	1.899	15.726	4.130	0.866
		12, (97)	5.36	1.576	21.827	4.365	3.722	1.072	0.825	21.827	4.181	140.63	-1.491	5.433	21.268	4.093	0.867
		10*, (118)	6.48	1.904	26.080	5.216	3.701	1.249	0.810	26.080	5.082	174.83	-1.474	9.788	24.955	4.066	0.869
	SCJ	16, (54)	3.58	1.052	16.220	3.244	3.927	1.768	1.297	15.587	2.311	69.20	-2.573	1.123	36.305	4.871	0.721
	(350)	14, (68)	4.48	1.317	20.204	4.041	3.917	2.185	1.288	20.034	3.401	101.81	-2.562	2.232	44.853	4.854	0.721
		12, (97)	6.31	1.855	28.148	5.630	3.895	2.992	1.270	28.148	5.027	150.50	-2.540	6.397	61.429	4.820	0.722
		10*, (118)	7.64	2.245	33.772	6.754	3.878	3.543	1.256	33.772	6.492	194.36	-2.524	11.544	72.774	4.795	0.723
11-1/2"	CEE	18, (43)	2.36	0.695	11.383	1.980	4.047	0.173	0.499	11.343	1.607	31.75	-0.772	0.471	4.673	4.150	0.965
(1150)	(162)	(33 ksi) 16, (54)	2.95	0.868	14.126	2.457	4.035	0.210	0.492	14.126	2.250	44.47	-0.763	0.927	5.713	4.136	0.966
		(33 ksi) 14, (68)	3.69	1.085	17.521	3.047	4.018	0.253	0.483	17.521	3.047	69.47	-0.753	1.839	6.958	4.117	0.967
		(50 ksi) 16, (54)	2.95	0.868	14.126	2.457	4.035	0.210	0.492	14.126	1.945	58.24	-0.763	0.927	5.713	4.136	0.966
		(50 ksi) 14, (68)	3.69	1.085	17.521	3.047	4.018	0.253	0.483	17.521	2.849	85.31	-0.753	1.839	6.958	4.117	0.967
		12, (97)	5.19	1.525	24.186	4.206	3.983	0.329	0.464	24.186	4.206	149.21	-0.732	5.257	9.241	4.076	0.968
	JW	18, (43)	2.52	0.740	12.796	2.225	4.158	0.319	0.656	12.771	1.801	35.59	-1.080	0.502	8.478	4.346	0.938
	(200)	16, (54)	3.14	0.924	15.896	2.765	4.147	0.390	0.650	15.896	2.058	61.62	-1.071	0.987	10.410	4.332	0.939
		14, (68)	3.94	1.156	19.747	3.434	4.132	0.475	0.641	19.747	3.146	94.20	-1.061	1.960	12.746	4.314	0.940
		12, (97)	5.53	1.627	27.348	4.756	4.100	0.629	0.622	27.348	4.756	164.08	-1.039	5.608	17.129	4.275	0.941
12"	CEE	(33 ksi) 16, (54)	3.05	0.896	15.730	2.622	4.190	0.212	0.486	15.730	2.334	46.11	-0.744	0.957	6.293	4.283	0.970
(1200)	(162)	(33 ksi) 14, (68)	3.81	1.121	19.518	3.253	4.173	0.255	0.477	19.518	3.253	64.28	-0.734	1.899	7.666	4.264	0.970
		(50 ksi) 16, (54)	3.05	0.896	15.730	2.622	4.190	0.212	0.486	15.730	2.024	60.60	-0.744	0.957	6.293	4.283	0.970
		(50 ksi) 14, (68)	3.81	1.121	19.518	3.253	4.173	0.255	0.477	19.518	2.953	88.41	-0.734	1.899	7.666	4.264	0.970
		12, (97)	5.36	1.576	26.966	4.494	4.137	0.331	0.459	26.966	4.494	159.42	-0.713	5.433	10.187	4.223	0.971
	JW	16, (54)	3.24	0.953	17.662	2.944	4.306	0.393	0.643	17.662	2.143	64.17	-1.047	1.017	11.462	4.478	0.945
	(200)	14, (68)	4.06	1.192	21.947	3.658	4.291	0.479	0.634	21.947	3.265	97.75	-1.036	2.020	14.038	4.459	0.946
		12, (97)	5.71	1.677	30.417	5.069	4.258	0.635	0.615	30.417	5.069	174.89	-1.014	5.783	18.876	4.420	0.947
	JWE	16, (54)	3.43	1.009	19.681	3.280	4.416	0.683	0.823	19.681	2.238	67.01	-1.395	1.078	19.354	4.704	0.912
	(250)	14, (68)	4.30	1.263	24.484	4.081	4.402	0.836	0.813	24.484	3.147	94.22	-1.384	2.141	23.796	4.686	0.913
		12, (97)	6.05	1.779	34.016	5.669	4.373	1.121	0.794	34.016	5.446	183.15	-1.361	6.134	32.260	4.648	0.914
		10*, (118)	7.32	2.152	40.726	6.788	4.350	1.307	0.779	40.726	6.624	227.88	-1.345	11.065	37.923	4.620	0.915
	SCJ	16, (54)	3.96	1.165	24.860	4.143	4.620	1.866	1.266	24.100	2.771	82.98	-2.386	1.244	53.910	5.352	0.801
	(350)	14, (68)	4.97	1.460	30.996	5.166	4.608	2.306	1.257	30.925	4.045	121.11	-2.375	2.473	66.670	5.335	0.802
		12, (97)	7.01	2.059	43.269	7.211	4.584	3.159	1.239	43.269	6.482	194.06	-2.353	7.098	91.506	5.300	0.803
		10*, (118)	8.48	2.494	51.992	8.665	4.566	3.741	1.225	51.992	8.339	249.67	-2.336	12.821	108.579	5.273	0.804
13-1/2"	JW	16, (54)	3.53	1.037	23.688	3.509	4.778	0.403	0.623	22.909	2.401	71.88	-0.980	1.108	14.965	4.917	0.960
(1350)	(200)	14, (68)	4.42	1.299	29.461	4.365	4.762	0.491	0.615	29.461	3.628	108.62	-0.969	2.201	18.341	4.898	0.961
		12, (97)	6.23	1.830	40.907	6.060	4.728	0.650	0.596	40.907	6.060	209.07	-0.948	6.309	24.697	4.859	0.962
	JWE	16, (54)	3.72	1.094	26.245	3.888	4.898	0.701	0.801	25.857	2.510	75.15	-1.313	1.168	25.303	5.134	0.935
	(250)	14, (68)	4.66	1.370	32.675	4.841	4.883	0.858	0.791	32.675	3.511	105.12	-1.302	2.322	31.131	5.115	0.935
		12, (97)	6.57	1.932	45.471	6.736	4.852	1.151	0.772	45.471	6.483	218.04	-1.279	6.660	42.263	5.077	0.937
14"	JW	16, (54)	3.63	1.066	25.951	3.707	4.935	0.406	0.617	24.721	2.487	74.47	-0.959	1.138	16.250	5.065	0.964
(1400)	(200)	14, (68)	4.54	1.335	32.284	4.612	4.918	0.494	0.608	32.284	3.751	112.30	-0.949	2.262	19.920	5.046	0.965
		12, (97)	6.40	1.881	44.853	6.408	4.883	0.655	0.590	44.853	6.408	191.84	-0.928	6.484	26.834	5.006	0.966
	JWE	16, (54)	3.82	1.122	28.702	4.100	5.057	0.707	0.794	27.889	2.601	77.87	-1.287	1.198	27.489	5.278	0.941
	(250)	14, (68)	4.78	1.406	35.743	5.106	5.042	0.865	0.784	35.743	3.633	108.79	-1.276	2.383	33.827	5.260	0.941
		12, (97)	6.75	1.983	49.764	7.109	5.010	1.160	0.765	49.764	6.886	206.17	-1.254	6.835	45.941	5.221	0.942

*Contact DALE/INCOR for Availability

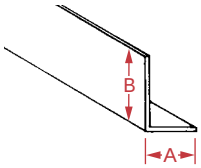
Physical Properties

WEB	SECTION	GAGE	GROSS SECTIONAL PROPERTIES							EFFECTIVE PROPERTIES			TORSIONAL PROPERTIES				
in. (1/100 in)	(1/100 in)	(mils)	WT (lb / ft)	A (in^2)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Ry (in)	Ix (in^4)	Sx (in^3)	Ma (in-k)	Xo (in)	Jx1000 (in^4)	Cw (in^6)	Ro (in)	ß BETA
2 1/2" (250)	TD	20, (33)	0.59	0.173	0.192	0.145	1.054	0.027	0.397	0.166	0.103	2.03	-0.771	0.069	0.033	1.365	0.680
		18, (43)	0.77	0.225	0.250	0.188	1.055	0.035	0.395	0.231	0.147	2.91	-0.766	0.153	0.042	1.362	0.683
		(33 ksi) 16, (54)	0.96	0.282	0.318	0.236	1.062	0.043	0.392	0.310	0.203	4.01	-0.763	0.301	0.054	1.365	0.688
		(33 ksi) 14, (68)	1.21	0.355	0.408	0.297	1.072	0.054	0.389	0.408	0.281	5.56	-0.758	0.602	0.068	1.369	0.694
		(50 ksi) 16, (54)	0.96	0.282	0.318	0.236	1.062	0.043	0.392	0.297	0.188	5.64	-0.763	0.301	0.054	1.365	0.688
		(50 ksi) 14, (68)	1.21	0.355	0.408	0.297	1.072	0.054	0.389	0.402	0.262	7.85	-0.758	0.602	0.068	1.369	0.694
3-1/2" (350)	TD	20, (33)	0.71	0.207	0.405	0.222	1.397	0.030	0.379	0.345	0.165	3.27	-0.677	0.083	0.070	1.598	0.820
		18, (43)	0.92	0.270	0.528	0.288	1.397	0.038	0.377	0.490	0.233	4.61	-0.673	0.183	0.090	1.596	0.822
		(33 ksi) 16, (54)	1.15	0.339	0.668	0.361	1.404	0.048	0.375	0.651	0.317	6.26	-0.669	0.362	0.113	1.599	0.825
		(33 ksi) 14, (68)	1.45	0.427	0.851	0.454	1.412	0.059	0.372	0.851	0.433	8.55	-0.665	0.723	0.143	1.605	0.828
		(50 ksi) 16, (54)	1.15	0.339	0.668	0.361	1.404	0.048	0.375	0.626	0.297	8.89	-0.669	0.362	0.113	1.599	0.825
		(50 ksi) 14, (68)	1.45	0.427	0.851	0.454	1.412	0.059	0.372	0.839	0.407	12.18	-0.665	0.723	0.143	1.605	0.828
3-5/8" (362)	TD	20, (33)	0.72	0.212	0.438	0.232	1.438	0.030	0.377	0.384	0.174	3.44	-0.667	0.085	0.075	1.630	0.832
		18, (43)	0.94	0.276	0.571	0.302	1.439	0.039	0.375	0.531	0.245	4.84	-0.663	0.187	0.097	1.628	0.834
		(33 ksi) 16, (54)	1.18	0.346	0.723	0.378	1.445	0.048	0.373	0.705	0.332	6.57	-0.659	0.369	0.122	1.632	0.837
		(33 ksi) 14, (68)	1.48	0.436	0.921	0.475	1.454	0.060	0.370	0.921	0.453	8.95	-0.655	0.738	0.155	1.637	0.840
		(50 ksi) 16, (54)	1.18	0.346	0.723	0.378	1.445	0.048	0.373	0.678	0.312	9.34	-0.659	0.369	0.122	1.632	0.837
		(50 ksi) 14, (68)	1.48	0.436	0.921	0.475	1.454	0.060	0.370	0.907	0.427	12.78	-0.655	0.738	0.155	1.637	0.840
		12, (97)	2.11	0.621	1.343	0.675	1.471	0.082	0.363	1.343	0.675	20.20	-0.646	2.140	0.223	1.647	0.846
4" (400)	TD	20, (33)	0.76	0.255	0.549	0.265	1.563	0.031	0.371	0.484	0.201	3.97	-0.639	0.090	0.094	1.728	0.863
		18, (43)	1.00	0.293	0.716	0.344	1.563	0.040	0.369	0.666	0.282	5.57	-0.635	0.198	0.122	1.727	0.865
		(33 ksi) 16, (54)	1.25	0.367	0.904	0.431	1.569	0.049	0.366	0.882	0.381	7.53	-0.631	0.392	0.153	1.730	0.867
		(33 ksi) 14, (68)	1.57	0.462	1.150	0.541	1.577	0.061	0.363	1.150	0.517	10.22	-0.627	0.783	0.193	1.736	0.870
		(50 ksi) 16, (54)	1.25	0.367	0.904	0.431	1.569	0.049	0.366	0.849	0.359	10.74	-0.631	0.392	0.153	1.730	0.867
		(50 ksi) 14, (68)	1.57	0.462	1.150	0.541	1.577	0.061	0.363	1.134	0.488	14.62	-0.627	0.783	0.193	1.736	0.870
		12, (97)	2.24	0.659	1.673	0.768	1.594	0.084	0.357	1.673	0.768	23.00	-0.618	2.271	0.277	1.746	0.875
5-1/2" (550)	TD	20, (33)	0.94	0.277	1.159	0.410	2.046	0.033	0.346	1.042	0.312	6.16	-0.547	0.110	0.194	2.146	0.935
		18, (43)	1.23	0.360	1.510	0.533	2.047	0.043	0.344	1.417	0.451	8.91	-0.544	0.244	0.251	2.146	0.936
		(33 ksi) 16, (54)	1.54	0.452	1.903	0.688	2.052	0.053	0.342	1.861	0.602	11.89	-0.540	0.483	0.314	2.149	0.937
		(33 ksi) 14, (68)	1.94	0.569	2.412	0.839	2.058	0.066	0.339	2.412	0.807	15.95	-0.536	0.965	0.395	2.154	0.938
		(50 ksi) 16, (54)	1.54	0.452	1.903	0.688	2.052	0.053	0.342	1.800	0.572	17.13	-0.540	0.483	0.314	2.149	0.937
		(50 ksi) 14, (68)	1.94	0.569	2.412	0.839	2.058	0.066	0.339	2.379	0.769	23.02	-0.536	0.965	0.395	2.154	0.938
6" (600)	TD	20, (33)	1.00	0.294	1.428	0.465	2.204	0.034	0.339	1.297	0.335	6.62	-0.523	0.117	0.237	2.291	0.948
		18, (43)	1.30	0.383	1.861	0.604	2.205	0.044	0.337	1.750	0.515	10.17	-0.519	0.260	0.306	2.290	0.949
		(33 ksi) 16, (54)	1.63	0.480	2.344	0.756	2.209	0.054	0.335	2.294	0.685	13.53	-0.516	0.513	0.383	2.293	0.949
		(33 ksi) 14, (68)	2.06	0.605	2.969	0.950	2.215	0.067	0.332	2.969	0.916	18.09	-0.512	1.025	0.481	2.298	0.950
		(50 ksi) 16, (54)	1.63	0.480	2.344	0.756	2.209	0.054	0.335	2.221	0.653	19.55	-0.516	0.513	0.383	2.293	0.949
		(50 ksi) 14, (68)	2.06	0.605	2.969	0.950	2.215	0.067	0.332	2.930	0.874	26.17	-0.512	1.025	0.481	2.298	0.950
		12, (97)	2.93	0.862	4.281	1.347	2.228	0.092	0.326	4.281	1.347	40.33	-0.504	2.973	0.681	2.308	0.952
		10*, (118)	3.58	1.052	5.268	1.637	2.237	0.109	0.321	5.268	1.637	56.32	-0.499	5.411	0.827	2.315	0.954
7-1/4" (725)	TD	20, (33)1	1.15	0.337	2.268	0.613	2.593	0.035	0.322	2.100	0.396	7.82	-0.470	0.135	0.365	2.655	0.969
		18, (43)	1.49	0.439	2.955	0.797	2.593	0.045	0.320	2.794	0.686	13.55	-0.467	0.298	0.471	2.654	0.969
		(33 ksi) 16, (54)	1.88	0.551	3.718	0.998	2.597	0.056	0.318	3.643	0.913	18.05	-0.464	0.589	0.588	2.657	0.970
		(33 ksi) 14, (68)	2.36	0.694	4.702	1.254	2.603	0.069	0.315	4.702	1.213	23.97	-0.460	1.176	0.736	2.662	0.970
		(50 ksi) 16, (54)	1.88	0.551	3.718	0.998	2.597	0.056	0.318	3.539	0.875	26.21	-0.464	0.589	0.588	2.657	0.970
		(50 ksi) 14, (68)	2.36	0.694	4.702	1.254	2.603	0.069	0.315	4.643	1.164	34.84	-0.460	1.176	0.736	2.662	0.970
		12, (97)	3.37	0.989	6.761	1.778	2.614	0.095	0.310	6.761	1.778	53.23	-0.453	3.411	1.083	2.671	0.971
8" (800)	TD	20, (33)1	1.24	0.363	2.895	0.711	2.824	0.036	0.313	2.706	0.433	8.56	-0.444	0.145	0.456	2.875	0.976
		18, (43)	1.61	0.473	3.773	0.924	2.824	0.046	0.311	3.600	0.739	14.61	-0.440	0.321	0.588	2.875	0.977
		(33 ksi) 16, (54)	2.02	0.594	4.745	1.158	2.827	0.057	0.309	4.653	1.065	21.04	-0.438	0.634	0.734	2.878	0.977
		(33 ksi) 14, (68)	2.54	0.748	5.998	1.454	2.833	0.070	0.306	5.998	1.409	27.85	-0.434	1.267	0.919	2.882	0.977
		(50 ksi) 16, (54)	2.02	0.594	4.745	1.158	2.827	0.057	0.309	4.548	0.961	28.78	-0.438	0.634	0.734	2.878	0.977
		(50 ksi) 14, (68)	2.54	0.748	5.998	1.454	2.833	0.070	0.306	5.925	1.355	40.58	-0.434	1.267	0.919	2.882	0.977
		12, (97)	3.63	1.066	8.613	2.062	2.843	0.096	0.301	8.613	2.062	61.72	-0.427	3.674	1.293	2.891	0.978
		10*, (118)	4.43	1.301	10.569	2.506	2.850	0.114	0.297	10.569	2.506	86.21	-0.422	6.688	1.562	2.897	0.979
9-1/4" (925)	TD	18, (43)1	1.80	0.530	5.436	1.155	3.204	0.047	0.297	5.247	0.833	16.46	-0.403	0.359	0.816	3.243	0.985
		(33 ksi) 16, (54)	2.26	0.664	6.834	1.447	3.207	0.058	0.296	6.710	1.341	26.49	-0.400	0.709	1.018	3.246	0.985
		(33 ksi) 14, (68)	2.85	0.837	8.632	1.817	3.212	0.072	0.293	8.632	1.766	34.90	-0.397	1.418	1.272	3.250	0.985
		(50 ksi) 16, (54)	2.26	0.664	6.834	1.447	3.207	0.058	0.296	6.622	1.080	32.35	-0.400	0.709	1.018	3.246	0.985
		(50 ksi) 14, (68)	2.85	0.837	8.632	1.817	3.212	0.072	0.293	8.533	1.705	51.03	-0.397	1.418	1.272	3.250	0.985
		12, (97)	4.06	1.193	12.377	2.577	3.221	0.099	0.288	12.377	2.577	77.16	-0.390	4.112	1.785	3.258	0.986
10" (1000)	TD	18, (43)1	1.92	0.563	6.630	1.305	3.431	0.047	0.290	6.433	0.891	17.62	-0.383	0.382	0.973	3.464	0.988
		(33 ksi) 16, (54)	2.41	0.707	8.333	1.634	3.434	0.059	0.288	8.213	1.443	28.51	-0.380	0.755	1.212	3.467	0.988
		(33 ksi) 14, (68)	3.03	0.890	10.522	2.053	3.438	0.073	0.286	10.522	1.998	39.48	-0.377	1.508	1.514	3.470	0.988
		(50 ksi) 16, (54)	2.41	0.707	8.333	1.634	3.434	0.059	0.288	8.116	1.155	34.58	-0.380	0.755	1.212	3.467	0.988
		(50 ksi) 14, (68)	3.03	0.890	10.522	2.053	3.438	0.073	0.286	10.416	1.897	56.80	-0.377	1.508	1.514	3.470	0.988
		12, (97)	4.32	1.269	15.077	2.912	3.447	0.100	0.280	15.077	2.912	87.18	-0.371	4.375	2.121	3.478	0.989
		10*, (118)	5.27	1.549	18.471	3.540	3.453	0.118	0.276	18.471	3.540	121.79	-0.366	7.966	2.556	3.483	0.989
11-1/2" (1150)	TD	18, (43)1	2.15	0.631	9.503	1.630	3.881	0.048	0.277	9.297	1.012	20.00	-0.349	0.428	1.330	3.906	0.992
		(33 ksi) 16, (54)1	2.69	0.792	11.940	2.041	3.883	0.060	0.275	11.856	1.605	31.72	-0.347	0.845	1.656	3.909	0.992
		(33 ksi) 14, (68)	3.39	0.997	15.067	2.565	3.887	0.074	0.272	15.067	2.502	49.44	-0.344	1.690	2.066	3.912	0.992
		(50 ksi) 16, (54)1	2.69	0.792	11.940	2.041	3.883	0.060	0.275	11.719	1.310	39.21	-0.347	0.845	1.656	3.909	0.992
		(50 ksi) 14, (68)	3.39	0.997	15.067	2.565	3.887	0.074	0.272	15.019	2.103	62.97	-0.344	1.690	2.066	3.912	0.992
		12, (97)	4.84	1.422	21.568	3.638	3.895	0.102	0.267	21.568	3.638	108.93	-0.337	4.901	2.889	3.919	0.993
12" (1200)	TD	(33 ksi) 16, (54)1	2.79	0.820	13.335	2.186	4.033	0.060	0.271	13.267	1.662	32.85	-0.337	0.876	1.820	4.056	0.993
		(33 ksi) 14, (68)	3.51	1.033	16.826	2.747	4.036	0.074	0.268	16.826	2.682	52.99	-0.334	1.750	2.271	4.059	0.993
		(50 ksi) 16, (54)1	2.79	0.820	13.335	2.186	4.033	0.060	0.271	13.117	1.362	40.79	-0.337	0.876	1.820	4.056	0.993
		(50 ksi) 14, (68)	3.51	1.033	16.826	2.747	4.036	0.074	0.268	16.801	2.176	65.15	-0.334	1.750	2.271	4.059	0.993
		12, (97)	5.01	1.472	24.078	3.897	4.044	0.102	0.263	24.078	3.897	116.69	-0.328	5.076	3.173	4.066	0.994
		10*, (118)	6.12	1.798	29.472	4.740	4.049	0.121	0.259	29.472	4.740	163.07	-0.323	9.243	3.815	4.070	0.994
13-1/2" (1350)	TD	16, (54)1	3.08	0.905	18.150	2.650	4.479	0.061	0.259	18.150	1.840	36.36	-0.310	0.966	2.363	4.497	0.995
		14, (68)	3.88	1.140	22.894	3.330	4.482	0.075	0.257	22.894	2.977	58.82	-0.307	1.931	2.946	4.500	0.995
		12, (97)	5.53	1.625	32.740	4.726	4.489	0.103	0.252	32.740	4.726	141.49	-0.302	5.602	4.110	4.506	0.996
14" (1400)	TD	16, (54)1	3.18	0.933	19.977	2.814	4.627	0.061	0.256	19.997	1.901	37.56	-0.302	0.997	2.561	4.644	0.996
		14, (68)	4.00	1.175	25.196	3.536	4.630	0.076	0.254	25.196	3.056	60.40	-0.299	1.992	3.191	4.647	0.996
		12, (97)	5.70	1.676	36.024	5.019	4.636	0.104	0.249	36.024	5.019	150.26	-0.294	5.778	4.450	4.652	0.996

*Contact DALE/INCOR for Availability

20 gage & 18 gage is 33 ksi; 12 gage is 50 ksi

Rolled Angles (RA)

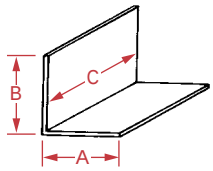


(AxB) Product	Gages	Standard Length
7/8" x 1-3/8"	25, 22, 20, 18	10'
1-5/8" x 1-5/8"	25, 22, 20, 18, 16	
2" x 2"	25, 22, 20, 18, 16, 14	
3" x 3"	20, 18, 16, 14, 12	
2" x 4"	20, 18, 16, 14, 12	
3" x 6"	20, 18, 16, 14, 12	

Uses
- For 90º corner enclosures at lapped framing locations; provides in plane stability of framework.

Product Data
- Available in any size, length and gage.

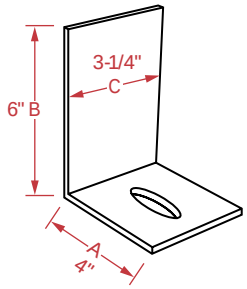
Clip Angle (CA)



Uses
- For miscellaneous attachments of intersecting framing components.
- For attachment of joist framing components to flush mounted headers.
- For attachment of solid blocking sections to adjacent studs or joists. See below…
- For alternate screw attachment of CRC bridging to stud webs in lieu direct weld. (see Bridge Clip)

Product Data
- Designation: SA Length (C) x gage.
- Designed for 3-5/8, 4, 6, 7-1/4, 8, 9-1/4, 10 and 12 inch studs.
- Gages: 18 ga (3-5/8, 4, or 6 inch only)
  14 ga (all lengths)
  12 ga (6, 7-1/4, 8, 91/4,10 and 12 inch only)
- A and B dimension per request. Standard 2"x 2"

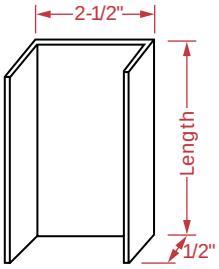
Foundation Clip (FC)



Uses
- For attachment of studs/joists to masonry walls or foundations.
- For attachment of rafters to top of masonry walls.
- Slotted hole allows for ease of attachment of masonry anchors.
- See detail page 23.

Product Data
- Designation: FC
- Slot dimensions: 9/16" x 1-1/2" oval or 3/4" wide x 1-1/2" long
- Gage: 14,16; 12 ga available upon request

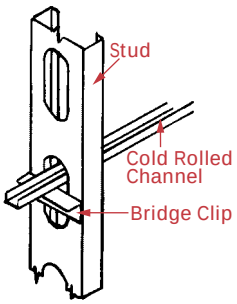
Web Stiffeners (WS)

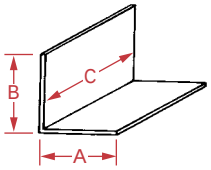


Uses
- For web reinforcement of C shaped framing members.
- Allow transfer of axial loads through joists at bearing conditions of platform frames.

Product Data
- Designation: WS x Length.
- Length: 4, 6, 7-1/4, 8, 9-1/4,10,12 inch.
- Galvanized finish.
- Contact DALE/INCOR Engineering for axial capacities.

Bridge Clip (BC)





Uses
- For alternate screw attachment of CRC bridging to stud webs in lieu of direct weld.

NOTE: 4 Screws min.

Product Data
- Designation: BC Length x Gage
- Standard Gage: 16 gage galvanized steel.
- Standard Length: C-2-1/2", 3-3/8" and 5-1/4"
- Leg Dimensions: A-1-1/2", B-1-1/2"

12 GA. Slide Clip:

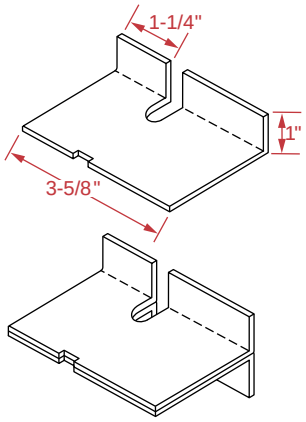
*For use with 1-5/8", 2" and 2-1/2" flange sizes only

VSC-I

Lateral Capacity = 700 Pounds (increased 1-1/3 for wind forces. 18 gage minimum stud thickness.)

VSC-II

Lateral Capacity = 1500 Pounds (increased 1-1/3 for wind forces. 18 gage minimum stud thickness.)



Vertical Slide Clip (VSC I and VSC II)

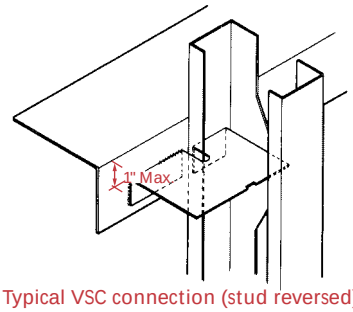
US Patent No. 4,121,391

Uses

- For attachment of floor to floor curtainwall systems to the primary structural frame. Allows for live load deflection and settlement of the primary frame without transferring the load to the exterior wall while bracing the wall against lateral forces.

Product Data

- Designations: VSC I & VSC II.
- Galvanized and painted finish.



Typical VSC connection (stud reversed)

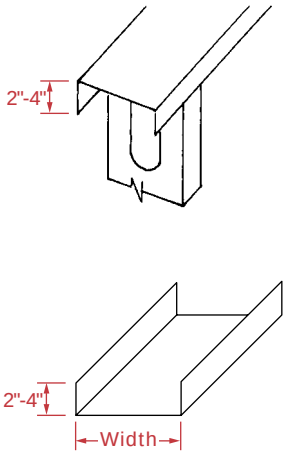
Slip Track:

Custom Leg Track (CLT)

- CLT Used for standard stick built construction with channel or bracing attached within 2' of track member to each stud.

Uses

- For attachment at top of infill curtainwall systems to the primary frame; allows for one half inch of live load deflection or settlement of the primary frame without transferring the load to the exterior wall while bracing the wall against lateral forces.

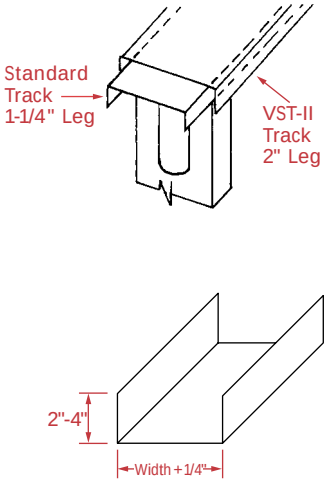


VST

- VST Used in typical panel construction where panel track is attached to studs. Panel then slides inside of VST Deflection Track.

Product Data

- Designation: CLT or VST Width x Gage
- Widths: 3-5/8", 4", and 8" (other widths available)
- Gage: 18, 16, 14 and 12 GA.
- Lengths: Standard 10'



Foot Notes: Wind Load Tables (Pages 10-15)

BRACED C-STUDS SUBJECT TO LATERAL (WIND) LOADS

- Limiting height in feet (ft) - Based on Bending, Shear and Deflection.
- For use in selection of single span non-axial load wall studs subjected to uniform lateral (wind) forces.
- Select a stud which provides an allowable height equal to or greater than the actual project requirements based on the required spacing, lateral pressure and deflection criteria.
- Must check for web crippling.
- "f" denotes stress controlled section.

Notes:

1. Application involving multiple spans, cantilevers, concentrated loads, etc., are outside the intent of these tables. These design conditions should be investigated separately in accordance with Section C3.4 of the AISI Specification.
2. Stud frames shall be braced against minor axis rotation. Bridging shall be spaced at intervals not exceeding 5'-O" on center maximum. Reference pages 9 and 18 for bridging types and installation methods. Bracing can be provided by the attachment of diaphragm rated sheathing products to both flanges. When attachment to both flanges is not performed concurrently with the installation of the stud frames, mechanical type bridging methods shall be used.
3. Stud ends shall be attached to track components at the top and bottom of the wall assembly. Contact DALE/INCOR for technical information.
4. For components subjected to 5 PSF and greater lateral wind loads, the actual bending and axial stresses were multiplied by 0.75 in accordance with AISI Section A5.1.3.
5. Deflection and stresses were calculated without regard to the composite contribution of facing materials.
6. All numbers in red denote L/360 Deflection.
7. Contact DALE/INCOR for limiting heights of framing components not shown in these tables.
8. All data based on Fy on = 33,000 psi. The use of 50,00 psi will generally not yield an increase in limiting height.

12" on Center Height Limitations

WIND LOAD	WEB SIZE	DEFLECTION	CN (137)				CEE (162)					JW (200)					JWE (250)			
			20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)
5 PSF	2-1/2"	L/240	13'10"	15'0"	16'1"	17'1"	14'6"	15'9"	16'11"	18'0"	19'10"	15'4"	16'8"	17'11"	19'2"	21'1"	17'8'	19'0"	20'4"	22'5"
	(250)	L/360	12'1"	13'1"	14'0"	14'11"	12'8"	13'9"	14'9"	15'9"	17'4"	13'5"	14'7"	15'7"	16'8"	18'5"	15'6'	16'7"	17'9"	19'7"
		L/600	10'2"	11'1"	11'10"	12'7"	10'8"	11'7"	12'5"	12'3"	14'7"	11'3"	12'4"	13'2"	14'1"	15'6"	13'0'	14'0"	14'11"	16'6"
	3-5/8"	L/240	18'5"	20'0"	21'5"	22'11"	19'3"	21'0"	22'6"	24'1"	26'7"	20'4"	22'2"	23'9"	25'6"	28'2"	23'5"	25'1"	26'11"	29'10"
	(362)	L/360	16'1"	17'6"	18'9"	20'0"	16'10"	18'4"	19'8"	21'0"	23'2"	17'9"	19'4"	20'9"	22'3"	24'7"	20'5"	21'11"	23'6"	26'0"
		L/600	13'7"	14'9"	15'9"	16'10"	14'2"	15'5"	16'7"	17'9"	19'7"	14'11"	16'4"	17'6"	18'9"	20'9"	17'3"	18'6"	19'10"	21'11"
	4"	L/240	19'11"	21'8"	23'2"	24'9"	20'10"	22'8"	24'3"	26'0"	28'9"	21'11"	23'11"	25'8"	27'6"	30'5"	25'2"	27'0"	29'0"	32'3"
	(400)	L/360	17'4"	18'11"	20'3"	21'8"	18'2"	19'9"	21'2"	22'8"	25'1"	19'1"	20'11"	22'5"	24'0"	26'7"	22'0"	23'7"	25'4"	28'1"
		L/600	14'8"	15'11"	17'1"	18'3"	15'4"	16'8"	17'11"	19'2"	21'2"	16'1"	17'7"	18'11"	20'3"	22'5"	18'7"	19'11"	21'4"	23'8"
	6"	L/240	27'5"	29'10"	32'0"	34'4'	28'7"	31'2"	33'5"	35'10"	39'9"	29'11"	32'9"	35'2"	37'8"	41'10"	34'3"	36'10"	39'6"	43'11"
	(600)	L/360	24'0"	26'1"	28'0"	30'0'	25'0"	27'3"	29'2"	31'4'	34'8"	26'2"	28'7"	30'8"	32'11"	36'7"	29'11"	32'2"	34'6"	38'5"
		L/600	20'2"	22'0"	23'7"	25'3"	21'1"	22'11"	24'7"	26'5"	29'3"	22'1"	24'1"	25'11"	27'9"	30'10"	25'3"	27'1"	29'1"	32'5"
	8"	L/240	34'8"	37'10"	40'7"	43'6"	36'0"	39'3"	42'2"	45'3"	50'3"	37'8"	41'1"	44'2"	47'5"	52'9"	42'10"	46'1"	49'6"	55'1"
	(800)	L/360	30'4"	33'0"	35'5"	38'0"	31'6"	34'4"	36'10"	39'6"	43'11"	32'11"	35'11"	38'7"	41'5"	46'1"	37'5"	40'3"	43'3"	48'2"
		L/600	25'7"	27'10"	29'11"	32'1"	26'7"	28'11"	31'1"	33'4"	37'0"	27'9"	30'3"	32'6"	34'11"	38'10"	31'7"	33'11"	36'5"	40'7"
15 PSF	2-1/2"	L/240	9'7"	10'5"	11'1"	11'10"	10'1"	10'11"	11'8"	12'6"	13'9"	10'7"	11'7'	12'5"	13'3"	14'7"	12'3"	13'2"	14'1"	15'6"
	(250)	L/360	8'4"	9'1"	9'9"	10'4"	8'9"	9'6"	10'3"	10'11"	12'0"	9'3"	10'1'	10'10"	11'7"	12'9"	10'8"	11'6"	12'3"	13'7"
		L/600	7'0"	7'8"	8'2"	8'9"	7'5"	8'0"	8'7"	9'2"	10'1"	7'10"	8'6'	9'1"	9'9"	10'9"	9'0"	9'8"	10'4"	11'5"
	35/8"	L/240	12'9"	13'10"	14'10"	15'10"	13'4"	14'7"	15'7"	16'8"	18'5"	14'1"	15'4"	16'6"	17'8"	19'6'"	16'2"	17'5"	18'8"	20'8"
	(362)	L/360	11'2"	12'1"	13'0"	13'10"	11'8"	12'8"	13'7"	14'7"	16'1"	12'3"	13'5"	14'5"	15'5"	17'1"	14'2"	15'2"	16'3"	18'0"
		L/600	9'5"	10'3"	10'11"	11'8"	9'10"	10'8"	11'6"	12'3"	13'7"	10'4"	11'4"	12'1"	13'0"	14'4"	11'11"	12'10"	13'9"	15'2"
	4"	L/240	13'9"	15'0"	16'1"	17'2"	14'5"	15'8"	16'10"	18'0"	19'11"	15'2"	16'7"	17'9"	19'0"	21'1"	17'5"	18'9"	20'1"	22'3"
	(400)	L/360	12'0"	13'1"	14'0"	15'0"	12'7"	13'8"	14'8"	15'9"	17'4"	13'3"	14'6"	15'6'	16'8"	18'5"	15'3"	16'4"	17'6"	19'5"
		L/600	10'2"	11'0"	11'10"	12'8"	10'7"	11'7"	12'5"	13'3"	14'8"	11'2"	12'2"	13'1'	14'0"	15'6"	12'10"	13'9"	14'9"	16'5"
	6"	L/240	19'0"	20'8"	22'2"	23'9"	19'10"	21'7"	23'2"	24'10"	27'6"	20'9"	22'8"	24'4"	26'2"	29'0"	23'9"	25'6"	27'5"	30'6"
	(600)	L/360	16'7"	18'1"	19'5"	20'9"	17'4"	18'10"	20'3"	21'8"	24'1"	18'2"	19'10"	21'3"	22'10	25'4"	20'9"	22'3"	23'11"	26'7"
		L/600	14'0"	15'3"	16'4"	17'6"	14'7"	15'11'	17'1"	18'3"	20'3"	15'3"	16'8"	17'11"	19'3"	21'4"	17'6"	18'9"	20'2"	22'5"
	8"	L/240	24'1"	26'2"	28'1"	30'2"	25'0"	27'3"	29'3"	31'4"	34'10"	26'1"	28'6"	30'7"	32'10"	36'7"	29'8"	31'11"	34'4"	38'2"
	(800)	L/360	21'0"	22'11"	24'7"	26'4"	21'10"	23'9"	25'6"	27'5"	30'5"	22'10"	24'10"	26'9"	28'8"	31'11"	25'11"	27'10"	29'11"	33'4"
		L/600	17'8"	19'3"	20'8"	22'3"	18'5"	20'0"	21'6"	23'1"	25'8"	19'3"	21'0"	22'6"	24'2"	26'11"	21'10"	23'6"	25'3"	28'2"
20 PSF	2-1/2"	L/240	8'8"	9'5"	10'1"	10'9"	9'2"	9'11"	10'7"	11'4"	12'6"	9'8"	10'6"	11'3"	12'0"	13'3"	11'2"	11'11"	12'9"	14'1"
	(250)	L/360	7'7"	8'3"	8'10"	9'5"	8'0"	8'8"	9'3"	9'11"	10'11"	8'5"	9'2"	9'10"	10'6"	11'7"	9'9"	10'5"	11'2"	12'4"
		L/600	6'5"	6'11"	7'5"	7'11"	6'9"	7'4"	7'10"	8'4"	9'2"	7'1"	7'9"	8'3"	8'10"	9'9"	8'2"	8'9"	9'5"	10'5"
	3-5/8"	L/240	11'7"	12'7"	13'6"	14'5"	12'2"	13'3"	14'2"	15'2"	16'9"	12'9"	13'11"	15'0"	16'0"	17'9"	14'9"	15'9"	16'11"	18'9"
	(362)	L/360	10'1"	11'0"	11'9"	12'7"	10'7"	11'6"	12'4"	13'3"	14'7"	11'2"	12'2"	13'1"	14'0"	15'6"	12'10"	13'9"	14'9"	16'5"
		L/600	8'6"	9'3"	9'11"	10'7"	8'11"	9'9"	10'5"	11'2"	12'4"	15'0"	10'3"	11'0"	11'10"	13'1"	10'10"	11'7"	12'6"	13'10"
	4"	L/240	12'6"	13'7"	14'7"	15'7"	13'1"	14'3"	15'3"	16'4"	18'1"	13'9"	15'1"	16'2"	17'4"	19'2"	15'10"	17'0"	18'3"	20'3"
	(400)	L/360	10'11"	11'11"	12'9"	13'7"	11'5"	12'5"	13'4"	14'3"	15'9"	12'0"	13'2"	14'1"	15'1"	16'9"	13'10"	14'10"	15'11"	17'8"
		L/600	9'2"	10'0"	10'9"	11'6"	9'8"	10'6"	11'3"	12'1"	13'4"	10'2"	11'1"	11'11"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
	6"	L/240	17'3"	18'10"	20'2"	21'7"	18'0"	19'7"	21'1"	22'7"	25'0"	18'10"	20'7"	22'1"	23'9"	26'4"	21'7"	23'2"	24'11"	27'8"
	(600)	L/360	15'1"	16'5"	17'7"	18'10"	15'9"	17'2"	18'5"	19'8"	21'10"	16'6"	18'0"	19'4"	20'9"	23'0"	18'10"	20'3"	21'9"	24'2"
		L/600	12'9"	13'10"	14'10"	15'11"	13'3"	14'5"	15'6"	16'7"	18'5"	13'11"	15'2"	16'3"	17'6"	19'5"	15'11"	17'1"	18'4"	20'5"
	8"	L/240	21'10"	23'10"	25'7"	27'5"	22'8"	24'9"	26'7"	28'6"	31'8"	23'9"	25'10"	27'9"	29'10"	33'2"	27'0"	29'0"	31'2"	34'8"
	(800)	L/360	19'1"	20'9"	22'4"	23'11"	19'10"	21'7"	23'2"	24'11"	27'8"	20'9"	22'7"	24'3"	26'1"	29'0"	23'7"	25'4"	27'3"	30'4"
		L/600	16'1"	17'6"	18'10"	20'2"	16'8"	18'2"	19'7"	21'0"	23'4"	17'6"	19'1"	20'6"	22'0"	24'5"	19'10"	21'4"	22'11"	25'7"
25 PSF	2-1/2"	L/240	8'1"	8'9"	9'4"	10'0"	8'6"	9'3"	9'10"	10'6"	11'7"	8'11"	9'9"	10'5"	11'2"	12'4"	10'4"	11'1"	11'10"	13'1"
	(250)	L/360	7'0"	7'8"	8'2"	8'9"	7'5"	8'0"	8'7"	9'2"	10'1"	7'10"	8'6"	9'1"	9'9"	10'9"	9'0"	9'8"	10'4"	11'5"
		L/600	5'11"	6'5"	6'11"	7'4"	6'3"	6'9"	7'3"	7'9"	8'6"	6'7"	7'2"	7'8"	8'3"	9'1"	7'7"	8'2"	8'9"	9'8"
	3-5/8"	L/240	10'9"	11'8"	12'6"	13'5"	11'3"	12'3"	13'2"	14'1"	15'6"	11'10"	12'11"	13'11"	14'10"	16'5"	13'8"	14'8"	15'9"	17'5"
	(362)	L/360	9'5"	10'3"	10'11"	11'8"	9'10"	10'8"	11'6"	12'3"	13'7"	10'4"	11'4"	12'1"	13'0"	14'4"	11'11"	12'10'	13'9"	15'2"
		L/600	7'11"	8'7"	9'3"	9'10"	8'3"	9'0"	9'8"	10'4"	11'5"	8'9"	9'6"	10'3"	10'11"	12'1"	10'1"	10'9"	11'7"	12'10"
	4"	L/240	11'7"	12'8"	13'6"	14'6"	12'2"	13'3"	14'2"	15'2"	16'9"	12'9"	14'0"	15'0"	16'1"	17'9"	14'9"	15'9"	16'11"	18'9"
	(400)	L/360	10'2"	11'0"	11'10"	12'8"	10'7"	11'7"	12'5"	13'3"	14'8"	11'2"	12'2"	13'1"	14'0"	15'6"	12'10"	13'9"	14'9"	16'5"
		L/600	8'7"	9'4"	9'11"	10'8"	8'11"	9'9"	10'5"	11'2"	12'4"	9'5"	10'3"	11'0"	11'10"	13'1"	10'10"	11'7"	12'6"	13'10"

12" on Center Height Limitations

WIND LOAD	WEB SIZE	DEFLECTION	CN (137)				CEE (162)					JW (200)					JWE (250)			
			20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)
25 PSF	6" (600)	L/240	16'0"	17'5"	18'9"	20'1"	16'9"	18'2"	19'6"	20'11"	23'3"	17'6"	19'1"	20'6"	22'0"	24'6"	20'0"	21'6"	23'1"	25'8"
		L/360	14'0"	15'3"	16'4"	17'6"	14'7"	15'11"	17'1"	18'3"	20'3"	15'3"	16'8"	17'11"	19'3"	21'4"	17'6"	18'9"	20'2"	22'5"
		L/600	11'10"	12'10"	13'9"	14'9"	12'4"	13'5'	14'5"	15'5"	17'1"	12'11"	14'1"	15'1"	16'3"	18'0"	14'9"	15'10"	17'0"	18'11"
	8" (800)	L/240	20'3"	22'1"	23'9"	25'5"	21'1"	22'11"	24'8"	26'5"	29'5"	22'0"	24'0"	25'9"	27'8"	30'10"	25'0"	26'11"	28'11"	32'2"
		L/360	17'8"	19'3"	20'8"	22'3"	18'5"	20'0"	21'6"	23'1"	25'8"	19'3"	21'0"	22'6"	24'2"	26'11"	21'10"	23'6"	25'3"	28'2"
		L/600	14'11"	16'3"	17'6"	18'9"	15'6"	16'11"	18'2"	19'6"	21'8"	16'3"	17'8"	19'0"	20'5"	22'8"	18'5"	19'10"	21'4"	23'9"
30 PSF	2-1/2" (250)	L/240	7'7"	8'3"	8'10"	9'5"	8'0"	8'8"	9'3"	9'11"	10'11"	8'5"	9'2"	9'10"	10'6"	11'7"	9'9"	10'5"	11'2"	12'4"
		L/360	6'7"	7'2"	7'8"	8'3"	6'11"	7'7"	8'1"	8'8"	9'6"	7'4"	8'0"	8'7"	9'2"	10'1"	8'6"	9'1"	9'9"	10'9"
		L/600	5'7"	6'1"	6'6"	6'11"	5'10"	6'4"	6'10"	7'3"	8'0"	6'2"	6'9"	7'3"	7'9"	8'6"	7'2"	7'8"	8'3"	9'1"
	3-5/8" (362)	L/240	10'1"	11'0"	11'9"	12'7"	10'7"	11'6"	12'4"	13'3"	14'7"	11'2"	12'2"	13'1"	14'0"	15'6"	12'10"	13'9"	14'9"	16'5"
		L/360	8'10"	9'7"	10'3"	11'0"	9'3"	10'1"	10'9"	11'7"	12'9"	9'9"	10'8"	11'5"	12'3"	13'6"	11'3"	12'0"	12'11"	14'4"
		L/600	7'5"	8'1"	8'8"	9'3"	7'10"	8'6"	9'1"	9'9"	10'9"	8'3"	9'0"	9'7"	10'4"	11'5"	9'5"	10'2"	10'11"	12'1"
	4" (400)	L/240	10'11"	11'11"	12'9"	13'7"	11'5"	12'5"	13'4"	14'3"	15'9"	12'0"	13'2"	14'1"	15'1"	16'9"	13'10"	14'10"	15'11"	17'8"
		L/360	9'6"	10'5"	11'1"	11'11"	10'0"	10'10"	11'8"	12'6"	13'9"	10'6"	11'6"	12'4"	13'2"	14'7"	12'1"	13'0"	13'11"	15'5"
		L/600	8'0"	8'9"	9'4"	10'0"	8'5"	9'2"	9'10"	10'6"	11'7"	8'10"	9'8"	10'4"	11'1"	12'4"	10'2"	10'11"	11'9"	13'0"
	6" (600)	L/240	15'1"	16'5"	17'7"	18'10"	15'9"	17'2"	18'5"	19'8"	21'10"	16'6"	18'0"	19'4"	20'9"	23'0"	18'10"	20'3"	21'9"	24'2"
		L/360	13'2"	14'4"	15'5"	16'6"	13'9"	14'11"	16'1"	17'3"	19'1"	14'5"	15'9"	16'10"	18'1"	20'1"	16'5"	17'8"	19'0"	21'1"
		L/600	11'1"	12'1"	13'0"	13'11"	11'7"	12'7"	13'6'	14'6"	16'1"	12'1"	13'3"	14'3"	15'3"	16'11"	13'10"	14'11"	16'0"	17'10"
	8" (800)	L/240	19'1"	20'9"	22'4"	23'11"	19'10"	21'7"	23'2"	24'11"	27'8"	20'9"	22'7"	24'3"	26'1"	29'0"	23'7"	25'4"	27'3"	30'4"
		L/360	16'8"	18'2"	19'6"	20'11"	17'4"	18'10"	20'3"	21'9"	24'2"	18'1"	19'9"	21'2"	22'9"	25'4"	20'7"	22'1"	23'9"	26'6"
		L/600	14'1"	15'4"	16'5"	17'7"	14'7"	15'11"	17'1"	18'4"	20'4"	15'3"	16'8"	17'10"	19'2"	21'4"	17'4"	18'8"	20'0"	22'4"
40 PSF	2-1/2" (250)	L/240	6'11"	7'6"	8'0"	8'6"	7'3"	7'10"	8'5"	9'0"	9'11"	7'8"	8'4"	8'11"	9'7"	10'6"	8'10"	9'6"	10'2"	11'2"
		L/360	6'0"	6'6"	7'0"	7'5"	6'4"	6'10"	7'4"	7'10"	8'8"	6'8"	7'3"	7'9"	8'4"	9'2"	7'9"	8'3"	8'10"	9'9"
		L/600	5'1"	5'6"	5'11"	6'3"	5'4"	5'9"	6'2"	6'7"	7'3"	5'7"	6'2"	6'7"	7'0"	7'9"	6'6"	7'0"	7'5"	8'3"
	3-5/8" (362)	L/240	9'2"	10'0"	10'8"	11'5"	9'7"	10'6"	11'3"	12'0"	13'3"	10'2"	11'1"	11'10"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
		L/360	8'0"	8'9"	9'4"	10'0"	8'5"	9'2"	9'10"	10'6"	11'7"	8'10"	9'8"	10'4"	11'1"	12'3"	10'2"	10'11"	11'9"	13'0"
		L/600	6'9"	7'4"	7'10"	8'5"	7'1"	7'8"	8'3"	8'10"	9'9"	7'5"	8'2"	8'9"	9'4"	10'4"	8'7"	9'3"	9'11"	10'11"
	4" (400)	L/240	9'11"	10'10"	11'7"	12'4"	10'5"	11'4"	12'1"	13'0"	14'4"	10'11"	11'11"	12'10"	13'9"	15'2"	12'7"	13'6"	14'6"	16'1"
		L/360	8'8"	9'5"	10'1"	10'10"	9'1"	9'10"	10'7"	11'4"	12'6"	9'6"	10'5"	11'2"	12'0"	13'3"	11'0"	11'9"	12'8"	14'0"
		L/600	7'4"	7'11"	8'6"	9'1"	7'8"	8'4"	8'11"	9'7"	10'7"	8'0"	8'9"	9'5"	10'1"	11'2"	9'3"	9'11"	10'8"	11'10"
	6" (600)	L/240	13'8"	14'11"	16'0"	17'2"	14'3"	15'7"	16'8"	17'11"	19'10"	14'11"	16'4"	17'7"	18'10"	20'11"	17'1"	18'5"	19'9"	21'11"
		L/360	12'0"	13'0"	14'0"	15'0"	12'6"	13'7"	14'7"	15'8"	17'4"	13'1"	14'3"	15'4"	16'5"	18'3"	14'11"	16'1"	17'3"	19'2"
		L/600	10'1"	11'0"	11'9"	12'7"	10'6"	11'5"	12'3"	13'2"	14'7"	11'0"	12'0"	12'11"	13'10"	15'5"	12'7"	13'6"	14'6"	16'2"
	8" (800)	L/240	17'0"f	18'11"	20'3"	21'9"	18'0"	19'7"	21'1"	22'7"	25'1"	18'10"	20'6"	22'1"	23'8"	26'4"	21'5"	23'0"	24'9"	27'6"
		L/360	15'2"f	16'6"	17'8"	19'0"	15'9"	17'2"	18'5"	19'9"	21'11"	16'5"	17'11"	19'3"	20'8"	23'0"	18'8"	20'1"	21'7"	24'1"
		L/600	12'9"f	13'11"	14'11"	16'0"	13'3"	14'5"	15'6"	16'8"	18'6"	13'10"	15'1"	16'3"	17'5"	19'5"	15'9"	16'11"	18'2"	20'3"
50 PSF	2-1/2" (250)	L/240	6'5"	6'11"	7'5"	7'11"	6'9"	7'4"	7'10"	8'4"	9'2"	7'1"	7'9"	8'3"	8'10"	9'9"	8'2"	8'9"	9'5"	10'5"
		L/360	5'7"	6'1"	6'6"	6'11"	5'10"	6'4"	6'10"	7'3"	8'0"	6'2"	6'9"	7'3"	7'9"	8'6"	7'2"	7'8"	8'3"	9'1"
		L/600	4'8"	5'1"	5'6"	5'10"	4'11"	5'4"	5'9"	6'2"	6'9"	5'3"	5'8"	6'1"	6'6"	7'2"	6'0"	6'6"	6'11"	7'8"
	3-5/8" (362)	L/240	8'6"	9'3"	9'11"	10'7"	8'11"	9'9"	10'5"	11'2"	12'4"	9'5"	10'3"	11'0'	11'10"	13'1"	10'10"	11'7"	12'6"	13'10"
		L/360	7'5"	8'1"	8'8"	9'3"	7'10"	8'6"	9'1"	9'9"	10'9"	8'3"	9'0"	9'7"	10'4"	11'5"	9'5"	10'2"	10'11"	12'1"
		L/600	6'3"	6'10"	7'4"	7'10"	6'7"	7'2"	7'8"	8'2"	9'1"	6'11"	7'7"	8'1"	8'8"	9'7"	8'0"	8'7"	9'2"	10'2"
	4" (400)	L/240	9'2"	10'0"	10'9"	11'6"	9'8"	10'6"	11'3"	12'1"	13'4"	10'2"	11'1"	11'11"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
		L/360	8'0"	8'9"	9'4"	10'0"	8'5"	9'2"	9'10"	10'6"	11'7"	8'10"	9'8"	10'4"	11'1"	12'4"	10'2"	10'11"	11'9"	13'0"
		L/600	6'9"	7'4"	7'11"	8'5"	7'1"	7'9"	8'3"	8'10"	9'9"	7'6"	8'2"	8'9"	9'4"	10'4"	8'7"	9'3"	9'11"	11'0"
	6" (600)	L/240	12'9"	13'10"	14'10"	15'11"	13'3"	14'5"	15'6"	16'7"	18'5"	13'11"	15'2"	16'3"	17'6"	19'5"	15'11"	17'1"	18'4"	20'5"
		L/360	11'1"	12'1"	13'0"	13'11"	11'7"	12'7"	13'6"	14'6"	16'1"	12'1"	13'3"	14'3"	15'3"	16'11"	13'10"	14'11"	16'0"	17'10"
		L/600	9'4"	10'2"	10'11"	11'9"	9'9"	10'8"	11'5"	12'3"	13'7"	10'3"	11'2"	12'0"	12'10"	14'3"	11'8"	12'7"	13'6"	15'0"
	8" (800)	L/240	15'3"f	17'6"	18'10"	20'2"	16'3"f	18'2"	19'7"	21'0"	23'4"	16'10"f	19'1"	20'6"	22'0"	24'5"	19'10"	21'4"	22'11"	25'7"
		L/360	14'1"f	15'4"	16'5"	17'7"	14'7"f	15'11"	17'1"	18'4"	20'4"	15'3"f	16'8"	17'10"	19'2"	21'4"	17'4"	18'8"	20'0"	22'4"
		L/600	11'10"f	12'11"	13'10"	14'10"	12'4"f	13'5"	14'5"	15'5"	17'2"	12'10"f	14'0"	15'1"	16'2"	18'0"	14'7"	15'9"	16'11"	18'10"

16" on Center Height Limitations

WIND LOAD	WEB SIZE	DEFLECTION	CN (137)				CEE (162)					JW (200)					JWE (250)			
			20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)
5 PSF	2-1/2" (250)	L/240	12'7"	13'8"	14'7"	15'7"	13'2"	14'4"	15'4"	16'5"	18'0"	13'11"	15'2"	16'3"	17'5"	19'2"	16'1"	17'3"	18'5"	20'4"
		L/360	11'0"	11'11"	12'9"	13'7"	11'6"	12'6"	13'5"	14'4"	15'9"	12'2"	13'3"	14'2"	15'2"	16'9"	14'1"	15'1"	16'1"	17'9"
		L/600	9'3"	10'0"	10'9"	11'5"	9'8"	10'7"	11'3"	12'1"	13'3"	10'3"	11'2"	12'0"	12'10"	14'1"	11'10"	12'8"	13'7"	15'0"
	3-5/8" (362)	L/240	16'9"	18'2"	19'6"	20'10"	17'6"	19'1"	20'5"	21'10"	24'1"	18'5"	20'2"	21'7"	23'2"	25'7"	21'3"	22'9"	24'5"	27'1"
		L/360	14'7"	15'11"	17'0"	18'2"	15'4"	16'8"	17'10"	19'1"	21'1"	16'1"	17'7"	18'10"	20'2"	22'4"	18'7"	19'11"	21'4"	23'8"
		L/600	12'4"	13'5"	14'4"	15'4"	12'11"	14'0"	15'1"	16'1"	17'9"	13'7"	14'10"	15'11"	17'0"	18'10"	15'8"	16'9"	18'0"	19'11"
	4" (400)	L/240	18'1"	19'8"	21'1"	22'6"	18'11"	20'7"	22'1"	23'7"	26'1"	19'11"	21'9"	23'4"	25'0"	27'8"	22'10"	24'7"	26'4"	29'2"
		L/360	15'9"	17'2"	18'5"	19'8"	16'6"	18'0"	19'3"	20'7"	22'9"	17'4"	19'0"	20'4"	21'10"	24'2"	20'0"	21'5"	23'0"	25'6"
		L/600	13'4"	14'6"	15'6"	16'7"	13'11"	15'2"	16'3"	17'5"	19'2"	14'8"	16'0"	17'2"	18'5"	20'4"	16'10"	18'1"	19'5"	21'6"
	6" (600)	L/240	24'11"	27'2"	29'1"	31'2"	26'0"	28'4"	30'4"	32'7"	36'1"	27'3"	29'9"	31'11"	34'3"	38'0"	31'2"	33'5"	35'11"	39'11"
		L/360	21'9"	23'8"	25'5"	27'3"	22'8"	24'9"	26'6"	28'5"	31'6"	23'9"	26'0"	27'11"	29'11"	33'3"	27'2"	29'3"	31'4"	34'11"
		L/600	18'4"	20'0"	21'5"	23'0"	19'2"	20'10"	22"4"	24'0"	26'7"	20'0"	21'11"	23'6"	25'3"	28'0"	22'11"	24'8"	26'5"	29'5"
	8" (800)	L/240	31'6"	34'4"	36'10"	39'6"	32'9"	35'8"	38'4"	41'1"	45'8"	34'3"	37'4"	40'1"	43'1"	47'11"	38'11"	41'10"	44'11"	50'1"
		L/360	27'6"	30'0"	32'2"	34'6"	28'7"	31'2"	33'6"	35'11"	39'11"	29'11"	32'7"	35'0"	37'7"	41'10"	34'0"	36'6"	39'3"	43'9"
		L/600	23'3"	25'4"	27'2"	29'1"	24'1"	26'3"	28'3"	30'3"	33'8"	25'3"	27'6"	29'6"	31'9"	35'3"	28'8"	30'10"	33'1"	36'10"
15 PSF	2-1/2" (250)	L/240	8'8"	9'5"	10'1"	10'9"	9'2"	9'11"	10'7"	11'4"	12'6"	9'8"	10'6"	11'3"	12'0"	13'3"	11'2"	11'11"	12'9"	14'1"
		L/360	7'7"	8'3"	8'10"	9'5"	8'0"	8'8"	9'3"	9'11"	10'11"	8'5"	9'2"	9'10'	10'6"	11'7"	9'9"	10'5"	11'2"	12'4"
		L/600	6'5"	6'11"	7'5"	7'11"	6'9"	7'4"	7'10"	8'4"	9'2"	7'1"	7'9"	8'3"	8'10"	9'9"	8'2"	8'9"	9'5"	10'5"
	3-5/8" (362)	L/240	11'7"	12'7"	13'6"	14'5"	12'2"	13'3"	14'2"	15'2"	16'9"	12'9"	13'11"	15'0"	16'0"	17'9"	14'9"	15'9"	16'11"	18'9"
		L/360	10'1"	11'0"	11'9"	12'7"	10'7"	11'6"	12'4"	13'3"	14'7"	11'2"	12'2"	13'1"	14'0"	15'6"	12'10"	13'9"	14'9"	16'5"
		L/600	8'6"	9'3"	9'11"	10'7"	8'11"	9'9"	10'5"	11'2"	12'4"	9'5"	10'3"	11'0"	11'10"	13'1"	10'10"	11'7"	12'6"	13'10"
	4" (400)	L/240	12'6"	13'7"	14'7"	15'7"	13'1"	14'3"	15'3"	16'4"	18'1"	13'9"	15'1"	16'2"	17'4"	19'2"	15'10"	17'0"	18'3"	20'3"
		L/360	10'11"	11'11"	12'9"	13'7"	11'5"	12''5"	13'4"	14'3"	15'9"	12'0"	13'2"	14'1"	15'1"	16'9"	13'10"	14'10"	15'11"	17'8"
		L/600	9'2"	10'0"	10'9"	11'6"	9'8"	10'6"	11'3"	12'1"	13'4"	10'2"	11'1"	11'11"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
	6" (600)	L/240	17'3"	18'10"	20'2"	21'7"	18'0"	19'7"	21'1"	22'7"	25'0"	18'10"	20'7"	22'1"	23'9"	26'4"	21'7"	23'2"	24'11"	27'8"
		L/360	15'1"	16'5"	17'7"	18'10"	15'9"	17'2"	18'5"	19'8"	21'10"	16'6"	18'0"	19'4"	20'9"	23'0"	18'10"	20'3"	21'9"	24'2"
		L/600	12'9"	13'10"	14'10"	15'11"	13'3"	14'5"	15'6"	16'7"	18'5"	13'11"	15'2"	16'3"	17'6"	19'5"	15'11"	17'1"	18'4"	20'5"
	8" (800)	L/240	21'10"	23'10"	25'7"	27'5"	22'8"	24'9"	26'7"	28'6"	31'8"	23'9"	25'10"	27'9"	29'10"	33'2"	27'0"	29'0"	31'2"	34'8"
		L/360	19'1"	20'9"	22'4"	23'11"	19'10"	21'7"	23'2"	24'11"	27'8"	20'9"	22'7"	24'3"	26'1"	29'0"	23'7"	25'4"	27'3"	30'4"
		L/600	16'1"	17'6"	18'10"	20'2"	16'8"	18'2"	19'7"	21'0"	23'4"	17'6"	19'1"	20'6"	22'0"	24'5"	19'10"	21'4"	22'11"	25'7"
20 PSF	2-1/2" (250)	L/240	7'11"	8'7"	9'2"	9'9"	8'3"	9'0"	9'8"	10'4"	11'4"	8'9"	9'7"	10'3"	10'11"	12'1"	10'1"	10'10"	11'7"	12'10"
		L/360	6'11"	7'6"	8'0"	8'6"	7'3"	7'10"	8'5"	9'0"	9'11"	7'8"	8'4"	8'11"	9'7"	10'6"	8'10"	9'6"	10'2'	11'2"
		L/600	5'10"	6'4"	6'9"	7'2"	6'1"	6'8"	7'1"	7'7"	8'4"	6'5"	7'0"	7'6"	8'1"	8'10"	7'5"	8'0"	8'6"	9'5"
	3-5/8" (362)	L/240	10'6"	11'5"	12'3"	13'1"	11'0"	12'0"	12'10"	13'9"	15'2"	11'7"	12'8"	13'7"	14'7"	16'1"	13'4"	14'4"	15'4"	17'0"
		L/360	9'2"	10'0"	10'8"	11'5"	9'7"	10'6"	11'3"	12'0"	13'3"	10'2"	11'1"	11'10"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
		L/600	7'9"	8'5"	9'0"	9'8"	8'1"	8'10"	9'6"	10'2"	11'2"	8'6"	9'4"	10'0"	10'9"	11'10"	9'10"	10'7"	11'4"	12'7"
	4" (400)	L/240	11'4"	12'4"	13'3"	14'2"	11'11"	12'11"	13'11"	14'10"	16'5"	12'6"	13'8"	14'8"	15'8"	17'5"	14'5"	15'5"	16'7"	18'5"
		L/360	9'11"	10'10"	11'7"	12'4"	10'5"	11'4"	12'1"	13'0"	14'4"	10'11"	11'11"	12'10"	13'9"	15'2"	12'7"	13'6"	14'6"	16'1"
		L/600	8'4"	9'1"	9'9"	10'5"	8'9"	9'6"	10'3"	10'11"	12'1"	9'2"	10'1"	10'9"	11'7"	12'10"	10'7"	11'4"	12'2"	13'6"
	6" (600)	L/240	15'8"	17'1"	18'4"	19'8"	16'4"	17'10"	19'1"	20'6"	22'9"	17'2"	18'9"	20'1"	21'7"	23'11"	19'7"	21'1"	22'7"	25'2"
		L/360	13'8"	14'11"	16'0"	17'2"	14'3"	15'7"	16'8"	17'11"	19'10"	14'11"	16'4"	17'7"	18'10"	20'11"	17'1"	18'5"	19'9"	21'11"
		L/600	11'7"	12'7"	13'6"	14'5"	12'0"	13'1"	14'1"	15'1"	16'9"	12'7"	13'9"	14'10"	15'10"	17'8"	14'5"	15'6"	16'8"	18'6"
	8" (800)	L/240	19'10"	21'7"	23'2"	24'11"	20'7"	22'5"	24'1"	25'11"	28'9"	21'7"	23'6"	25'3"	27'1"	30'2"	24'6"	26'4"	28'4"	31'6"
		L/360	17'4"	18'11"	20'3"	21'9"	18'0"	19'7"	21'1"	22'7"	25'1"	18'10"	20'6"	22'1"	23'8"	26'4"	21'5"	23'0"	24'9"	27'6"
		L/600	14'7"	15'11"	17'1"	18'4"	15'2"	16'6"	17'9"	19'1"	21'2"	15'10"	17'4"	18'7"	20'0"	22'3"	18'1"	19'5"	20'10"	23'3"
25 PSF	2-1/2" (250)	L/240	7'4"	8'0"	8'6"	9'1"	7'8"	8'4"	8'11"	9'7"	10'6"	8'1"	8'10"	9'6"	10'2"	11'2"	9'5"	10'1"	10'9"	11'11"
		L/360	6'5"	6'11"	7'5"	7'11"	6'9"	7'4"	7'10"	8'4"	9'2"	7'1"	7'9"	8'3"	8'10"	9'9"	8'2"	8'9"	9'5"	10'5"
		L/600	5'5"	5'10"	6'3"	6'8"	5'8"	6'2"	6'7"	7'0"	7'9"	6'0"	6'6"	7'0"	7'6"	8'3"	6'11"	7'5"	7'11"	8'9"
	3-5/8" (362)	L/240	9'9"	10'7"	11'4"	12'2"	10'3"	11'2"	11'11"	12'9"	14'1"	10'9"	11'9"	12'7"	13'6"	14'11"	12'5"	13'4"	14'3"	15'10"
		L/360	8'6"	93"	9'11"	10'7"	8'11"	9'9"	10'5"	11'2"	12'4"	9'5"	10'3"	11'0"	11'10"	13'1"	10'10"	11'7"	12'6"	13'10"
		L/600	7'2"	7'10"	8'4"	8'11"	7'6"	8'2"	8'9"	9'5"	10'4"	7'11"	8'8"	9'3"	9'11"	11'0"	9'2"	9'10"	10'6"	11'8"
	4" (400)	L/240	10'7"	11'6"	12'3"	13'2"	11'0"	12'0"	12'11"	13'10"	15'3"	11'7"	12'8"	13'7"	14'7"	16'2"	13'4"	14'4"	15'5"	17'1"
		L/360	9'2"	10'0"	10'9"	11'6"	9'8"	10'6"	11'3"	12'1"	13'4"	10'2"	11'1"	11'11"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
		L/600	7'9"	8'5"	9'1"	9'8"	8'1"	8'10"	9'6"	10'2"	11'3"	8'7"	9'4"	10'0"	10'9"	11'11"	9'10"	10'7"	11'4"	12'7"

16" on Center Height Limitations

WIND LOAD	WEB SIZE	DEFLECTION	CN (137)				CEE (162)					JW (200)					JWE (250)			
			20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)
25 PSF	6" (600)	L/240	14'7"	15'10"	17'0"	18'3"	15'2"	16'6"	17'9"	19'0"	21'1"	15'11'	17'4"	18'8"	20'0"	22'3"	18'2"	19'7"	21'0"	23'4"
		L/360	12'9"	13'10"	14'10"	15'11"	13'3"	14'5"	15'6"	16'7"	18'5"	13'11"	15'2"	16'3"	17'6"	19'5"	15'11"	17'1"	18'4"	20'5"
		L/600	10'9"	11'8"	12'6"	13'5"	11'2"	12'2"	13'1"	14'0"	15'6"	11'8"	12'9"	13'9"	14'9"	16'4"	13'5"	14'5"	15'5"	17'2"
	8" (800)	L/240	18'5"	20'1"	21'6"	23'1"	19'2"	20'10"	22'5"	24'0"	26'8"	20'0"	21'10"	23'5"	25'2"	28'0"	22'9"	24'5"	26'3"	29'3"
		L/360	16'1"	17'6"	18'10"	20'2"	16'8"	18'2"	19'7"	21'0"	23'4"	17'6"	19'1"	20'6"	22'0"	24'5"	19'10"	21'4"	22'11"	25'7"
		L/600	13'7"	14'9"	15'10"	17'0"	14'1"	15'4"	16'6"	17'8"	19'8"	14'9"	16'1"	17'3"	18'6"	20'7"	16'9"	18'0"	19'4"	21'7"
30 PSF	2-1/2" (250)	L/240	6'11"	7'6"	8'0"	8'6"	7'3"	7'10"	8'5"	9'0"	9'11"	7'8"	8'4"	8'11"	9'7"	10'6"	8'10"	9'6"	10'2"	11'2"
		L/360	6'0"	6'6"	7'0"	7'5"	6'4"	6'10"	7'4"	7'10"	8'8"	6'8"	7'3"	7'9"	8'4"	9'2"	7'9"	8'3"	8'10"	9'9"
		L/600	5'1"	5'6"	5'11"	6'3"	5'4"	5'9"	6'2"	6'7"	7'3"	5'7"	6'2"	6'7"	7'0"	7'9"	6'6"	7'0"	7'5"	8'3"
	3-5/8" (362)	L/240	9'2"	10'0"	10'8"	11'5"	9'7"	10'6"	11'3"	12'0"	13'3"	10'2"	11'1"	11'10"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
		L/360	8'0"	8'9"	9'4"	10'0"	8'5"	9'2"	9'10"	10'6"	11'7"	8'10"	9'8"	10'4"	11'1"	12'3"	10'2"	10'11"	11'9"	13'0"
		L/600	6'9"	7'4"	7'10"	8'5"	7'1"	7'8"	8'3"	8'10"	9'9"	7'5"	8'2"	8'9"	9'4"	10'4"	8'7"	9'3"	9'11"	10'11"
	4" (400)	L/240	9'11"	10'10"	11'7"	12'4"	10'5"	11'4"	12'1"	13'0"	14'4"	10'11"	11'11"	12'10"	13'9"	15'2"	12'7"	13'6"	14'6"	16'1"
		L/360	8'8"	9'5"	10'1"	10'10"	9'1"	9'10"	10'7"	11'4"	12'6"	9'6"	10'5"	11'2"	12'0"	13'3"	11'0"	11'9"	12'8"	14'0"
		L/600	7'4"	7'11"	8'6"	9'1"	7'8"	8'4"	8'11"	9'7"	10'7"	8'0"	8'9"	9'5"	10'1"	11'2"	9'3"	9'11"	10'8"	11'10"
	6" (600)	L/240	13'8"	14'11"	16'0"	17'2"	14'3"	15'7"	16'8"	17'11"	19'10"	14'11"	16'4"	17'7"	18'10"	20'11"	17'1"	18'5"	19'9"	21'11"
		L/360	12'0"	13'0"	14'0"	15'0"	12'6"	13'7"	14'7"	15'8"	17'4"	13'1"	14'3"	15'4"	16'5"	18'3"	14'11"	16'1"	17'3"	19'2"
		L/600	10'1"	11'0"	11'9"	12'7"	10'6"	11'5"	12'3"	13'2"	14'7"	11'0"	12'0"	12'11"	13'10"	15'5"	12'7"	13'6"	14'6"	16'2"
	8" (800)	L/240	17'0"f	18'11"	20'3"	21'9"	18'0"	19'7"	21'1"	22'7"	25'1"	18'10"	20'6"	22'1"	23'8"	26'4"	21'5"	23'0"	24'9"	27'6"
		L/360	15'2"f	16'6"	17'8"	19'0"	15'9"	17'2"	18'5"	19'9"	21'11"	16'5"	17'11"	19'3"	20'8"	23'0"	18'8"	20'1"	21'7"	24'1"
		L/600	12'9"f	13'11"	14'11"	16'0"	13'3"	14'5"	15'6"	16'8"	18'6"	13'10"	15'1"	16'3"	17'5"	19'5"	15'9"	16'11"	18'2"	20'3"
40 PSF	2-1/2" (250)	L/240	6'3"	6'10"	7'3"	7'9"	6'7"	7'2"	7'8"	8'2"	9'0"	6'11"	7'7"	8'1"	8'8"	9'7"	8'0"	8'7"	9'2"	10'2"
		L/360	5'6"	5'11"	6'4"	6'9"	5'9"	6'3"	6'8"	7'2"	7'10"	6'1"	6'7"	7'1"	7'7"	8'4"	7'0"	7'6"	8'0"	8'10"
		L/600	4'7"	5'0"	5'4"	5'8"	4'10"	5'3"	5'7"	6'0"	6'7"	5'1"	5'7"	6'0"	6'5"	7'0"	5'11"	6'4"	6'9"	7'6"
	3-5/8" (362)	L/240	8'4"	9'1"	9'9"	10'5"	8'9"	9'6"	10'2"	10'11"	12'0"	9'2"	10'1"	10'9"	11'7"	12'9"	10'7"	11'4"	12'2"	13'6"
		L/360	7'3"	7'11"	8'6"	9'1"	7'8"	8'4"	8'11"	9'6"	10'6"	8'0"	8'9"	9'5"	10'1"	11'2"	9'3"	9'11"	10'8"	11'10"
		L/600	6'2"	6'8"	7'2"	7'8"	6'5"	7'0"	7'6"	8'0"	8'10"	6'9"	7'5"	7'11"	8'6"	9'5"	7'10"	8'4"	9'0"	9'11"
	4" (400)	L/240	9'0"	9'10"	10'6"	11'3"	9'5"	10'3"	11'0"	11'9"	13'0"	9'11"	10'10"	11'8"	12'6"	13'10"	11'5"	12'3"	13'2"	14'7"
		L/360	7'10"	8'7"	9'2"	9'10"	8'3"	9'0"	9'7"	10'3"	11'4"	8'8"	9'6"	10'2"	10'11"	12'1"	10'0"	10'8"	11'6"	12'9"
		L/600	6'8"	7'3"	7'9"	8'3"	6'11"	7'7"	8'1"	8'8"	9'7"	7'4"	8'0"	8'7"	9'2"	10'2"	8'5"	9'0"	9'8"	10'9"
	6" (600)	L/240	12'5"	13'7"	14'6"	15'7"	13'0"	14'2"	15'2"	16'3"	18'0"	13'7"	14'10"	15'11"	17'1"	19'0"	15'7"	16'8"	17'11"	19'11"
		L/360	10'10"	11'10"	12'8"	13'7"	11'4"	12'4"	13'3"	14'2"	15'9"	11'10"	13'0"	13'11"	14'11"	16'7"	13'7"	14'7"	15'8"	17'5"
		L/600	9'2"	10'0"	10'8"	11'6"	9'7"	10'5"	11'2"	12'0"	13'3"	10'0"	10'11"	11'9"	12'7"	14'0"	11'5"	12'4"	13'2"	14'8"
	8" (800)	L/240	14'9"f	17'2"	18'5"	19'9"	15'9"f	17'10"	19'2"	20'6"	22'10"	16'4"f	18'8"	20'0"	21'6"	23'11"	19'5"	20'11"	22'5"	25'0"
		L/360	13'9"f	15'0"	16'1"	17'3"	14'3"f	15'7"	16'9"	17'11"	19'11"	14'11"f	16'3"	17'6"	18'9"	20'11"	17'0"	18'3"	19'7"	21'10"
		L/600	11'7"f	12'8"	13'7"	14'6"	12'0"f	13'1"	14'1"	15'1"	16'10"	12'7"f	13'9"	14'9"	15'10"	17'7"	14'4"	15'5"	16'6"	18'5"
50 PSF	2-1/2" (250)	L/240	5'10"	6'4"	6'9"	7'2"	6'1"	6'8"	7'1"	7'7"	8'4"	6'5"	7'0"	7'6"	8'1"	8'10"	7'5"	8'0"	8'6"	9'5"
		L/360	5'1"	5'6"	5'11"	6'3"	5'4"	5'9"	6'2"	6'7"	7'3"	5'7"	6'2"	6'7"	7'0"	7'9"	6'6"	7'0"	7'5"	8'3"
		L/600	4'3"	4'8"	5'0"	5'4"	4'6"	4'10"	5'3"	5'7"	6'2"	4'9"	5'2"	5'6"	5'11"	6'6"	5'6"	5'10"	6'3"	6'11"
	3-5/8" (362)	L/240	7'9"	8'5"	9'0"	9'8"	8'1"	8'10"	9'6"	10'2"	11'2"	8'6"	9'4"	10'0"	10'9"	11'10"	9'10"	10'7"	11'4"	12'7"
		L/360	6'9"	7'4"	7'10"	8'5"	7'1"	7'8	8'3"	8'10"	9'9"	7'5"	8'2"	8'9"	9'4"	10'4"	8'7"	9'3"	9'11"	10'11"
		L/600	5'8"	6'2"	6'8"	7'1"	6'0"	6'6"	7'0"	7'5"	8'3"	6'3"	6'10"	7'4"	7'11"	8'9"	7'3"	7'9"	8'4"	9'3"
	4" (400)	L/240	8'4"	9'1"	9'9"	10'5"	8'9"	9'6"	10'3"	10'11"	12'1"	9'2"	10'1"	10'9"	11'7"	12'10"	10'7"	11'4"	12'2"	13'6"
		L/360	7'4"	7'11"	8'6"	9'1"	7'8"	8'4"	8'11"	9'7"	10'7"	8'0"	8'9"	9'5"	10'1"	11'2"	9'3"	9'11"	10'8"	11'10"
		L/600	6'2"	6'8"	7'2"	7'8"	6'5"	7'0"	7'6"	8'1"	8'11"	6'9"	7'5"	7'11"	8'6"	9'5"	7'10"	8'4"	9'0"	9'11"
	6" (600)	L/240	11'7"	12'7"	13'6"	14'5"	12'0"	13'1"	14'1"	15'1"	16'9"	12'7"	13'9"	14'10"	15'10"	17'8"	14'5"	15'6"	16'8"	18'6"
		L/360	10'1"	11'0"	11'9"	12'7"	10'6"	11'5"	12'3"	13'2"	14'7"	11'0"	12'0"	12'11"	13'10"	15'5"	12'7"	13'6"	14'6"	16'2"
		L/600	8'6"	9'3"	9'11"	10'8"	8'10"	9'8"	10'4"	11'1"	12'4"	9'3"	10'2"	10'11"	11'8"	13'0"	10'7"	11'5"	12'3"	13'8"
	8" (800)	L/240	13'2"f	15'11"	17'1"	18'4"	14'1"f	16'6"	17'9"	19'1"	21'2"	14'7"f	17'4"	18'7"	20'0"	22'3"	18'1"	19'5"	20'10"	23'3"
		L/360	12'9"f	13'11"	14'11"	16'0"	13'3"f	14'5"	15'6"	16'8"	18'6"	13'10"f	15'1"	16'3"	17'5"	19'5"	15'9"	16'11"	18'2"	20'3"
		L/600	10'9"f	11'9"	12'7"	13'6"	11'2"f	12'2"	13'1"	14'0"	15'7"	11'8"f	12'9"	13'8"	14'8"	16'4"	13'3"	14'3"	15'4"	17'1"

24" on Center Height Limitations

WIND LOAD	WEB SIZE	DEFLECTION	CN (137)				CEE (162)					JW (200)					JWE (250)			
			20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)
5 PSF	2-1/2" (250)	L/240	11'0"	11'1"	12'9"	13'7"	11'6"	12'6"	13'5"	14'4"	15'9"	12'2"	13'3"	14'2"	15'2"	16'9"	14'1"	15'1"	16'1"	17'9"
		L/360	9'7"	10'5"	11'1"	11'10"	10'1"	10'10"	11'8"	12'6"	13'9"	10'7"	11'7"	12'5"	13'3"	14'7"	12'3"	13'2"	14'1"	15'6"
		L/600	8'1"	8'9"	9'4"	10'0"	8'6"	9'3"	9'10"	10'6"	11'7"	8'11"	9'9"	10'5"	11'2"	12'4"	10'4"	11'1"	11'10"	13'1"
	3-5/8" (362)	L/240	14'7"	15'11"	17'0"	18'2"	15'4"	16'8"	17'10"	19'1"	21'1"	16'1"	17'7"	18'10"	20'2"	22'4"	18'7"	19'11"	21'4"	23'8"
		L/360	12'9"	13'10"	14'10"	15'10"	13'4"	14'7"	15'7"	16'8"	18'5"	14'1"	15'4"	16'6"	17'8"	19'6"	16'2"	17'5"	18'8"	20'8"
		L/600	10'9"	11'8"	12'6"	13'5"	11'3"	12'3"	13'2"	14'1"	15'6"	11'10"	12'11"	13'11"	14'10"	16'5"	13'8"	14'8"	15'9"	17'5"
	4" (400)	L/240	15'9"	17'2"	18'5"	19'8"	16'6"	18'0"	19'3"	20'7"	22'9"	17'4"	19'0"	20'4"	21'10"	24'2"	20'0"	21'5"	23'0"	25'6"
		L/360	13'9"	15'0"	16'1"	17'2"	14'5"	15'8"	16'10"	18'0"	19'11"	15'2"	16'7"	17'9"	19'0"	21'1"	17'5"	18'9"	20'1"	22'3"
		L/600	11'7"	12'8"	13'6"	14'6"	12'2"	13'3"	14'2"	15'2"	16'9"	12'9"	14'0"	15'0"	16'1"	17'9"	14'9"	15'9"	16'11"	18'9"
	6" (600)	L/240	21'9"	23'8"	25'5"	27'3"	22'8"	24'9"	26'6"	28'5"	31'6"	23'9"	26'0"	27'11"	29'11"	33'3"	27'2"	29'3"	31'4"	34'11"
		L/360	19'0"	20'8"	22'2"	23'9"	19'10"	21'7"	23'2"	24'10"	27'6"	20'9"	22'8"	24'4"	26'2"	29'0"	23'9"	25'6"	27'5"	30'6"
		L/600	16'0"	17'5"	18'9"	20'1"	16'9"	18'2"	19'6"	20'11"	23'3"	17'6"	19'1"	20'6"	22'0"	24'6"	20'0"	21'6"	23'1"	25'8"
	8" (800)	L/240	27'6"	30'0"	32'2"	34'6"	28'7"	31'2"	33'6"	35'11"	39'11"	29'11"	32'7"	35'0"	37'7"	41'10"	34'0"	36'6"	39'3"	43'9"
		L/360	24'1"	26'2"	28'1"	30'2"	25'0"	27'3"	29'3"	31'4"	34'10"	26'1"	28'6"	30'7"	32'10"	36'7"	29'8"	31'11"	34'4"	38'2"
		L/600	20'3"	22'1"	23'9"	25'5"	21'1"	22'11"	24'8"	26'5"	29'5"	22'0"	24'0"	25'9"	27'8"	30'10"	25'0"	26'11"	28'11"	32'2"
15 PSF	2-1/2" (250)	L/240	7'7"	8'3"	8'10"	9'5"	8'0"	8'8"	9'3"	9'11"	10'11"	8'5"	9'2"	9'10"	10'6"	11'7"	9'9"	10'5"	11'2"	12'4"
		L/360	6'7"	7'2"	7'8"	8'3"	6'11"	7'7"	8'1"	8'8"	9'6"	7'4"	8'0"	8'7"	9'2"	10'1"	8'6"	9'1"	9'9"	10'9"
		L/600	5'7"	6'1"	6'6"	6'11"	5'10"	6'4"	6'10"	7'3"	8'0"	6'2"	6'9"	7'3"	7'9"	8'6"	7'2"	7'8"	8'3"	9'1"
	3-5/8" (362)	L/240	10'1"	11'0"	11'9"	12'7"	10'7"	11'6"	12'4"	13'3"	14'7"	11'2"	12'2"	13'1"	14'0"	15'6"	12'10"	13'9"	14'9"	16'5"
		L/360	8'10"	9'7"	10'3"	11'0"	9'3"	10'1"	10'9"	11'7"	12'9"	9'9"	10'8"	11'5"	12'3"	13'6"	11'3"	12'0"	12'11"	14'4"
		L/600	7'5"	8'1"	8'8"	9'3"	7'10"	8'6"	9'1"	9'9"	10'9"	8'3"	9'0"	9'7"	10'4"	11'5"	9'5"	10'2"	10'11"	12'1"
	4" (400)	L/240	10'11"	11'11"	12'9"	13'7"	11'5"	12'5"	13'4"	14'3"	15'9"	12'0"	13'2"	14'1"	15'1"	16'9"	13'10"	14'10"	15'11"	17'8"
		L/360	9'6"	10'5"	11'1"	11'11"	10'0"	10'10"	11'8"	12'6"	13'9"	10'6"	11'6"	12'4"	13'2"	14'7"	12'1"	13'0"	13'11"	15'5"
		L/600	8'0"	8'9"	9'4"	10'0"	8'5"	9'2"	9'10"	10'6"	11'7"	8'10"	9'8"	10'4"	11'1"	12'4"	10'2"	10'11"	11'9"	13'0"
	6" (600)	L/240	15'1"	16'5"	17'7"	18'10"	15'9"	17'2"	18'5"	19'8"	21'10"	16'6"	18'0"	19'4"	20'9"	23'0"	18'10"	20'3"	21'9"	24'2"
		L/360	13'2"	14'4"	15'5"	16'6"	13'9"	14'11"	16'1"	17'3"	19'1"	14'5"	15'9"	16'10"	18'1"	20'1"	16'5"	17'8"	19'0"	21'1"
		L/600	11'1"	12'1"	13'0"	13'11"	11'7"	12'7"	13'6"	14'6"	16'1"	12'1"	13'3"	14'3"	15'3"	16'11"	13'10"	14'11"	16'0"	17'10"
	8" (800)	L/240	19'1"	20'9"	22'4"	23'11"	19'10"	21'7"	23'2"	24'11"	27'8"	20'9"	22'7"	24'3"	26'1"	29'0"	23'7"	25'4"	27'3"	30'4"
		L/360	16'8"	18'2"	19'6"	20'11"	17'4"	18'10"	20'3"	21'9"	24'2"	18'1"	19'9"	21'2"	22'9"	25'4"	20'7"	22'1"	23'9"	26'6"
		L/600	14'1"	15'4"	16'5"	17'7"	14'7"	15'11"	17'1"	18'4"	20'4"	15'3"	16'8"	17'10"	19'2"	21'4"	17'4"	18'8"	20'0"	22'4"
20 PSF	2-1/2" (250)	L/240	6'11"	7'6"	8'0"	8'6"	7'3"	7'10"	8'5"	9'0"	9'11"	7'8"	8'4"	8'11"	9'7"	10'6"	8'10"	9'6"	10'2"	11'2"
		L/360	6'0"	6'6"	7'0"	7'5"	6'4"	6'10"	7'4"	7'10"	8'8"	6'8"	7'3"	7'9"	8'4"	9'2"	7'9"	8'3"	8'10"	9'9"
		L/600	5'1"	5'6"	5'11"	6'3"	5'4"	5'9"	6'2"	6'7"	7'3"	5'7"	6'2"	6'7"	7'0"	7'9"	6'6"	7'0"	7'5"	8'3"
	3-5/8" (362)	L/240	9'2"	10'0"	10'8"	11'5"	9'7"	10'6"	11'3"	12'0"	13'3"	10"2"	11'1"	11'10"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
		L/360	8'0"	8'9"	9'4"	10'0"	8'5"	9'2"	9'10"	10'6"	11'7"	8'10"	9'8"	10'4"	11'1"	12'3"	10'2"	10'11"	11'9"	13'0"
		L/600	6'9"	7'4"	7'10"	8'5"	7'1"	7'8"	8'3"	8'10"	9'9"	7'5"	8'2"	8'9"	9'4"	10'4"	8'7"	9'3"	9'11"	10'11"
	4" (400)	L/240	9'11"	10'10"	11'7"	12'4"	10'5"	11'4"	12'1"	13'0"	14'4"	10'11"	11'11"	12'10"	13'9"	15'2"	12'7"	13'6"	14'6"	16'1"
		L/360	8'8"	9'5"	10'1"	10'10"	9'1"	9'10"	10'7"	11'4"	12'6"	9'6"	10'5"	11'2"	12'0"	13'3"	11'0"	11'9"	12'8"	14'0"
		L/600	7'4"	7'11"	8'6"	9'1"	7'8"	8'4"	8'11"	9'7"	10'7"	8'0"	8'9"	9'5"	10'1"	11'2"	9'3"	9'11"	10'8"	11'10"
	6" (600)	L/240	13'8"	14'11"	16'0"	17'2"	14'3"	15'7"	16'8"	17'11"	19'10"	14'11"	16'4"	17'7"	18'10"	20'11"	17'1"	18'5"	19'9"	21'11"
		L/360	12'0"	13'0"	14'0"	15'0"	12'6"	13'7"	14'7"	15'8"	17'4"	13'1"	14'3"	15'4"	16'5"	18'3"	14'11"	16'1"	17'3"	19'2"
		L/600	10'1"	11'0"	11'9"	12'7"	10'6"	11'5"	12'3"	13'2"	14'7"	11'0"	12'0"	12'11"	13'10"	15'5"	12'7"	13'6"	14'6"	16'2"
	8" (800)	L/240	17'0"f	18'11"	20'3"	21'9"	18'0"	19'7"	21'1"	22'7"	25'1"	18'10"	20'6"	22'1"	23'8"	26'4"	21'5"	23'0"	24'9"	27'6"
		L/360	15'2"f	16'6"	17'8"	19'0"	15'9"	17'2"	18'5"	19'9"	21'11"	16'5"	17'11"	19'3"	20'8"	23'0"	18'8"	20'1"	21'7"	24'1"
		L/600	12'9"f	13'11"	14'11"	16'0"	13'3"	14'5"	15'6"	16'8"	18'6"	13'10"	15'1"	16'3"	17'5"	19'5"	15'9"	16'11"	18'2"	20'3"
25 PSF	2-1/2" (250)	L/240	6'5"	6'11"	7'5"	7'11"	6'9"	7'4"	7'10"	8'4"	9'2"	7'1"	7'9"	8'3"	8'10"	9'9"	8'2"	8'9"	9'5"	10'5"
		L/360	5'7"	6'1"	6'6"	6'11"	5'10"	6'4"	6'10"	7'3"	8'0"	6'2"	6'9"	7'3"	7'9"	8'6"	7'2"	7'8"	8'3"	9'1"
		L/600	4'8"	5'1"	5'6"	5'10"	4'11"	5'4"	5'9"	6'2"	6'9"	5'3"	5'8"	6'1"	6'6"	7'2"	6'0'	6'6"	6'11"	7'8"
	3-5/8" (362)	L/240	8'6"	9'3"	9'11"	10'7"	8'11"	9'9"	10'5"	11'2"	12'4"	9'5"	10'3"	11'0"	11'10"	13'1"	10'10"	11'7"	12'6"	13'10"
		L/360	7'5"	8'1"	8'8"	9'3"	7'10"	8'6"	9'1"	9'9"	10'9"	8'3"	9'0"	9'7"	10'4"	11'5"	9'5"	10'2"	10'11"	12'1"
		L/600	6'3"	6'10"	7'4"	7'10"	6'7"	7'2"	7'8"	8'2"	9'1"	6'11"	7'7"	8'1"	8'8"	9'7"	8'0"	8'7"	9'2"	10'2"
	4" (400)	L/240	9'2"	10'0"	10'9"	11'6"	9'8"	10'6"	11'3"	12'1"	13'4"	10'2"	11'1"	11'11"	12'9"	14'1"	11'8"	12'6"	13'5"	14'11"
		L/360	8'0"	8'9"	9'4"	10'0"	8'5"	9'2"	9'10"	10'6"	11'7"	8'10"	9'8"	10'4"	11'1"	12'4"	10'2"	10'11"	11'9"	13'0"
		L/600	6'9"	7'4"	7'11"	8'5"	7'1"	7'9"	8'3"	8'10"	9'9"	7'6"	8'2"	8'9"	9'4"	10'4"	8'7"	9'3"	9'11"	11'0"

24" on Center Height Limitations

WIND LOAD	WEB SIZE	DEFLECTION	CN (137)				CEE (162)					JW (200)					JWE (250)			
			20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	20Ga (33mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)	18Ga (43mil)	16Ga (54mil)	14Ga (68mil)	12Ga (97mil)
25 PSF	6" (600)	L/240	12'9"	13'10"	14'10"	15'11"	13'3"	14'5"	15'6"	16'7"	18'5"	13'11"	15'2"	16'3"	17'6"	19'5"	15'11"	17'1"	18'4"	20'5"
		L/360	11'1"	12'1"	13'0"	13'11"	11'7"	12'7"	13'6"	14'6"	16'1"	12'1"	13'3"	14'3"	15'3"	16'11"	13'10"	14'11"	16'0"	17'10"
		L/600	9'4"	10'2"	10'11"	11'9"	9'9"	10'8"	11'5"	12'3"	13'7"	10'3"	11'2"	12'0"	12'10"	14'3"	11'8"	12'7"	13'6"	15'0"
	8" (800)	L/240	15'3"f	17'6"	18'10"	20'2"	16'3"f	18'2"	19'7"	21'0"	23'4"	16'10"f	19'1"	20'6"	22'0"	24'5"	19'10"	21'4"	22'11"	25'7"
		L/360	14'1"f	15'4"	16'5"	17'7"	14'7"f	15'11"	17'1"	18'4"	20'4"	15'3"f	16'8"	17'10"	19'2"	21'4"	17'4"	18'8"	20'0"	22'4"
		L/600	11'10"f	12'11"	13'10"	14'10"	12'4"f	13'5"	14'5"	15'5"	17'2"	12'10"f	14'0"	15'1"	16'2"	18'0"	14'7"	15'9"	16'11"	18'10"
30 PSF	2-1/2" (250)	L/240	6'0"	6'6"	7'0"	7'5"	6'4"	6'10"	7'4"	7'10"	8'8"	6'8"	7'3"	7'9"	8'4"	9'2"	7'9"	8'3"	8'10"	9'9"
		L/360	5'3"	5'8"	6'1"	6'6"	5'6"	6'0"	6'5"	6'10"	7'6"	5'10"	6'4"	6'10"	7'3"	8'0"	6'9"	7'3"	7'9"	8'6"
		L/600	4'5"	4'10"	5'2"	5'6"	4'8"	5'1"	5'5"	5'9"	6'4"	4'11"	5'4"	5'9"	6'2"	6'9"	5'8"	6'1"	6'6"	7'2"
	3-5/8" (362)	L/240	8'0"	8'9"	9'4"	10'0"	8'5"	9'2"	9'10"	10'6"	11'7"	8'10"	98"	10'4"	11'1"	12'3"	10'2"	10'11"	11'9"	13'0"
		L/360	7'0"	7'7"	8'2"	8'9"	7'4"	8'0"	8'7"	9'2"	10'1"	7'9"	8'5"	9'1"	9'8"	10'9"	8'11"	9'7"	10'3"	11'4"
		L/600	5'11"	6'5"	6'10"	7'4"	6'2"	6'9"	7'3"	7'9"	8'6"	6'6"	7'1"	7'7"	8'2"	9'0"	7'6"	8'1"	8'8"	9'7"
	4" (400)	L/240	8'8"	95"	10'1"	10'10"	9'1"	910"	10'7"	11'4"	12'6"	9'6"	10'5"	11'2"	12'0"	13'3"	11'0"	11'9"	12'8"	14'0"
		L/360	7'7"	8'3"	8'10"	9'5"	711"	8'7"	9'3"	9'11"	10'11"	8'4"	9'1"	9'9"	10'5"	11'7"	9'7"	10'3"	11'0"	12'3"
		L/600	6'4"	6'11"	7'5"	7'11"	6'8"	7'3"	7'9"	8'4"	9'3"	7'0"	7'8"	8'3"	8'10"	9'9"	8'1"	8'8"	9'4"	10'4"
	6" (600)	L/240	12'0"	13'0"	14'0"	15'0"	12'6"	13'7"	14'7"	15'8"	17'4"	13'1"	14'3"	15'4"	16'5"	18'3"	14'11"	16'1"	17'3"	19'2"
		L/360	10'5"	11'4"	12'2"	13'1"	10'11"	11'10"	12'9"	13'8"	15'2"	11'5"	12'6"	13'5"	14'4"	15'11"	13'1"	14'0"	15'1"	16'9"
		L/600	8'10"	9'7"	10'3"	11'0"	9'2"	10'0"	10'9"	11'6"	12'9"	9'7"	10'6"	11'3"	12'1"	13'5"	11'0"	11'10"	12'8"	14'1"
	8" (800)	L/240	13'11"f	16'6"	17'8"	19'0"	14'10"f	17'2"	18'5"	19'9"	21'11"	15'5"f	17'11"	19'3"	20'8"	23'0"	18'8"	20'1"	21'7"	24'1"
		L/360	13'3"f	14'5"	15'5"	16'7"	13'9"f	14'11"	16'1"	17'3"	19'2"	14'4"f	15'8"	16'10"	18'1"	20'1"	16'4"	17'7"	18'10"	21'0"
		L/600	11'2"f	12'2"	13'0"	14'0"	11'7"f	12'7"	13'7"	146"	16'2"	12'1"f	13'2"	14'2"	15'3"	16'11"	13'9"	14'9"	15'11"	17'8"
40 PSF	2-1/2" (250)	L/240	5'6"	5'11"	6'4"	6'9"	5'9"	6'3"	6'8"	7'2"	7'10"	6'1"	6'7"	7'1"	7'7"	8'4"	7'0"	7'6"	8'0"	8'10"
		L/360	4'9"	5'2"	5'6"	5'11"	5'0"	5'5"	5'10"	6'3"	6'10"	5'3"	5'9"	6'2"	6'7"	7'3"	6'1"	6'7"	7'0"	7'9"
		L/600	4'0"	4'4"	4'8"	5'0"	4'3"	4'7"	4'11"	5'3"	5'9"	4'5"	4'10"	5'2"	5'7"	6'2"	5'2"	5'6"	5'11"	6'6"
	3-5/8" (362)	L/240	7'3"	7'11"	8'6"	9'1"	7'8"	8'4"	8'11"	9'6"	10'6"	8'0"	8'9"	9'5"	10'1"	11'2"	9'3"	9'11"	10'8"	11'10"
		L/360	6'4"	6'11"	7'5"	7'11"	6'8"	7'3"	7'9"	8'4"	9'2"	7'0"	7'8"	8'3"	8'10"	9'9"	8'1"	8'8"	9'4"	10'4"
		L/600	5'4"	5'10"	6'3"	6'8"	5'7"	6'1"	6'7"	7'0"	7'9"	5'11"	6'5"	6'11"	7'5"	8'2"	6'10"	7'4"	7'10"	8'8"
	4" (400)	L/240	7'10"	8'7"	9'2"	9'10"	8'3"	9'0"	9'7"	10'3"	11'4"	8'8"	9'6"	10'2"	10'11"	12'1"	10'0"	10'8"	11'6"	12'9"
		L/360	6'10"	7'6"	8'0"	8'7"	7'2"	7'10"	8'5"	9'0"	9'11"	7'7"	8'3"	8'10"	9'6"	10'6"	8'8"	9'4"	10'0"	11'1"
		L/600	5'9"	6'4"	6'9"	7'3"	6'1"	6'7"	7'1"	7'7"	8'4"	6'4"	7'0"	7'6"	8'0"	8'10"	7'4"	7'10"	8'5"	9'4"
	6" (600)	L/240	10'6"f	11'10"	12'8"	13'7"	11'3"f	12'4"	13'3"	14'2"	15'9"	11'7"f	13'0"	13'11"	14'11"	16'7"	13'7"	14'7"	15'8"	17'5"
		L/360	9'6"f	10'4"	11'1"	11'10"	9'11"f	10'9"	11'7"	12'5"	13'9"	10'4"f	11'4"	12'2"	13'1"	14'6"	11'10"	12'9"	13'8"	15'3"
		L/600	8'0"f	8'8"	9'4"	10'0"	8'4"f	9'1"	9'9"	10'5"	11'7"	8'9"f	9'6"	10'3"	11'0"	12'3"	10'0"	10'9"	11'6"	12'10"
	8" (800)	L/240	12'0"f	15'0"	16'1"	17'3"	12'10"f	15'7"	16'9"	17'11"	19'11"	13'4"f	16'3"	17'6"	18'9"	20'11"	16'11"f	18'3"	19'7"	21'10"
		L/360	12'0"f	13'1"	14'0"	15'1"	12'6"f	13'7"	14'7"	15'8"	17'5"	13'0"f	14'3"	15'3"	16'5"	18'3"	14'10"f	15'11"	17'2"	19'1"
		L/600	10'1"f	11'0"	11'10"	12'8"	10'6"f	11'5"	12'4"	13'2"	14'8"	11'0"f	12'0"	12'10"	13'10"	15'5"	12'6"f	13'5"	14'5"	16'1"
50 PSF	2-1/2" (250)	L/240	5'1"	5'6"	5'11"	6'3"	5'4"	5'9"	6'2"	6'7"	7'3"	5'7"	6'2"	6'7"	7'0"	7'9"	6'6"	7'0"	7'5"	8'3"
		L/360	4'5"	4'10"	5'2"	5'6"	4'8"	5'1"	5'5"	5'9"	6'4"	4'11"	5'4"	5'9"	6'2"	6'9"	5'8"	6'1"	6'6"	7'2"
		L/600	3'9"	4'1"	4'4"	4'7"	3'11"	4'3"	4'7"	4'10"	5'4"	4'2"	4'6"	4'10"	5'2"	5'8"	4'9"	5'1'	5'6"	6'1"
	3-5/8" (362)	L/240	6'8"f	7'4"	7'10"	8'5"	7'1"	7'8"	8'3"	8'10"	9'9"	7'5"f	8'2"	8'9"	9'4"	10'4"	8'7"	9'3"	9'11"	10'11"
		L/360	5'11"f	6'5"	6'10"	7'4"	6'2"	6'9"	7'3"	7'9"	8'6"	6'6"f	7'1"	7'7"	8'2"	9'0"	7'6"	8'1"	8'8"	9'7"
		L/600	5'0"f	5'5"	5'9"	6'2"	5'2"	5'8"	6'1"	6'6"	7'2"	5'6"f	6'0"	6'5"	6'11"	7'7"	6'4"	6'9"	7'3"	8'1"
	4" (400)	L/240	7'1"f	7'11"	8'6"	9'1"	7'7"f	8'4"	8'11"	9'7"	10'7"	7'11"f	8'9"	9'5"	10'1"	11'2"	9'3"	9'11"	10'8"	11'10"
		L/360	6'4"f	6'11"	7'5"	7'11"	6'8"f	7'3"	7'9"	8'4"	9'3"	7'0"f	7'8"	8'3"	8'10"	9'9"	8'1"	8'8"	9'4"	10'4"
		L/600	5'4"f	5'10"	6'3"	6'8"	5'7"f	6'1"	6'7"	7'0"	7'9"	5'11"f	6'6"	6'11"	7'5"	8'3"	6'10"	7'4"	7'10"	8'8"
	6" (600)	L/240	9'5"f	11'0"	11'9"	12'7"	10'0"f	11'5"	12'3"	13'2"	14'7"	10'4"f	12'0"	12'11"	13'10"	15'5"	12'7"	13'6"	14'6"	16'2"
		L/360	8'10"f	9'7"	10'3"	11'0"	9'2"f	10'0"	10'9"	11'6"	12'9"	9'7"f	10'6"	11'3"	12'1"	13'5"	11'0"	11'10"	12'8"	14'1"
		L/600	7'5"f	8'1"	8'8"	9'3"	7'9"f	8'5"	9'1"	9'8"	10'9"	8'1"f	8'10"	9'6"	10'2"	11'4"	9'3"	10'0"	10'8"	11'11"
	8" (800)	L/240	10'9"f	13'5"f	14'11"	16'0"	11'6"f	14'3"f	15'6"	16'8"	18'6"	11'11"f	15'0"f	16'3"	17'5"	19'5"	15'2"f	16'11"	18'2"	20'3"
		L/360	10'9"f	12'2"f	13'0"	14'0"	11'6"f	12'7"f	13'7"	14'6"	16'2"	11'11"f	13'2"f	14'2"	15'3"	16'11"	13'9"f	14'9"	15'11"	17'8"
		L/600	9'5"f	10'3"f	11'0"	11'9"	9'9"f	10'8"f	11'5"	12'3"	13'7"	10'2"f	11'1"f	11'11"	12'10"	14'3"	11'7"f	12'6"	13'5"	14'11"

Suggested design loads for screw connections (pounds)

Steel Thickness (Gauge)	No. 12-14 (d = 0.209")		NO. 10-16 (d = 0.183")		NO. 8-18 (d = 0.161")		No. 6 S-12 (d = 10.135)	
	Type of Loading							
	Shear or Bearing	Pullout	Shear or Bearing	Pullout	Shear or Bearing	Pullout	Shear or Bearing	Pullout
12	890	280	783	246	675	213	568	179
14	557	196	523	173	474	149	398	125
16	394	156	370	137	344	118	315	100
18	280	124	263	109	244	94	224	79
20	188	95	177	84	164	72	151	61

NOTES: 1. Design values are based on CCFSS Technical Bulletin Vol. 2, No.1 which outlines the proposed AISI specification provisions for screw connections.
2. Minimum screw spacing and distance from edge shall not be less than 3 d.
3. When connecting materials of different gage, use loads shown for the lighter gage.
4. Screw capabilities are based on a minimum connected material strength of Fy = 33,000 PSI.

Suggested design loads for Powder driven fasteners in concrete

TABLE A

Suggested capacity in stone aggregate_concrete_(pounds)

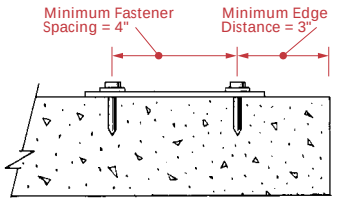
Shank Diameter	Minimum Penetration	Type of Loading	Concrete Compression Strength (PSI) 2000	3000	4000
0.145"	1-1/4"	Pullout	125	155	185
		Shear	180	220	260
0.177"	1-7/16"	Pullout	150	205	275
		Shear	250	285	330
0.205"	1-1/4"	Pullout	220	280	345
		S-hear	390	445	500

TABLE B

suggested bearing capacity when used to connect gage thickness steel (pounds)

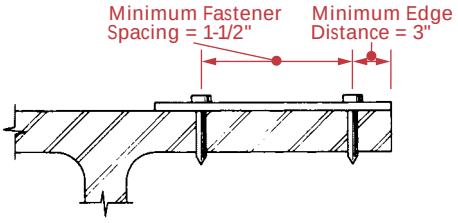
Shank Diameter	Steel Thickness Gage/Mil 16/54	18/43	20/33
0.145"	–	–	–
	–	–	198
0.177"	–	–	–
	–	321	241
0.205"	–	–	–
	465	372	279

NOTES: 1. Capacities shown are for stone aggregate concrete and are based on a low velocity shot.
2. Minimum fastener spacing - 4"; minimum fastener edge distance - 3".
3. Shear values are per Hilti ICBO Research Report #2388.
4. Bearing capacity is based on Bearing Area x 1.15 x 33,000 psi. Allowable bearing capacity per Section 4.5.6 of the 1996 A.I.S.I. “Specification for the Design of Cold Formed Steel Structural Members.”
5. Pullout values per DALE/INCOR recommendations.



Suggested design loads in pull-out or shear for Powder driven fasteners in structural steel (pounds)

Cold Rolled Steel Gage	0.145" Shank Diameter Hot Rolled Steel Thickness 1/4"	3/8"	1/2"	0.177" Shank Diameter Hot Rolled Steel Thickness 1/4"	3/8"	1/2"	0.205" Shank Diameter Hot Rolled Steel Thickness 1/4"	3/8"	1/2"
12	210	210	210	335	395	395	485	525	660
14	210	210	210	335	395	395	485	525	581
16	210	210	210	335	395	395	465	465	465
18	210	210	210	321	321	321	372	372	372
20	197	197	197	241	241	241	279	279	279



NOTES: 1. Tests were conducted with the fastener point driven completely through the back side of the hot rolled steel member. This was necessary to obtain proper gripping force.
2. Bearing strength is based on Bearing Area x 1.15 x 33,000 psi for cold formed steel.
3. Shear values are per Hilti ICBO Research Report #2388.

Suggested design loads for fillet and flare-bevel groove welds

Steel Gage/Mil	Design Thickness (inches)	Weld Size (inches)	Allowable Load (lb./in.)
12/97	.1017	5/32	1373
14/68	.0713	1/8	963
16/54	.0566	1/8	764
18/43	.0451	1/8	609

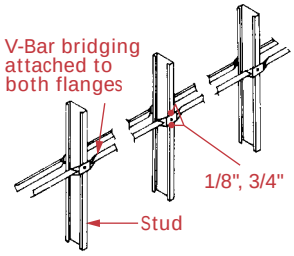
NOTES: 1. Values listed may be increased by 1/3 for wind or seismic loading (check codes for application).
2. Welds may be positioned so they are subject to either shear or tensile stress.
3. When joining materials of different gage, use loads shown for the lighter gage.
4. Flare-bevel groove welds are welds that occur between the outside radius of one member and the flat of an adjacent member radius of one member and the flat of an adjacent member.

Technical Assistance - Welding

A wire feed type welder is recommended for fastest and most uniform welding in the shop. Good welds are also obtained with a 3/32" or 1/8" AWS type 6013 or 7014 rod with a welding heat of 60-110 amperes depending on the gage of material and the fit of the parts.

V-Bar Bracing (VBB)

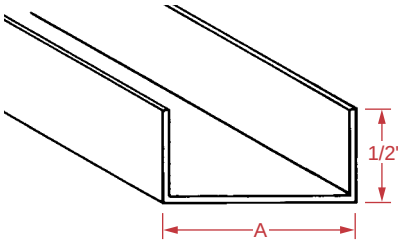
Note: For screw attached assemblies, use (1) no. 10 TEK screw in lieu of welds shown.

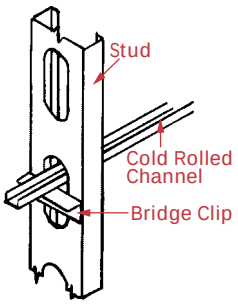


Uses
- Integral component of stud or joist bridging methods.
- Impedes rotation of C-sections subjected to lateral and or axial forces.
- Stiffened V section eases installation compared to flat strapping.

Product Data
- Designations: VB Gage x Spacing.
- Gages: 18 or 16 gage, galvanized.
- Spacing: 16 or 24 inch on center.
- Length: 12'2".

Cold Rolled Channels (CRC)

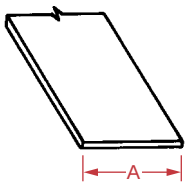




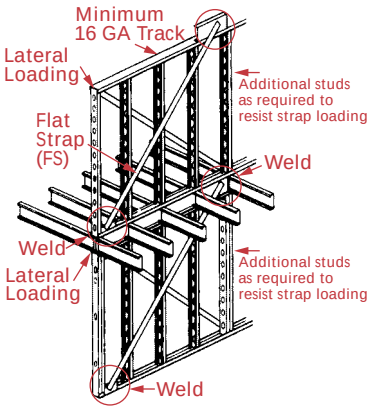
Uses
- Bridging (lateral support) in walls carrying axial and/or wind loads.
- Bracing studs at door bucks and furring for ceilings.
- Used in conjunction with metal lath and plaster in partitions, ceilings, column and beam enclosures, etc.

Product Data
- Available in galvanized meeting ASTM A-653. Conforms to ASTM performance requirements.
- Lengths: 16' standard (other sizes available)

Flat Strapping (FS)



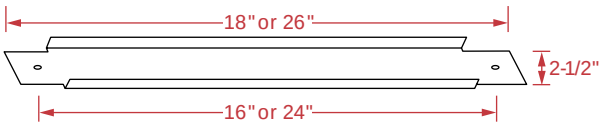
Diagonal Bracing

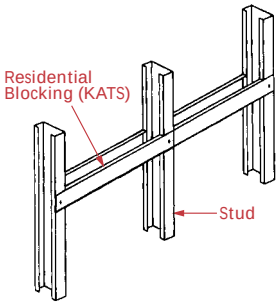


Uses
- Provides tension force resistance in shear wall assemblies.
- Resists racking of prefabricated wall assemblies while handling, transporting and erecting.

Product Data
- Designation: FS Width x Gage.
- Widths: 2", 3", 4", 5" and 6" (custom widths available upon request).
- Gages: 20, 18, 16, l4 and 12 gage (other gages available).
- Length: standard 10' length (other lengths and coil available).

Residential Blocking (KATS)





Uses
- Integral component of stud or joist bridging methods.
- Impedes rotation of C-sections subjected to lateral and/or axial forces.
- Stiffening section eases installation compared to flat strapping.
- Reinforced flat surface allows for ease in attachment of cabinets and hand rails.

Product Data
- Designations: KAT x Spacing.
- Gages: 2OGA or 25GA galvanized.
- Length: 18" or 26".

5 PSF Wind Load

HEIGHT			8 FT			9 FT			10 FT			12 FT			14 FT			16 FT		
SPACING			12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
WEB	SECT.	GA, (mil)																		
3-5/8" (362)	CN (137)	20, (33)	1.68	1.68	1.68	1.63	1.63	1.63	1.57	1.57	1.50	1.43	1.35 (7)	1.11(6)	1.14(6)	1.0 (6)	0.75 (3)	0.84 (6)	0.7 (3)	0.45 (2)
		18, (43)	2.32	2.32	2.32	2.26	2.26	2.26	2.18	2.18	2.18	1.98	1.98	1.82 (6)	1.73 (7)	1.61 (6)	1.34 (3)	1.34 (6)	1.19 (3)	0.92 (2)
		(33 ksi) 16, (54)	3.05	3.05	3.05	2.95	2.95	2.95	2.83	2.83	2.83	2.53	2.53	2.52 (7)	2.18	2.18 (7)	1.89 (6)	1.8 (6)	1.63 (6)	1.35 (3)
		(33 ksi) 14, (68)	3.86	3.86	3.86	3.72	3.72	3.72	3.56	3.56	3.56	3.17	3.17	3.17	2.72	2.72	2.56 (6)	2.25 (7)	2.18 (6)	1.88 (3)
		(50 ksi) 16, (54)	3.42	3.42	3.42	3.27	3.27	3.27	3.07	3.07	3.07	2.62	2.62	2.62 (7)	2.19	2.19 (7)	2.15 (6)	1.81 (6)	1.81 (6)	1.6 (3)
		(50 ksi) 14, (68)	4.42	4.42	4.42	4.19	4.19	4.19	3.91	3.91	3.91	3.30	3.30	3.30	2.73	2.73	2.73 (6)	2.25 (7)	2.25 (6)	2.17 (3)
	CEE (162)	20, (33)	2.08	2.08	2.08	2.01	2.01	2.01	1.93	1.93	1.93	1.73	1.70	1.44 (6)	1.43 (7)	1.28 (6)	1.0 (3)	1.07 (6)	0.91 (3)	0.64 (2)
		18, (43)	2.85	2.85	2.85	2.75	2.75	2.75	2.63	2.63	2.63	2.37	2.37	2.28 (7)	2.06	1.99 (7)	1.7 (6)	1.66 (6)	1.49 (6)	1.2 (3)
		(33 ksi) 16, (54)	3.71	3.71	3.71	3.57	3.57	3.57	3.40	3.40	3.40	3.02	3.02	3.02	2.59	2.59	2.35 (6)	2.15 (7)	2.01 (6)	1.7 (3)
		(33 ksi) 14, (68)	4.64	4.64	4.64	4.46	4.46	4.46	4.24	4.24	4.24	3.75	3.75	3.75	3.21	3.21	3.13 (7)	2.65	2.65 (7)	2.33 (6)
		(50 ksi) 16, (54)	4.27	4.27	4.27	4.04	4.04	4.04	3.78	3.78	3.78	3.17	3.17	3.17	2.61	2.61	2.58 (6)	2.15 (7)	2.15 (6)	1.92 (3)
		(50 ksi) 14, (68)	5.44	5.44	5.44	5.12	5.12	5.12	4.75	4.75	4.75	3.94	3.94	3.94	3.23	3.23	3.23 (7)	2.65	2.65 (7)	2.64 (6)
		12, (97)	7.81	7.81	7.81	7.31	7.31	7.31	6.75	6.75	6.75	5.53	5.53	5.53	4.47	4.47	4.47	3.63	3.63	3.63 (6)
	JW (200)	20, (33)	2.49	2.49	2.49	2.41	2.41	2.41	2.32	2.32	2.32	2.11	2.11	1.82 (6)	1.79	1.61(6)	1.29 (6)	1.34 (6)	1.16 (6)	0.85 (3)
		18, (43)	3.50	3.50	3.50	3.37	3.37	3.37	3.22	3.22	3.22	2.87	2.87	2.80	2.50	2.43 (7)	2.09 (6)	2.03 (7)	1.83 (6)	1.49 (3)
		16, (54)	5.34	5.34	5.34	5.02	5.02	5.02	4.68	4.68	4.68	3.89	3.89	3.89	3.17	3.17	3.17 (6)	2.60	2.6 (6)	2.38 (6)
		14, (68)	6.76	6.76	6.76	6.32	6.32	6.32	5.85	5.85	5.85	4.82	4.82	4.82	3.92	3.92	3.92	3.21	3.21	3.21 (6)
		12, (97)	9.48	9.48	9.48	8.84	8.84	8.84	8.15	8.15	8.15	6.67	6.67	6.67	5.38	5.38	5.38	4.39	4.39	4.39 (7)
	JWE (250)	18, (43)	3.96	3.96	3.96	3.85	3.85	3.85	3.72	3.72	3.72	3.35	3.35	3.32	2.92	2.90	2.51 (6)	2.42	2.2 (6)	1.82 (6)
		16, (54)	6.01	6.01	6.01	5.73	5.73	5.73	5.45	5.45	5.45	4.56	4.56	4.56	3.73	3.73	3.73 (7)	3.07	3.07 (7)	2.88 (6)
		14, (68)	7.87	7.87	7.87	7.36	7.36	7.36	6.81	6.81	6.81	5.64	5.64	5.64	4.61	4.61	4.61	3.78	3.78	3.78 (6)
		12, (97)	10.97	10.97	10.97	10.24	10.24	10.24	9.45	9.45	9.45	7.79	7.79	7.79	6.33	6.33	6.33	5.18	5.18	5.18
6" (600)	CN (137)	20, (33)	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.64 (7)
		18, (43)	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
		(33 ksi) 16, (54)	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47
		(33 ksi) 14, (68)	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62
		(50 ksi) 16, (54)	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90
		(50 ksi) 14, (68)	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14
	CEE (162)	20, (33)	2.55	2.55	2.55	2.55	2.55	2.55	2.54	2.54	2.54	2.49	2.49	2.49	2.40	2.40	2.40	2.29	2.29	2.09 (7)
		18, (43)	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.44	3.44	3.44	3.33	3.33	3.33	3.17	3.17	3.17
		(33 ksi) 16, (54)	4.65	4.65	4.65	4.65	4.65	4.65	4.65	4.65	4.65	4.59	4.59	4.59	4.43	4.43	4.43	4.22	4.22	4.22
		(33 ksi) 14, (68)	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.17	6.17	6.17	5.96	5.96	5.96	5.67	5.67	5.67
		(50 ksi) 16, (54)	5.72	5.72	5.72	5.72	5.72	5.72	5.72	5.72	5.72	5.60	5.60	5.60	5.32	5.32	5.32	4.94	4.94	4.94
		(50 ksi) 14, (68)	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.52	7.52	7.52	7.13	7.13	7.13	6.62	6.62	6.62
		12, (97)	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.28	11.28	11.28	10.42	10.42	10.42
	JW (200)	20, (33)	2.99	2.99	2.99	2.97	2.97	2.97	2.95	2.95	2.95	2.88	2.88	2.88	2.78	2.78	2.78	2.65	2.65	2.49
		18, (43)	4.44	4.44	4.44	4.40	4.40	4.40	4.35	4.35	4.35	4.22	4.22	4.22	4.04	4.04	4.04	3.82	3.82	3.82
		16, (54)	7.56	7.56	7.56	7.46	7.46	7.46	7.33	7.33	7.33	6.99	6.99	6.99	6.55	6.55	6.55	6.01	6.01	6.01
		14, (68)	10.02	10.02	10.02	9.89	9.89	9.89	9.72	9.72	9.72	9.27	9.27	9.27	8.68	8.68	8.68	7.97	7.97	7.97
		12, (97)	15.60	15.60	15.60	15.38	15.38	15.38	15.11	15.11	15.11	14.40	14.40	14.40	13.45	13.45	13.45	12.32	12.32	12.32
	JWE (250)	18, (43)	4.79	4.79	4.79	4.75	4.75	4.75	4.71	4.71	4.71	4.59	4.59	4.59	4.44	4.44	4.44	4.26	4.26	4.26
		16, (54)	7.75	7.75	7.75	7.66	7.66	7.66	7.55	7.55	7.55	7.26	7.26	7.26	6.81	6.81	6.81	6.55	6.55	6.55
		14, (68)	11.08	11.08	11.08	10.98	10.98	10.98	10.79	10.79	10.79	10.33	10.33	10.33	9.77	9.77	9.77	9.16	9.16	9.16
		12, (97)	18.24	18.24	18.24	17.94	17.94	17.94	17.57	17.57	17.57	16.64	16.64	16.64	15.50	15.50	15.50	14.18	14.18	14.18
8" (800)	CN (137)	20, (33)	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79	1.79
		18, (43)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
		(33 ksi) 16, (54)	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34
		(33 ksi) 14, (68)	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49
		(50 ksi) 16, (54)	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62
		(50 ksi) 14, (68)	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80
	CEE (162)	20, (33)	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49
		18, (43)	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44
		(33 ksi) 16, (54)	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57
		(33 ksi) 14, (68)	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13
		(50 ksi) 16, (54)	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51
		(50 ksi) 14, (68)	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32
		12, (97)	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33
	JW (200)	20, (33)	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.03	3.03	3.03	2.97	2.97	2.97
		18, (43)	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.51	4.51	4.51	4.40	4.40	4.40
		16, (54)	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.70	7.70	7.70	7.41	7.41	7.41
		14, (68)	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.25	10.25	10.25	9.87	9.87	9.87
		12, (97)	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	15.52	15.52	15.52
	JWE (250)	18, (43)	5.00	5.00	5.00	4.98	4.98	4.98	4.96	4.96	4.96	4.91	4.91	4.91	4.84	4.84	4.84	4.74	4.74	4.74
		16, (54)	8.25	8.25	8.25	8.22	8.22	8.22	8.17	8.17	8.17	8.04	8.04	8.04	7.85	7.85	7.85	7.60	7.60	7.60
		14, (68)	11.67	11.67	11.67	11.63	11.63	11.63	11.58	11.58	11.58	11.45	11.45	11.45	11.26	11.26	11.26	10.91	10.91	10.91
		12, (97)	19.79	19.79	19.79	19.70	19.70	19.70	19.60	19.60	19.60	19.31	19.31	19.31	18.75	18.75	18.75	17.93	17.93	17.93

Foot Notes: Axial Load Tables (Pages 19-22)
Braced C-Studs Subject To Axial And Lateral Loads

- Allowable axial loads in kips (K)
- For use in selection of load bearing wall components subjected to axial and uniform lateral loads.
- Select a stud, in terms of height (feet), spacing (inches O.C.) and lateral load (PSF), which provides an allowable axial capacity equal to or greater than the applied axial load.
- Must check for Web Crippling.

(1) Deflection Exceeds L/120
(2) Deflection Exceeds L/240
(3) Deflection Exceeds L/360
(6) Deflection Exceeds L/600
(7) Deflection Exceeds L/720
If not noted, deflection is less than L/720

25 PSF Wind Load

HEIGHT			8 FT			9 FT			10 FT			12 FT			14 FT			16 FT		
SPACING			12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
WEB	SECT.	GA, (mil)																		
3-5/8" (362)	CN (137)	20, (33)	1.33 (6)	1.06 (6)	0.55 (3)	1.05 (6)	0.74 (3)	0.16 (2)	0.78 (3)	0.43 (2)		0.27 (2)								
		18, (43)	2.21	1.93 (6)	1.42 (6)	1.89 (6)	1.57 (6)	0.97 (3)	1.57 (6)	1.2 (3)	0.55 (2)	0.94 (2)	0.53 (2)		0.41 (2)					
		(33 ksi) 16, (54)	3.05	2.83 (7)	2.28 (6)	2.75 (7)	2.4 (6)	1.76 (3)	2.35 (6)	1.96 (3)	1.24 (2)	1.56 (3)	1.12 (2)	0.34 (2)	0.89 (2)	0.45 (2)				
		(33 ksi) 14, (68)	3.86	3.86	3.3 (6)	3.72	3.38 (6)	2.7 (6)	3.27 (6)	2.86 (6)	2.09 (3)	2.32 (3)	1.84 (3)	1 (2)	1.49 (2)	1 (2)		0.84 (2)		
		(50 ksi) 16, (54)	3.42	3.42 (7)	3.09 (6)	3.27 (7)	3.1 (6)	2.55 (3)	2.94 (6)	2.61 (3)	2.01 (2)	2.06 (3)	1.7 (2)	1.06 (2)	1.35 (2)	0.99 (2)				
		(50 ksi) 14, (68)	4.42	4.42	4.37 (6)	4.19	4.19 (6)	3.72 (6)	3.91 (6)	3.69 (6)	3.06 (3)	2.93 (3)	2.55 (3)	1.87 (2)	2.03 (2)	1.64 (2)		1.35 (2)		
	CEE (162)	20, (33)	1.77 (7)	1.47 (6)	0.91 (3)	1.44 (6)	1.1 (3)	0.46 (2)	1.12 (3)	0.73 (3)		0.52 (2)								
		18, (43)	2.82	2.53 (7)	1.96 (6)	2.45 (7)	2.1 (6)	1.44 (3)	2.06 (6)	1.66 (3)	0.94 (2)	1.31 (3)	0.87 (2)		0.69 (2)	0.24 (2)				
		(33 ksi) 16, (54)	3.71	3.60	2.99 (6)	3.47	3.09 (6)	2.38 (6)	2.99 (6)	2.56 (6)	1.77 (3)	2.05 (3)	1.56 (2)	0.71 (2)	1.25 (2)	0.77 (2)		0.65 (2)		
		(33 ksi) 14, (68)	4.64	4.64	4.2 (7)	4.46	4.23 (7)	3.49 (6)	4.07 (7)	3.62 (6)	2.79 (3)	2.95 (6)	2.43 (3)	1.51 (2)	1.96 (3)	1.43 (2)	0.52 (2)	1.19 (2)	0.69 (2)	
		(50 ksi) 16, (54)	4.27	4.27	3.89 (6)	4.04	3.85 (6)	3.2 (6)	3.64 (6)	3.25 (6)	2.53 (3)	2.53 (3)	2.1 (2)	1.35 (2)	1.65 (2)	1.23 (2)		1.02 (2)		
		(50 ksi) 14, (68)	5.44	5.44	5.44 (7)	5.12	5.12 (7)	4.75 (6)	4.75 (7)	4.64 (6)	3.94 (3)	3.65 (6)	3.23 (3)	2.48 (2)	2.56 (3)	2.14 (2)	1.4 (2)	1.75 (2)	1.35 (2)	
		12, (97)	7.81	7.81	7.81	7.31	7.31	7.31 (7)	6.75	6.75 (7)	6.36 (6)	5.53 (6)	5.14 (6)	4.29 (3)	4.04 (3)	3.57 (3)	2.74 (2)	2.89 (2)	2.44 (2)	
	JW (200)	20, (33)	2.20	1.87 (6)	1.25 (6)	1.84 (6)	1.44 (6)	0.73 (3)	1.46 (6)	1.03 (3)	0.25 (2)	0.77 (2)	0.28 (2)		0.2 (2)					
		18, (43)	3.50	3.16	2.49 (6)	3.05	2.63 (6)	1.86 (6)	2.57 (6)	2.1 (6)	1.26 (3)	1.66 (3)	1.14 (2)	0.23 (2)	0.91 (2)	0.38 (2)		0.34 (2)		
		16, (54)	5.34	5.34	5 (7)	5.02	4.9 (7)	4.14 (6)	4.6 (7)	4.14 (6)	3.31 (3)	3.22 (6)	2.72 (3)	1.85 (2)	2.13 (2)	1.65 (2)		1.35 (2)		
		14, (68)	6.76	6.76	6.76	6.32	6.32	6.1 (6)	5.85	5.85 (6)	5.11 (6)	4.63 (6)	4.15 (3)	3.31 (2)	3.28 (3)	2.8 (2)	1.98 (2)	2.28 (2)	1.83 (2)	
		12, (97)	9.48	9.48	9.48	8.84	8.84	8.84	8.15	8.15	8.11 (6)	6.67 (7)	6.55 (6)	5.64 (3)	5.16 (6)	4.65 (3)	3.76 (2)	3.77 (3)	3.28 (2)	2.42 (2)
	JWE (250)	18, (43)	3.96	3.67	2.96 (7)	3.58	3.12 (7)	2.28 (6)	3.08 (7)	2.56 (6)	1.62 (3)	2.05 (3)	1.46 (3)	0.44 (2)	1.18 (2)	0.58 (2)		0.51 (2)		
		16, (54)	6.01	6.01	5.80	5.73	5.73	4.92 (6)	5.45	4.98 (6)	4.06 (6)	3.9 (6)	3.35 (3)	2.38 (2)	2.63 (3)	2.09 (2)	1.15 (2)	1.72 (2)	1.2 (2)	
		14, (68)	7.87	7.87	7.87	7.36	7.36	6.91 (7)	6.81	6.72 (7)	5.74 (6)	5.28 (6)	4.69 (6)	3.65 (3)	3.7 (3)	3.12 (3)	2.1 (2)	2.55 (2)	1.99 (2)	
		12, (97)	10.97	10.97	10.97	10.24	10.24	10.24	9.45	9.45	9.45 (7)	7.79	7.79 (6)	6.89 (6)	6.26 (6)	5.7 (3)	4.71 (2)	4.63 (3)	4.09 (2)	3.13 (2)
6 (600)	CN 137)	20, (33)	1.88	1.88	1.57	1.88	1.71	1.32 (7)	1.75	1.51	1.04 (6)	1.41 (6)	1.07 (6)	0.43 (3)	1.01 (6)	0.58 (3)		0.59 (3)		
		18, (43)	2.62	2.62	2.59	2.62	2.62	2.34	2.62	2.53	2.07 (7)	2.41	2.08 (6)	1.44 (6)	2 (6)	1.56 (3)	0.75 (2)	1.54 (3)	1.01 (2)	
		(33 ksi) 16, (54)	3.47	3.47	3.47	3.47	3.47	3.43	3.47	3.47	3.14	3.47	3.14 (7)	2.45 (6)	3.03 (6)	2.56 (6)	1.68 (3)	2.51 (6)	1.93 (3)	0.89 (2)
		(33 ksi) 14, (68)	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.57	4.62	4.55	3.81 (6)	4.43 (7)	3.91 (6)	2.93 (3)	3.82 (6)	3.18 (3)	2.01 (2)
		(50 ksi) 16, (54)	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.9 (7)	3.42 (6)	3.89 (6)	3.49 (6)	2.74 (3)	3.41 (6)	2.92 (3)	2.01 (2)
		(50 ksi) 14, (68)	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5 (6)	5.14 (7)	5.05 (6)	4.25 (3)	4.94 (6)	4.4 (3)	3.42 (2)
	CEE (162)	20, (33)	2.55	2.55	2.27	2.55	2.42	1.96	2.47	2.18	1.61 (6)	2 (7)	1.6 (6)	0.85 (3)	1.47 (6)	0.98 (3)		0.93 (3)	0.38 (2)	
		18, (43)	3.52	3.52	3.52	3.52	3.52	3.30	3.52	3.52	2.96	3.30	2.9 (7)	2.14 (6)	2.71 (6)	2.2 (6)	1.27 (3)	2.07 (3)	1.49 (3)	0.45 (2)
		(33 ksi) 16, (54)	4.65	4.65	4.65	4.65	4.65	4.65	4.65	4.65	4.37	4.59	4.29	3.46 (6)	4.02 (7)	3.47 (6)	2.44 (3)	3.25 (6)	2.6 (3)	1.43 (2)
		(33 ksi) 14, (68)	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.17	6.17	5.31 (7)	5.86	5.24 (7)	4.09 (6)	4.89 (6)	4.16 (6)	2.84 (3)
		(50 ksi) 16, (54)	5.72	5.72	5.72	5.72	5.72	5.72	5.72	5.72	5.72	5.60	5.60	4.86 (6)	5.24 (7)	4.7 (6)	3.7 (3)	4.29 (6)	3.67 (3)	2.55 (2)
		(50 ksi) 14, (68)	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.52	7.52	7.44 (7)	7.13	7.11 (7)	6.08 (6)	6.48 (6)	5.83 (6)	4.66 (3)
		12, (97)	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.28	11.28	10.78 (6)	10.42	10.11 (6)	8.64 (6)
	JW (200)	20, (33)	2.99	2.99	2.74	2.97	2.90	2.38	2.93	2.61	1.99 (7)	2.40	1.97 (6)	1.14 (6)	1.81 (6)	1.28 (3)	0.29 (2)	1.21 (3)	0.6 (2)	
		18, (43)	4.44	4.44	4.44	4.40	4.40	4.18	4.35	4.35	3.72	4.08	3.60	2.7 (6)	3.33 (7)	2.73 (6)	1.64 (3)	2.55 (6)	1.87 (3)	0.65 (2)
		16, (54)	7.56	7.56	7.56	7.46	7.46	7.46	7.33	7.33	7.33	6.99	6.99	6.25 (7)	6.55	5.94 (6)	4.78 (6)	5.36 (6)	4.64 (6)	3.36 (3)
		14, (68)	10.02	10.02	10.02	9.89	9.89	9.89	9.72	9.72	9.72	9.27	9.27	9.27	8.68	8.68 (7)	7.7 (6)	7.97 (7)	7.28 (6)	5.97 (3)
		12, (97)	15.60	15.60	15.60	15.38	15.38	15.38	15.11	15.11	15.11	14.40	14.40	14.40	13.45	13.45	13.45 (7)	12.32	12.32 (7)	10.92(6)
	JWE (250)	18, (43)	4.79	4.79	4.79	4.75	4.75	4.61	4.71	4.71	4.14	4.53	4.04	3.1 (6)	3.78 (7)	3.15 (6)	1.99 (3)	2.98 (6)	2.25 (3)	0.92 (2)
		16, (54)	7.75	7.75	7.75	7.66	7.66	7.66	7.55	7.55	7.55	7.26	7.26	6.73 (7)	6.81	6.41 (7)	5.26 (6)	6.04 (6)	5.3 (6)	3.96 (3)
		14, (68)	11.08	11.08	11.08	10.98	10.98	10.98	10.79	10.79	10.79	10.33	10.33	10.26	9.77	9.76	8.37 (6)	8.97	8.08 (6)	6.49 (6)
		12, (97)	18.24	18.24	18.24	17.94	17.94	17.94	17.57	17.57	17.57	16.64	16.64	16.64	15.50	15.50	15.50	14.18	14.18	12.95(6)
8 (800)	CN (137)	20, (33)	1.79	1.79	1.71	1.79	1.79	1.53	1.79	1.68	1.33	1.61	1.36	0.87 (6)	1.32	0.99 (6)	0.34 (6)	1 (6)	0.58 (6)	
		18, (43)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.38	2.50	2.40	1.95	2.36	2.05 (7)	1.45 (6)	2.05 (7)	1.65 (6)	0.89 (3)
		(33 ksi) 16, (54)	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.13	3.34	3.22	2.63 (6)	3.21	2.82 (6)	2.07 (6)
		(33 ksi) 14, (68)	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.02	4.49	4.22	3.4 (6)
		(50 ksi) 16, (54)	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.28 (6)	3.62	3.43 (6)	2.78 (6)
		(50 ksi) 14, (68)	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.46 (6)
	CEE (162)	20, (33)	2.49	2.49	2.49	2.49	2.49	2.27	2.49	2.44	2.02	2.36	2.05	1.45 (7)	2.00	1.58 (7)	0.79 (6)	1.59 (6)	1.07 (6)	
		18, (43)	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.40	3.44	3.42	2.86	3.37	2.98	2.23 (6)	2.97 (7)	2.47 (6)	1.53 (3)
		(33 ksi) 16, (54)	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.42	4.57	4.53	3.79 (7)	4.51	4.01 (7)	3.06 (6)
		(33 ksi) 14, (68)	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	5.68	6.13	5.91	4.87 (6)
		(50 ksi) 16, (54)	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.16 (7)	5.51	5.34 (7)	4.43 (6)
		(50 ksi) 14, (68)	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	6.93 (6)
		12, (97)	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33
	JW (200)	20, (33)	3.07	3.07	3.07	3.07	3.07	2.88	3.07	3.07	2.59	2.98	2.62	1.92	2.53	2.05 (7)	1.15 (6)	2.02 (7)	1.44 (6)	0.35 (3)
		18, (43)	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.01	4.51	4.09	3.19 (7)	3.97	3.39 (7)	2.29 (6)
		16, (54)	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.70	7.70	7.27	7.41	7.24	6.06 (6)
		14, (68)	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.25	10.25	10.25	9.87	9.87	9.53 (7)
		12, (97)	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	15.52	15.52	15.52
	JWE (250)	18, (43)	5.00	5.00	5.00	4.98	4.98	4.98	4.96	4.96	4.96	4.91	4.91	4.35	4.84	4.43	3.48 (7)	4.32	3.71 (7)	2.54 (6)
		16, (54)	8.25	8.25	8.25	8.22	8.22	8.22	8.17	8.17	8.17	8.04	8.04	8.04	7.85	7.85	7.56	7.60	7.56	6.39 (6)
		14, (68)	11.67	11.67	11.67	11.63	11.63	11.63	11.58	11.58	11.58	11.45	11.45	11.45	11.26	11.26	11.26	10.91	10.91	10.24(7)
		12, (97)	19.79	19.79	19.79	19.70	19.70	19.70	19.60	19.60	19.60	19.31	19.31	19.31	18.75	18.75	18.75	17.93	17.93	17.93

Notes:

- Values shown assume concentric loading of the members.
- In load-bearing (axial) wall construction, mechanical bridging shall be used in all cases. Installation of bridging must be completed before any loads are applied to the system. V-Bar Bridging, as shown on page 18, is the most effective and efficient method of installation to prevent rotation of flanges.
- Studs shall be braced against rotation. Install mechanical bridging spaced at intervals not exceeding 4'-0" on center, maximum. Refer to page 18 for bridging types and installation methods.
- Stud ends shall be securely attached to track components at the top and bottom of the wall assembly. Stud ends must be seated as tightly as possible into tracks in all compression and bearing applications.
- For components subjected to 5 PSF and greater lateral wind loads, the actual bending and axial stresses were multiplied by 0.75 in accordance with AISI Section A5.1.3
- Deflections and stresses were calculated without regard to the composite contribution of facing materials.
- Contact DALE/INCOR for allowable axial capacities of framing components not shown in the table.

30 PSF Wind Load

HEIGHT			8 FT			9 FT			10 FT			12 FT			14 FT			16 FT		
SPACING			12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
WEB	SECT.	GA, (mil)																		
3-5/8"	CN	20, (33)	1.16 (6)	0.85 (6)	0.26 (3)	0.86 (3)	0.5 (3)		0.56 (3)	0.17 (2)										
(362)	(137)	18, (43)	2.04 (7)	1.72 (6)	1.13 (3)	1.7 (6)	1.32 (3)	0.64 (2)	1.35 (3)	0.93 (3)	0.19 (2)	0.69 (2)	0.23 (2)							
		(33 ksi) 16, (54)	2.95	2.61 (6)	1.97 (6)	2.54 (6)	2.14 (6)	1.4 (3)	2.11 (6)	1.66 (3)	0.85 (2)	1.29 (2)	0.79 (2)		0.62 (2)					
		(33 ksi) 14, (68)	3.86	3.64 (7)	2.97 (6)	3.52 (7)	3.1 (6)	2.32 (3)	3.02 (6)	2.54 (6)	1.67 (3)	2.03 (3)	1.49 (2)	0.55 (2)	1.19 (2)	0.65 (2)				
		(50 ksi) 16, (54)	3.42	3.36 (6)	2.82 (6)	3.21 (6)	2.87 (6)	2.25 (3)	2.74 (6)	2.36 (3)	1.68 (2)	1.84 (2)	1.43 (2)		1.13 (2)					
		(50 ksi) 14, (68)	4.42	4.42 (7)	4.09 (6)	4.19 (7)	4.06 (6)	3.4 (3)	3.82 (6)	3.43 (6)	2.71 (3)	2.7 (3)	2.26 (2)	1.5 (2)	1.79 (2)	1.36 (2)				
	CEE	20, (33)	1.59 (6)	1.24 (6)	0.59 (3)	1.23 (6)	0.83 (3)	0.11 (2)	0.88 (3)	0.44 (2)		0.26 (2)								
	(162)	18, (43)	2.64	2.3 (6)	1.64 (6)	2.24 (6)	1.83 (6)	1.08 (3)	1.82 (6)	1.37 (3)	0.55 (2)	1.04 (2)	0.54 (2)		0.42 (2)					
		(33 ksi) 16, (54)	3.71	3.35 (7)	2.65 (6)	3.24 (7)	2.79 (6)	1.98 (3)	2.73 (6)	2.23 (3)	1.34 (2)	1.75 (3)	1.21 (2)	0.25 (2)	0.95 (2)	0.41 (2)				
		(33 ksi) 14, (68)	4.64	4.57	3.84 (6)	4.39	3.93 (6)	3.06 (6)	3.79 (6)	3.27 (6)	2.33 (3)	2.63 (3)	2.04 (3)	1.01 (2)	1.64 (2)	1.05 (2)		0.88 (2)		
		(50 ksi) 16, (54)	4.27	4.22 (7)	3.57 (6)	3.99 (7)	3.59 (6)	2.84 (3)	3.4 (6)	2.95 (3)	2.14 (2)	2.27 (3)	1.79 (2)	0.94 (2)	1.4 (2)	0.93 (2)				
		(50 ksi) 14, (68)	5.44	5.44	5.25 (6)	5.12	5.12 (6)	4.4 (6)	4.75 (6)	4.36 (6)	3.56 (3)	3.4 (3)	2.92 (3)	2.08 (2)	2.3 (2)	1.83 (2)		1.5 (2)		
		12, (97)	7.81	7.81	7.81	7.31	7.31	7.08 (6)	6.75	6.75 (6)	5.92 (6)	5.33 (6)	4.79 (3)	3.83 (2)	3.76 (3)	3.22 (2)	2.29 (2)	2.61 (2)	2.11 (2)	
	JW	20, (33)	2 (7)	1.61 (6)	0.89 (3)	1.6 (6)	1.15 (3)	0.33 (2)	1.2 (3)	0.7 (3)		0.47 (2)								
	(200)	18, (43)	3.30	2.89 (7)	2.11 (6)	2.8 (7)	2.31 (6)	1.43 (3)	2.29 (6)	1.75 (3)	0.79 (2)	1.34 (3)	0.75 (2)		0.58 (2)					
		16, (54)	5.34	5.34	4.62 (6)	5.02	4.59 (6)	3.71 (6)	4.32 (6)	3.79 (6)	2.85 (3)	2.92 (3)	2.36 (2)	1.38 (2)	1.84 (2)	1.3 (2)		1.07 (2)		
		14, (68)	6.76	6.76	6.76 (7)	6.32	6.32 (7)	5.7 (6)	5.85 (7)	5.57 (6)	4.67 (3)	4.34 (6)	3.8 (3)	2.85 (2)	2.98 (3)	2.46 (2)	1.54 (2)	2.01 (2)	1.51 (2)	
		12, (97)	9.48	9.48	9.48	8.84	8.84	8.84 (7)	8.15	8.15 (7)	7.65 (6)	6.67 (6)	6.17 (6)	5.15 (3)	4.85 (3)	4.28 (3)	3.28 (2)	3.47 (2)	2.92 (2)	
	JWE	18, (43)	3.82	3.38	2.55 (6)	3.3 (7)	2.78 (6)	1.81 (3)	2.76 (6)	2.17 (6)	1.1 (3)	1.69 (3)	1.03 (2)		0.81 (2)	0.15 (2)		0.17 (2)		
	(250)	16, (54)	6.01	6.01	5.4 (7)	5.73	5.4 (7)	4.46 (6)	5.18 (7)	4.6 (6)	3.55 (3)	3.57 (6)	2.94 (3)	1.85 (2)	2.3 (2)	1.69 (2)		1.4 (2)		
		14, (68)	7.87	7.87	7.67	7.36	7.36	6.41 (6)	6.81	6.31 (6)	5.2 (6)	4.92 (6)	4.26 (3)	3.09 (2)	3.34 (3)	2.69 (2)	1.56 (2)	2.21 (2)	1.59 (2)	
		12, (97)	10.97	10.97	10.97	10.24	10.24	10.24	9.45	9.45	9.2 (6)	7.79 (7)	7.47 (6)	6.35 (3)	5.92 (6)	5.28 (3)	4.17 (2)	4.3 (3)	3.68 (2)	2.63 (2)
6	CN	20, (33)	1.88	1.76	1.39	1.78	1.55	1.09 (6)	1.61	1.32 (7)	0.77 (6)	1.2 (6)	0.81 (6)		0.75 (3)	0.26 (2)		0.28 (2)		
(600)	(137)	18, (43)	2.62	2.62	2.42	2.62	2.57	2.12	2.62	2.34	1.8 (6)	2.21 (7)	1.82 (6)	1.07 (3)	1.73 (6)	1.23 (3)	0.3 (2)	1.22 (3)	0.62 (2)	
		(33 ksi) 16, (54)	3.47	3.47	3.47	3.47	3.47	3.20	3.47	3.42	2.85 (7)	3.28	2.86 (6)	2.06 (6)	2.75 (6)	2.2 (6)	1.19 (3)	2.16 (3)	1.5 (3)	0.32 (2)
		(33 ksi) 14, (68)	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.26	4.62	4.25 (7)	3.38 (6)	4.11 (6)	3.51 (6)	2.39 (3)	3.43 (6)	2.69 (3)	1.37 (2)
		(50 ksi) 16, (54)	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.77 (7)	3.90	3.76 (6)	3.1 (6)	3.64 (6)	3.18 (6)	2.33 (3)	3.11 (3)	2.54 (3)	1.52 (2)
		(50 ksi) 14, (68)	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14 (7)	4.66 (6)	5.14 (6)	4.72 (6)	3.8 (3)	4.61 (6)	4 (3)	2.88 (2)
	CEE	20, (33)	2.55	2.49	2.05	2.52	2.24	1.68 (7)	2.29	1.95 (7)	1.28 (6)	1.75 (6)	1.29 (6)	0.42 (3)	1.17 (3)	0.61 (3)		0.6 (2)		
	(162)	18, (43)	3.52	3.52	3.39	3.52	3.52	3.03	3.52	3.29	2.63 (7)	3.06 (7)	2.59 (6)	1.71 (3)	2.4 (6)	1.82 (3)	0.76 (2)	1.72 (3)	1.06 (2)	
		(33 ksi) 16, (54)	4.65	4.65	4.65	4.65	4.65	4.45	4.65	4.65	4.02	4.46	3.95 (7)	2.99 (6)	3.69 (6)	3.05 (6)	1.87 (3)	2.86 (6)	2.12 (3)	0.8 (2)
		(33 ksi) 14, (68)	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.19	5.91	6.17	5.86	4.79 (6)	5.48 (7)	4.76 (6)	3.44 (3)	4.45 (6)	3.62 (3)	2.12 (2)
		(50 ksi) 16, (54)	5.72	5.72	5.72	5.72	5.72	5.72	5.72	5.72	5.50	5.60	5.34 (7)	4.4 (6)	4.91 (6)	4.29 (6)	3.14 (3)	3.91 (6)	3.2 (3)	1.94 (2)
		(50 ksi) 14, (68)	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.52	7.52	6.97 (6)	7.13 (7)	6.68 (6)	5.5 (3)	6.08 (6)	5.35 (3)	4.02 (2)
		12, (97)	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.28	11.28 (7)	10.06 (6)	10.42 (7)	9.5 (6)	7.84 (3)
	JW	20, (33)	2.99	2.99	2.50	2.97	2.69	2.08	2.74	2.36	1.63 (6)	2.14 (7)	1.63 (6)	0.68 (3)	1.49 (6)	0.87 (3)		0.84 (3)	0.15 (2)	
	(200)	18, (43)	4.44	4.44	4.33	4.40	4.40	3.85	4.35	4.12	3.33 (7)	3.79	3.23 (7)	2.18 (6)	2.97 (6)	2.28 (6)	1.03 (3)	2.14 (3)	1.36 (3)	
		16, (54)	7.56	7.56	7.56	7.46	7.46	7.46	7.33	7.33	7.20	6.99	6.82	5.7 (6)	6.18 (7)	5.46 (6)	4.13 (3)	4.92 (6)	4.11 (3)	2.66 (2)
		14, (68)	10.02	10.02	10.02	9.89	9.89	9.89	9.72	9.72	9.72	9.27	9.27	8.89 (7)	8.68	8.38 (6)	7.05 (6)	7.56 (6)	6.73 (6)	5.25 (3)
		12, (97)	15.60	15.60	15.60	15.38	15.38	15.38	15.11	15.11	15.11	14.40	14.40	14.40	13.45	13.45	12.7 (6)	12.32 (7)	11.83 (6)	10.07(3)
	JWE	18, (43)	4.79	4.79	4.76	4.75	4.75	4.27	4.71	4.55	3.74	4.23	3.65 (7)	2.56 (6)	3.4 (6)	2.67 (6)	1.34 (3)	2.53 (6)	1.7 (3)	0.2 (2)
	(250)	16, (54)	7.75	7.75	7.75	7.66	7.66	7.66	7.55	7.55	7.55	7.26	7.26	6.2 (6)	6.65 (7)	5.94 (6)	4.62 (3)	5.59 (6)	4.74 (6)	3.22 (3)
		14, (68)	11.08	11.08	11.08	10.98	10.98	10.98	10.79	10.79	10.79	10.33	10.33	9.63 (7)	9.77	9.19 (7)	7.59 (6)	8.43 (7)	7.42 (6)	5.62 (3)
		12, (97)	18.24	18.24	18.24	17.94	17.94	17.94	17.57	17.57	17.57	16.64	16.64	16.64	15.50	15.50	15.01 (7)	14.18	13.95 (7)	12.02(6)
8	CN	20, (33)	1.79	1.79	1.58	1.79	1.70	1.36	1.75	1.54	1.12	1.46	1.16	0.58 (6)	1.12 (7)	0.73 (6)		0.74 (6)	0.25 (3)	
(800)	(137)	18, (43)	2.50	2.50	2.50	2.50	2.50	2.41	2.50	2.50	2.19	2.49	2.22	1.68 (7)	2.17	1.81 (6)	1.09 (6)	1.81 (6)	1.34 (6)	0.45 (3)
		(33 ksi) 16, (54)	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34	2.87	3.34	2.98	2.29 (6)	2.97 (7)	2.51 (6)	1.63 (3)
		(33 ksi) 14, (68)	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.29	4.49	4.40	3.65 (7)	4.38	3.88 (7)	2.92 (6)
		(50 ksi) 16, (54)	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.49	3.62	3.58	2.98 (6)	3.56 (7)	3.17 (6)	2.4 (3)
		(50 ksi) 14, (68)	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.67 (7)	4.80	4.8 (7)	4.1 (6)
	CEE	20, (33)	2.49	2.49	2.33	2.49	2.48	2.06	2.49	2.27	1.77	2.17	1.80	1.09 (6)	1.75 (7)	1.26 (6)	0.34 (3)	1.27 (6)	0.67 (3)	
	(162)	18, (43)	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.17	3.44	3.20	2.53 (7)	3.13	2.68 (7)	1.79 (6)	2.67 (6)	2.08 (6)	0.99 (3)
		(33 ksi) 16, (54)	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.10	4.57	4.23	3.35 (6)	4.21	3.62 (6)	2.52 (6)
		(33 ksi) 14, (68)	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.04	6.13	6.13	5.21 (7)	6.13	5.49 (7)	4.28 (6)
		(50 ksi) 16, (54)	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.47	5.51	5.51	4.74 (6)	5.51	4.97 (6)	3.91 (6)
		(50 ksi) 14, (68)	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.26 (7)	7.32	7.32 (7)	6.41 (6)
		12, (97)	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.22(7)
	JW	20, (33)	3.07	3.07	2.95	3.07	3.07	2.64	3.07	2.88	2.30	2.76	2.34	1.52 (7)	2.24	1.69 (6)	0.63 (6)	1.66 (6)	0.99 (6)	
	(200)	18, (43)	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.40	4.58	4.42	3.62	4.27	3.72	2.67 (6)	3.62 (7)	2.94 (6)	1.67 (3)
		16, (54)	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.70	7.70	6.71 (7)	7.41	6.76 (7)	5.38 (6)
		14, (68)	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.25	10.25	10.25	9.87	9.87	8.88 (6)
		12, (97)	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	15.52	15.52	15.52(7)
	JWE	18, (43)	5.00	5.00	5.00	4.98	4.98	4.98	4.96	4.96	4.80	4.91	4.76	3.93	4.62	4.05	2.94 (6)	3.95	3.23 (6)	1.87 (6)
	(250)	16, (54)	8.25	8.25	8.25	8.22	8.22	8.22	8.17	8.17	8.17	8.04	8.04	8.04	7.85	7.85	7.01 (7)	7.60	7.08 (7)	5.72 (6)
		14, (68)	11.67	11.67	11.67	11.63	11.63	11.63	11.58	11.58	11.58	11.45	11.45	11.45	11.26	11.26	11.08	10.91	10.91	9.47 (6)
		12, (97)	19.79	19.79	19.79	19.70	19.70	19.70	19.60	19.60	19.60	19.31	19.31	19.31	18.75	18.75	18.75	17.93	17.93	17.93

See pages 19 & 20 for footnotes

40 PSF Wind Load

HEIGHT			8 FT			9 FT			10 FT			12 FT			14 FT			16 FT		
SPACING			12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"	12"	16"	24"
WEB	SECT.	GA, (mil)																		
3-5/8" (362)	CN (137)	20, (33)	0.85 (6)	0.45 (3)		0.5 (3)			0.17 (2)											
		18, (43)	1.72 (6)	1.32 (3)	0.58 (2)	1.32 (3)	0.86 (3)		0.93 (3)	0.42 (2)		0.23 (2)								
		(33 ksi) 16, (54)	2.61 (6)	2.18 (6)	1.37 (3)	2.14 (6)	1.64 (3)	0.72 (2)	1.66 (3)	1.11 (2)	0.13 (2)	0.79 (2)	0.2 (2)							
		(33 ksi) 14, (68)	3.64 (7)	3.19 (6)	2.34 (3)	3.1 (6)	2.57 (6)	1.6 (3)	2.54 (6)	1.95 (3)	0.89 (2)	1.49 (2)	0.85 (2)		0.65 (2)					
		(50 ksi) 16, (54)	3.36 (6)	3 (6)	2.32 (3)	2.87 (6)	2.45 (3)	1.68 (2)	2.36 (3)	1.9 (2)	1.07 (2)	1.43 (2)	0.94 (2)							
		(50 ksi) 14, (68)	4.42 (7)	4.28 (6)	3.57 (3)	4.06 (6)	3.61 (6)	2.8 (3)	3.43 (6)	2.94 (3)	2.06 (2)	2.26 (2)	1.74 (2)		1.36 (2)					
	CEE (162)	20, (33)	1.24 (6)	0.8 (3)		0.83 (3)	0.34 (2)		0.44 (2)											
		18, (43)	2.3 (6)	1.85 (6)	1.04 (3)	1.83 (6)	1.32 (3)	0.4 (2)	1.37 (3)	0.81 (2)		0.54 (2)								
		(33 ksi) 16, (54)	3.35 (7)	2.88 (6)	1.99 (3)	2.79 (6)	2.24 (3)	1.24 (2)	2.23 (3)	1.62 (3)	0.55 (2)	1.21 (2)	0.55 (2)		0.41 (2)					
		(33 ksi) 14, (68)	4.57	4.08 (7)	3.15 (6)	3.93 (6)	3.35 (6)	2.29 (3)	3.27 (6)	2.63 (3)	1.48 (2)	2.04 (3)	1.34 (2)	0.12 (2)	1.05 (2)					
		(50 ksi) 16, (54)	4.22 (7)	3.78 (6)	2.95 (3)	3.59 (6)	3.08 (3)	2.15 (2)	2.95 (3)	2.4 (3)	1.41 (2)	1.79 (2)	1.21 (2)		0.93 (2)					
		(50 ksi) 14, (68)	5.44	5.44 (7)	4.66 (6)	5.12 (6)	4.63 (6)	3.73 (3)	4.36 (6)	3.81 (3)	2.83 (2)	2.92 (3)	2.34 (2)	1.34 (2)	1.83 (2)					
		12, (97)	7.81	7.81	7.58 (6)	7.31	7.31 (6)	6.32 (6)	6.75 (6)	6.21 (6)	5.1 (3)	4.79 (3)	4.14 (3)	2.99 (2)	3.22 (2)	2.59 (2)		2.11 (2)		
	JW (200)	20, (33)	1.61 (6)	1.13 (6)	0.23 (3)	1.15 (3)	0.59 (3)		0.7 (3)											
		18, (43)	2.89 (7)	2.36 (6)	1.4 (3)	2.31 (6)	1.72 (3)	0.63 (2)	1.75 (3)	1.1 (3)		0.75 (2)								
		16, (54)	5.34	4.87 (6)	3.91 (6)	4.59 (6)	3.99 (6)	2.92 (3)	3.79 (6)	3.15 (3)	2 (2)	2.36 (2)	1.69 (2)		1.3 (2)					
		14, (68)	6.76	6.76	6.09 (6)	6.32 (7)	5.97 (6)	4.94 (3)	5.57 (6)	4.96 (6)	3.85 (3)	3.8 (3)	3.15 (2)	2.02 (2)	2.46 (2)	1.83 (2)		1.51 (2)		
		12, (97)	9.48	9.48	9.48 (7)	8.84	8.84 (7)	8.22 (6)	8.15 (7)	7.95 (6)	6.77 (3)	6.17 (6)	5.48 (3)	4.23 (2)	4.28 (3)	3.6 (2)	2.4 (2)	2.92 (2)	2.27 (2)	
	JWE (250)	18, (43)	3.38	2.82 (6)	1.77 (6)	2.78 (6)	2.12 (6)	0.93 (3)	2.17 (6)	1.44 (3)	0.15 (2)	1.03 (2)	0.25 (2)		0.15 (2)					
		16, (54)	6.01	5.66 (7)	4.64 (6)	5.4 (7)	4.77 (6)	3.6 (3)	4.6 (6)	3.88 (3)	2.61 (2)	2.94 (3)	2.2 (2)	0.9 (2)	1.69 (2)	0.98 (2)				
		14, (68)	7.87	7.87	6.84 (6)	7.36	6.74 (7)	5.47 (6)	6.31 (6)	5.56 (6)	4.19 (3)	4.26 (3)	3.45 (3)	2.06 (2)	2.69 (2)	1.92 (2)		1.59 (2)		
		12, (97)	10.97	10.97	10.97	10.24	10.24	9.88 (6)	9.45	9.45 (6)	8.26 (6)	7.47 (6)	6.71 (3)	5.35 (2)	5.28 (3)	4.52 (2)	3.2 (2)	3.68 (2)	2.96 (2)	
6 (600)	CN (137)	20, (33)	1.76	1.51	1.03 (7)	1.55	1.24 (7)	0.65 (6)	1.32 (7)	0.95 (6)	0.24 (3)	0.81 (6)	0.31 (3)		0.26 (2)					
		18, (43)	2.62	2.53	2.07	2.57	2.27	1.69 (6)	2.34	1.98 (7)	1.27 (6)	1.82 (6)	1.32 (3)	0.37 (2)	1.23 (3)	0.60 (2)		0.62 (2)		
		(33 ksi) 16, (54)	3.47	3.47	3.15	3.47	3.35	2.74 (7)	3.42	3.04	2.29 (6)	2.86 (6)	2.32 (6)	1.3 (3)	2.2 (6)	1.51 (3)	0.26 (2)	1.5 (3)	0.69 (2)	
		(33 ksi) 14, (68)	4.62	4.62	4.59	4.62	4.62	4.15	4.62	4.46	3.66 (7)	4.25 (7)	3.66 (6)	2.55 (3)	3.51 (6)	2.75 (3)	1.36 (2)	2.69 (3)	1.79 (2)	0.19 (2)
		(50 ksi) 16, (54)	3.90	3.90	3.90	3.90	3.90	3.69 (7)	3.90	3.90	3.32 (6)	3.76 (6)	3.31 (6)	2.47 (3)	3.18 (6)	2.6 (3)	1.54 (2)	2.54 (3)	1.84 (2)	0.61 (2)
		(50 ksi) 14, (68)	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	4.91 (7)	5.14 (7)	4.88 (6)	3.99 (3)	4.72 (6)	4.1 (3)	2.96 (2)	4 (3)	3.24 (2)	1.88 (2)
	CEE (162)	20, (33)	2.49	2.19	1.61 (7)	2.24	1.87	1.15 (6)	1.95 (7)	1.5 (6)	0.65 (3)	1.29 (6)	0.7 (3)		0.61 (3)					
		18, (43)	3.52	3.52	2.98	3.52	3.21	2.51 (7)	3.29	2.85 (7)	2 (6)	2.59 (6)	2 (6)	0.68 (3)	1.82 (3)	1.1 (3)		1.06 (2)	0.25 (2)	
		(33 ksi) 16, (54)	4.65	4.65	4.39	4.65	4.64	3.89	4.65	4.25	3.34 (6)	3.95 (7)	3.3 (6)	2.09 (3)	3.05 (6)	2.25 (3)	0.79 (2)	2.12 (3)	1.22 (2)	
		(33 ksi) 14, (68)	6.19	6.19	6.19	6.19	6.19	5.79	6.19	6.16	5.18 (7)	5.86	5.14 (7)	3.78 (6)	4.76 (6)	3.87 (6)	2.23 (3)	3.62 (3)	2.6 (3)	0.79 (2)
		(50 ksi) 16, (54)	5.72	5.72	5.72	5.72	5.72	5.40	5.72	5.72	4.84 (6)	5.34 (7)	4.71 (6)	3.51 (3)	4.29 (6)	3.51 (3)	2.1 (2)	3.2 (3)	2.34 (2)	0.83 (2)
		(50 ksi) 14, (68)	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.56	7.4 (7)	7.52	7.29 (7)	6.08 (6)	6.68 (6)	5.88 (6)	4.42 (3)	5.35 (3)	4.45 (3)	2.85 (2)
		12, (97)	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	10.73 (6)	11.28 (7)	10.53 (6)	8.72 (3)	9.5 (6)	8.37 (3)	6.37 (2)
	JW (200)	20, (33)	2.99	2.66	2.02	2.69	2.28	1.5 (6)	2.36	1.87 (7)	0.94 (6)	1.63 (6)	0.99 (3)		0.87 (3)			0.15 (2)		
		18, (43)	4.44	4.44	3.81	4.40	4.07	3.21	4.12	3.59	2.57 (6)	3.23 (7)	2.52 (6)	1.2 (3)	2.28 (6)	1.43 (3)		1.36 (3)	0.43 (2)	
		16, (54)	7.56	7.56	7.56	7.46	7.46	7.20	7.33	7.33	6.41 (7)	6.82	6.07 (6)	4.66 (6)	5.46 (6)	4.56 (3)	2.92 (2)	4.11 (3)	3.12 (2)	1.38 (2)
		14, (68)	10.02	10.02	10.02	9.89	9.89	9.89	9.72	9.72	9.72	9.27	9.24 (7)	7.87 (6)	8.38 (6)	7.48 (6)	5.83 (3)	6.73 (6)	5.72 (3)	3.93 (2)
		12, (97)	15.60	15.60	15.60	15.38	15.38	15.38	15.11	15.11	15.11	14.40	14.40	14.1 (7)	13.45	13.2 (7)	11.27 (6)	11.83 (6)	10.63 (6)	8.5 (3)
	JWE (250)	18, (43)	4.79	4.79	4.23	4.75	4.49	3.62	4.55	4.00	2.95 (7)	3.65 (7)	2.91 (6)	1.53 (3)	2.67 (6)	1.77 (3)	0.13 (2)	1.7 (3)	0.68 (2)	
		16, (54)	7.75	7.75	7.75	7.66	7.66	7.61	7.55	7.55	6.85	7.26	6.55 (7)	5.17 (6)	5.94 (6)	5.04 (6)	3.41 (3)	4.74 (6)	3.7 (3)	1.87 (2)
		14, (68)	11.08	11.08	11.08	10.98	10.98	10.98	10.79	10.79	10.60	10.33	10.05	8.41 (6)	9.19 (7)	8.11 (6)	6.14 (3)	7.42 (6)	6.19 (3)	4.02 (2)
		12, (97)	18.24	18.24	18.24	17.94	17.94	17.94	17.57	17.57	17.57	16.64	16.64	16.64	15.50	15.5 (7)	13.45 (6)	13.95 (7)	12.64 (6)	10.29(3)
8 (800)	CN (137)	20, (33)	1.79	1.67	1.32	1.70	1.48	1.03	1.54	1.26	0.72 (7)	1.16	0.77 (6)		0.73 (6)	0.22 (3)		0.25 (3)		
		18, (43)	2.50	2.50	2.37	2.50	2.50	2.11	2.50	2.32	1.82	2.22	1.86 (7)	1.16 (6)	1.81 (6)	1.33 (6)	0.41 (3)	1.34 (6)	0.74 (3)	
		(33 ksi) 16, (54)	3.34	3.34	3.34	3.34	3.34	3.29	3.34	3.34	3.01	3.34	3.04	2.36 (6)	2.98	2.51 (6)	1.61 (6)	2.51 (6)	1.92 (6)	0.8 (3)
		(33 ksi) 14, (68)	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.44	4.49	4.47	3.74 (7)	4.40	3.9 (7)	2.92 (6)	3.88 (7)	3.24 (6)	2.01 (3)
		(50 ksi) 16, (54)	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.62	3.61	3.62	3.62	3.05 (6)	3.58	3.18 (6)	2.4 (6)	3.17 (6)	2.65 (6)	1.67 (3)
		(50 ksi) 14, (68)	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.75 (7)	4.80	4.8 (7)	4.12 (6)	4.8 (7)	4.34 (6)	3.4 (3)
	CEE (162)	20, (33)	2.49	2.44	2.01	2.48	2.20	1.66	2.27	1.93	1.27 (7)	1.80	1.33 (7)	0.41 (6)	1.26 (6)	0.64 (6)		0.67 (3)		
		18, (43)	3.44	3.44	3.40	3.44	3.44	3.07	3.44	3.33	2.71	3.20	2.75	1.88 (6)	2.68 (7)	2.08 (6)	0.95 (3)	2.08 (6)	1.35 (3)	
		(33 ksi) 16, (54)	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.28	4.57	4.31	3.46 (7)	4.23	3.64 (7)	2.51 (6)	3.62 (6)	2.68 (6)	1.48 (3)
		(33 ksi) 14, (68)	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	6.13	5.35	6.13	5.53	4.3 (6)	5.49 (7)	4.67 (6)	3.13 (3)
		(50 ksi) 16, (54)	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	4.87 (7)	5.51	5.02 (7)	3.94 (6)	4.97 (6)	4.26 (6)	2.92 (3)
		(50 ksi) 14, (68)	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	6.48 (6)	7.32 (7)	6.76 (6)	5.42 (3)
		12, (97)	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33	11.33 (7)	11.33	11.33 (7)	10.05(6)
	JW (200)	20, (33)	3.07	3.07	2.58	3.07	2.80	2.17	2.88	2.49	1.73	2.34	1.79 (7)	0.72 (6)	1.69 (6)	0.98 (6)		0.99 (6)	0.14 (3)	
		18, (43)	4.58	4.58	4.58	4.58	4.58	4.28	4.58	4.58	3.84	4.42	3.88	2.84 (7)	3.72	3.02 (6)	1.68 (6)	2.94 (6)	2.08 (6)	0.49 (3)
		16, (54)	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.85	7.04	7.70	7.08 (7)	5.64 (6)	6.76 (7)	5.83 (6)	4.11 (3)
		14, (68)	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.25	10.25	9.32 (6)	9.87	9.31 (6)	7.62 (6)
		12, (97)	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	16.07	15.52	15.52	14.36(6)
	JWE (250)	18, (43)	5.00	5.00	5.00	4.98	4.98	4.69	4.96	4.96	4.21	4.78	4.21	3.11 (7)	4.05	3.3 (7)	1.88 (6)	3.23 (6)	2.31 (6)	0.61 (3)
		16, (54)	8.25	8.25	8.25	8.22	8.22	8.22	8.17	8.17	8.17	8.04	8.04	7.36	7.85	7.37	5.95 (6)	7.08 (7)	6.17 (6)	4.44 (3)
		14, (68)	11.67	11.67	11.67	11.63	11.63	11.63	11.58	11.58	11.58	11.45	11.45	11.45	11.26	11.26	9.88 (7)	10.91	9.98 (7)	7.99 (6)
		12, (97)	19.79	19.79	19.79	19.70	19.70	19.70	19.60	19.60	19.60	19.31	19.31	19.31	18.75	18.75	18.75	17.93	17.93	16.97(7)

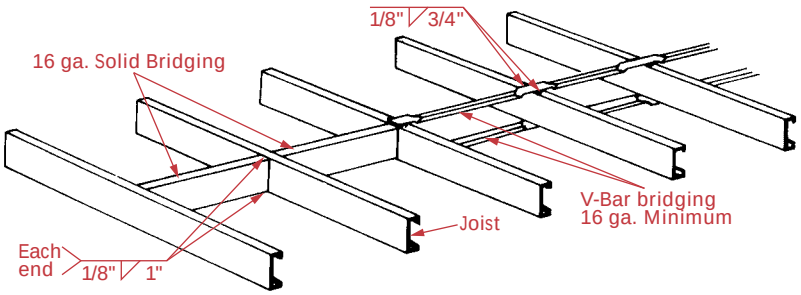
See pages 19 & 20 for footnotes

Joist Bridging

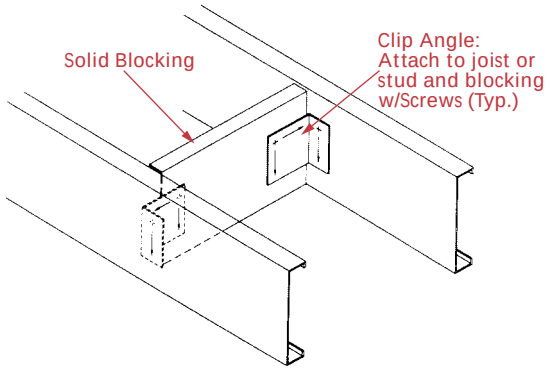
Notes

1. Install mechanical bridging spaced at the following intervals:
   a. 5'-0" on center maximum for any 1-5/8" flanged components or less.
   b. 7'-0" on center maximum for all remaining member types
2. Proper attachment of diaphragm rated products, such as plywood or metal deck, will prevent rotation of the compression flange of the joists. These may be used in lieu of the installation of the top flat strap. Installation of these products and the balance of the mechanical bridging components must be completed before any loads are applied to the joists.
3. Install 16 gage solid bridging in first two and last two joist spaces. Starting at third joist space, install V-bar bridging, top and bottom, extending for 10'0" run. Follow with solid bridging in one space. Repeat to completion, with each 10'0" run of strap bridging followed by one space of solid bridging. (Based on calculations, additional rows of bridging may be required.)

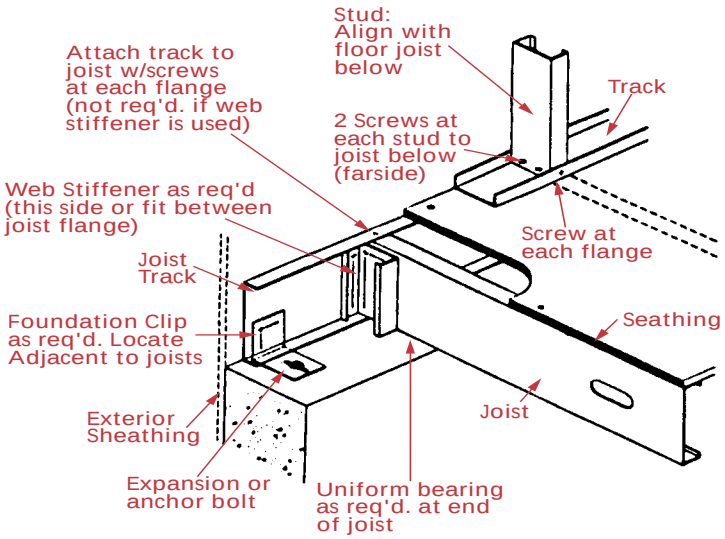
Note: Solid bridging shall not be less than 2" maximum reduction to section depth.



Construction Detail



Joists or Rafters



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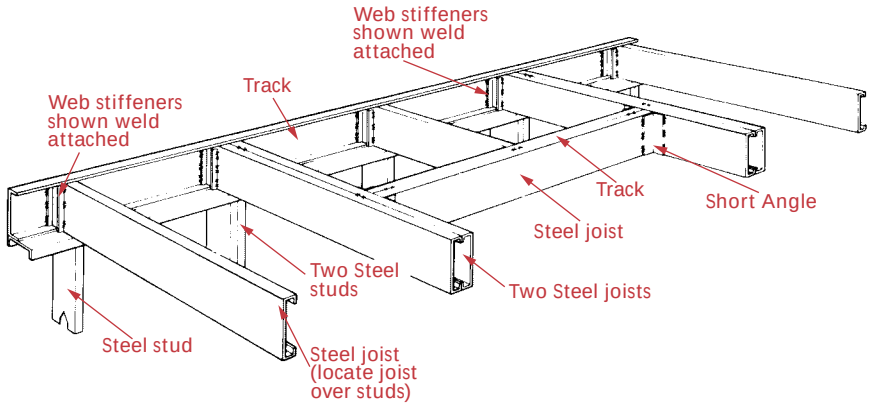


Allowable Web Crippling Loads (lbs) - Single Members

Web Size	Gauge	Thickness in mils	Yield Stress (ksi)	Condition 1 Bearing Length (in.)				Condition 2 Bearing Length (in.)				Condition 3 Bearing Length (in.)				Condition 4 Bearing Length (in.)			
				1	3.5	4	6	1	3.5	4	6	1	3.5	4	6	1	3.5	4	6
3-5/8"	20	33	33	185	289	310	393	336	520	564	742	128	200	215	272	342	373	379	404
(362)	18	43	33	350	508	540	667	591	821	883	1133	247	359	381	471	656	702	711	748
	16	54	33	556	765	806	973	933	1188	1268	1591	396	545	575	694	1096	1157	1169	1219
	16	54	50	699	962	1014	1224	1253	1595	1704	2137	499	686	723	873	1472	1554	1571	1637
	14	68	33	878	1148	1202	1419	1476	1805	1871	2252	631	826	865	1020	1811	1893	1909	1974
	14	68	50	1105	1444	1512	1784	1982	2425	2514	3025	794	1038	1087	1283	2434	2543	2564	2651
6"	20	33	33	156	244	262	332	299	463	503	661	102	159	170	216	245	267	272	289
(600)	18	43	33	310	451	479	592	544	755	812	1042	210	305	324	400	526	563	571	600
	16	54	33	508	698	736	889	874	1113	1189	1491	351	483	510	615	933	985	995	1037
	16	54	50	639	878	926	1118	1175	1495	1597	2003	442	608	641	774	1253	1323	1337	1394
	14	68	33	819	1071	1122	1323	1403	1717	1780	2141	576	754	789	931	1607	1679	1693	1751
	14	68	50	1031	1347	1411	1664	1885	2307	2391	2877	725	948	992	1171	2159	2256	2275	2352
	12	97	33	1693	2072	2148	2451	2887	3352	3445	3817	1211	1482	1536	1753	3565	3677	3700	3789
	12	97	50	2129	2606	2701	3082	3878	4503	4628	5127	1523	1864	1932	2205	4789	4940	4970	5091
7-1/4"	18	43	33	290	421	447	552	518	720	774	993	191	277	294	363	458	490	496	522
(725)	16	54	33	482	663	700	844	844	1074	1147	1438	328	451	475	574	847	894	904	942
	16	54	50	607	834	880	1062	1133	1442	1540	1932	412	567	598	721	1138	1202	1214	1265
	14	68	33	788	1031	1079	1273	1365	1671	1732	2084	547	716	750	884	1500	1567	1580	1634
	14	68	50	992	1296	1357	1601	1834	2244	2326	2799	689	900	943	1112	2015	2105	2123	2195
	12	97	33	1650	2020	2094	2389	2834	3291	3382	3747	1171	1434	1486	1696	3412	3520	3541	3627
	12	97	50	2076	2540	2633	3005	3808	4421	4543	5034	1473	1803	1869	2132	4584	4728	4757	4873
8"	20	43	33	277	403	428	529	503	699	752	964	179	260	276	341	417	446	452	475
(800)	16	54	33	467	642	678	818	825	1050	1121	1407	313	431	455	549	795	840	849	885
	16	54	50	587	808	852	1028	1108	1411	1507	1890	394	542	572	690	1069	1129	1140	1188
	14	68	33	770	1007	1054	1243	1343	1643	1703	2049	530	693	726	856	1435	1499	1512	1564
	14	68	50	968	1266	1325	1564	1804	2207	2288	2752	667	872	913	1077	1928	2014	2031	2101
	12	97	33	1625	1989	2061	2352	2803	3254	3344	3705	1147	1404	1456	1661	3320	3425	3446	3530
	12	97	50	2043	2501	2592	2958	3765	4371	4492	4977	1443	1766	1831	2089	4461	4601	4630	4742
9-1/4"	18	43	33	256	373	396	489	478	664	714	916	160	232	246	304	348	373	378	397
(925)	16	54	33	442	608	641	773	794	1011	1080	1354	290	398	420	507	710	749	757	789
	16	54	50	556	764	806	973	1067	1358	1450	1819	364	501	528	638	953	1007	1018	1060
	14	68	33	739	966	1011	1193	1305	1596	1655	1991	501	655	686	809	1328	1387	1399	1446
	14	68	50	929	1215	1272	1501	1753	2145	2223	2674	630	824	863	1018	1783	1863	1879	1943
	12	97	33	1582	1936	2007	2291	2750	3193	3281	3635	1108	1356	1405	1604	3168	3268	3288	3368
	12	97	50	1990	2435	2524	2881	3694	4289	4408	4884	1393	1705	1767	2016	4256	4390	4417	4524
10"	16	54	33	427	587	619	747	776	987	1054	1323	275	379	400	482	658	695	702	732
(1000)	16	54	50	536	738	778	939	1042	1326	1416	1777	346	476	502	606	884	934	944	983
	14	68	33	720	942	986	1163	1282	1568	1626	1956	484	633	662	781	1263	1320	1331	1376
	14	68	50	906	1184	1240	1463	1722	2107	2184	2628	608	795	833	983	1697	1773	1788	1849
	12	97	33	1557	1905	1975	2254	2718	3156	3243	3593	1084	1326	1375	1569	3076	3173	3193	3270
	12	97	50	1958	2396	2484	2834	3652	4240	4357	4828	1363	1668	1729	1973	4133	4263	4289	4394
12"	14	68	33	671	877	918	1083	1221	1494	1549	1863	437	572	599	706	1091	1140	1150	1189
(1200)	14	68	50	843	1103	1155	1362	1641	2007	2081	2503	550	719	753	888	1466	1531	1544	1597
	12	97	33	1489	1822	1888	2155	2634	3058	3143	3482	1020	1248	1294	1477	2832	2922	2939	3011
	12	97	50	1872	2291	2375	2710	3538	4108	4222	4678	1283	1570	1627	1857	3805	3925	3949	4045
14"	14	68	33	621	812	850	1003	1160	1420	1472	1771	391	511	535	632	919	960	968	1001
(1400)	14	68	50	781	1021	1069	1261	1559	1907	1977	2379	492	643	673	794	1234	1290	1301	1345
	12	97	33	1420	1738	1802	2056	2550	2960	3042	3370	956	1171	1213	1385	2588	2670	2686	2751
	12	97	50	1786	2186	2266	2586	3425	3977	4087	4528	1203	1472	1526	1741	3477	3587	3609	3696

Web Crippling Table Notes

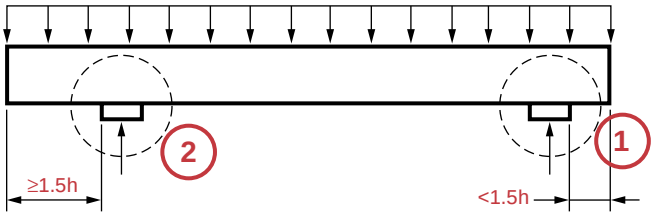
1. Only members with stiffened flanges are considered.
2. For multiple members, multiply the listed capacity of a single member by the number of members in the assembly.
3. For back-to-back members table, listed web crippling values are for the total system of two members.
4. For back-to-back members, the distance between the web connection and the flange shall be kept to a minimum.
5. Web punchouts were not considered for shear or web crippling. Span length reduction required for web punchout < 1.5D from edge of bearing, per ICBO AC46. (D = overall depth of web)

Conditions:

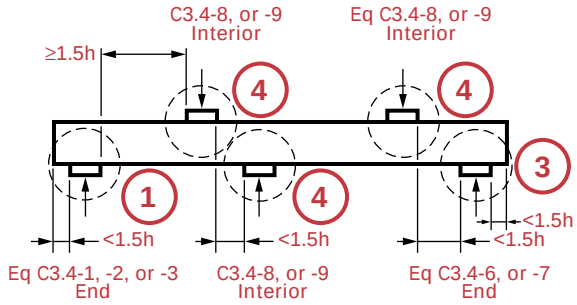
Condition 1 - End Reaction - One Flange (Pt.Ld. > 1.5h)
Condition 2 - Interior Reaction - One Flange (Pt.Ld. > 1.5h)
Condition 3 - End Reaction - Two Flange (Pt.Ld. <= 1.5h)
Condition 4 - Interior Reaction - Two Flange (Pt.Ld. <= 1.5h)

Find required member and bearing length in tables. Refer to the diagrams below for applicable configurations. Compare allowable load in table with the actual applied load.

Uniform Load:



Concentrated Loads:



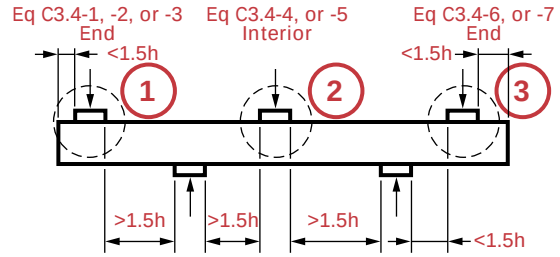


Figure C3.4-1 Application of Design Equations Listed in Table

Foot Notes: Joist Tables (Pages 26-29)

- Allowable uniform loads in pounds per lineal foot (PLF)
- For use in selection of single span floor and roof joists subjected to uniform live and dead loads.
- The black figures in the following tables give the TOTAL (TL) safe uniformly distributed load carrying capacities in pounds per lineal foot (PLF). The values shown in red are the LIVE loads (LL) per lineal foot (PLF) of joist which will produce a deflection of L/360 of the span.
- The use of these tables are limited to applications involving simple supported members.
- To determine equivalent pound per square foot (PSF) capacities, divide the pound per lineal foot (PLF) values shown by the joist spacing (i.e. 24" o.c. by 2, 16" o.c. by 1.333, etc.).

Notes:

1. Applications involving cantilevers, concentrated loads, impact loading, etc. should be investigated separately.
2. Web crippling should be investigated in accordance with the table on this page and section C3.4 of the AISI Specification. Web stiffeners are recommended at all support and concentrated load locations. When bearing exceeds 3-5/8" two DALE/INCOR web stiffeners are required.
3. Minimum end bearing shall be 1-1/4". Minimum intermediate bearings shall be 3". Web Punchouts shall not be located within 1.5 x Web Depth.
4. Note: When using joists, web stiffeners should be used - 1 at any bearing point where knock-outs are located, or 2 at any bearing point when in doubt whether or not to use a web stiffener.
5. To prevent rotation, joists shall be attached to track components at each end or restrained by the installation of solid blocking.
6. Deflections and stresses were calculated without regard to the composite contribution of facing materials.
7. Joist assemblies shall be braced against rotation with mechanical bridging spaced at the following intervals:
   - 5'0" on center maximum for 1-5/8" flanged components designation or less.
   - 7'0" on center maximum for all remaining joist flanges.

   Reference page 23 for bridging types and installation methods. Bridging shall be installed before loads are applied to the joists.
   Proper attachment of diaphragm rated products, such as plywood or metal deck, will act to prevent rotation of the top flange of the joists. Installation, however, must be completed before loads are applied to the joists.
8. The load tables may be used for parallel joists installed to a maximum slope of 1/2" per foot.
9. * Denotes total load values in excess of 1000 pounds.
10. Contact DALE/INCOR for maximum uniform load values of framing components not shown in these tables.

Allowable Uniform Loads (lbs/ft.)

Span (ft)	Load Condition	3-5/8" CEE				6" CEE					6" JW					6" JWE				6" SCJ		
		20 Ga	18 Ga	16 Ga	14 Ga	20 Ga	18 Ga	16 Ga	14 Ga	12 Ga	20 Ga	18 Ga	16 Ga	14 Ga	12 Ga	18 Ga	16 Ga	14 Ga	12 Ga	16 Ga	14 Ga	12 Ga
		362S162				600S162					600S200					600S250				600S350		
		-33	-43	-54	-68	-33	-43	-54	-68	-97	-33	-43	-54	-68	-97	-43	-54	-68	-97	-54	-68	-97
10	TL	36	46	57	70	76	111	185	231	314	81	114	200	268	367	120	213	267	425	264	351	506
	LL	24	31	38	46	76	101	124	154	209	81	114	145	179	245	120	164	206	283	206	269	377
10	TL	38	56	56	132	71	111	185	263	378	73	114	200	291	430	120	213	267	462	264	351	506
ES	LL	34	43	53	66	71	111	176	218	296	73	114	200	253	347	120	213	267	401	264	351	506
12	TL	20	26	33	40	52	77	108	133	181	56	79	125	155	212	83	142	179	246	178	234	327
	LL	13	17	22	27	45	58	72	89	121	52	67	83	103	141	77	95	119	164	119	156	218
12	TL	26	39	39	91	52	77	128	182	262	56	79	138	202	298	83	148	186	321	183	244	351
ES	LL	19	25	31	38	52	77	102	126	171	56	79	118	146	200	83	134	169	232	168	220	308
14	TL	13	16	20	25	38	55	68	84	114	41	58	79	97	134	61	89	112	155	112	147	206
	LL	8	11	13	17	28	36	45	56	76	32	42	52	65	89	49	59	75	103	75	98	137
14	TL	19	28	28	61	38	56	94	134	192	41	58	102	148	219	61	108	136	235	134	179	258
ES	LL	12	16	19	24	38	52	64	79	108	41	58	74	92	126	61	84	106	146	106	139	194
16	TL	8	11	13	17	28	37	45	56	76	31	42	53	65	89	47	60	75	103	75	98	138
	LL	5	7	9	11	19	24	30	37	51	21	28	35	43	59	32	40	50	69	50	65	92
16	TL	15	22	22	41	29	43	72	102	147	31	44	78	113	168	47	83	104	180	103	137	197
ES	LL	8	10	13	16	27	34	43	53	72	31	40	50	61	84	46	56	71	98	71	93	130
18	TL	6	7	9	12	20	26	32	39	53	23	30	37	46	63	34	42	53	73	52	69	97
	LL	4	5	6	8	13	17	21	26	35	15	20	24	30	42	23	28	35	48	35	46	64
18	TL	11	17	17	28	23	34	57	81	116	25	35	61	89	132	37	65	82	142	81	108	156
ES	LL	5	7	9	11	19	24	30	37	50	21	28	35	43	59	32	39	50	68	50	65	91
20	TL	4	5	7	8	14	18	23	28	39	16	21	27	33	45	25	30	38	53	38	50	70
	LL	3	3	4	5	9	12	15	19	26	11	14	18	22	30	16	20	25	35	25	33	47
20	TL	9	14	14	21	19	27	46	65	94	20	28	50	72	107	30	53	66	115	66	87	126
ES	LL	4	5	6	8	13	17	22	27	37	15	20	25	31	43	23	29	36	50	36	47	66
22	TL	3	4	5	6	11	14	17	21	29	12	16	20	25	34	18	23	29	39	29	37	53
	LL	2	2	3	4	7	9	11	14	19	8	11	13	16	23	12	15	19	26	19	25	35
24	TL	2	3	4	5	8	10	13	16	22	9	12	15	19	26	14	17	22	30	22	29	40
	LL	1	2	2	3	5	7	9	11	15	6	8	10	12	17	9	11	14	20	14	19	27
26	TL	2	2	3	3	6	8	10	13	17	7	10	12	15	20	11	14	17	24	17	23	32
	LL	1	1	2	2	4	5	7	8	11	5	6	8	10	13	7	9	11	16	11	15	21
28	TL	1	2	2	3	5	6	8	10	14	6	8	9	12	16	9	11	14	19	14	18	25
	LL	1	1	1	2	3	4	5	7	9	4	5	6	8	11	6	7	9	12	9	12	17
30	TL	1	1	2	2	4	5	6	8	11	4	6	8	9	13	7	9	11	15	11	14	20
	LL		1	1	1	2	3	4	5	7	3	4	5	6	9	4	6	7	10	7	9	13
32	TL	1	1	1	2	3	4	5	7	9	4	5	6	8	11	6	7	9	12	9	12	17
	LL			1	1	2	3	3	4	6	2	3	4	5	7	4	5	6	8	6	8	11
34	TL		1	1	1	2	3	4	5	8	3	4	5	6	9	5	6	7	10	7	10	14
	LL				1	1	2	3	3	5	2	2	3	4	6	3	4	5	7	5	6	9
36	TL			1	1	2	3	4	4	6	2	3	4	5	7	4	5	6	9	6	8	12
	LL				1	1	2	2	3	4	1	2	3	3	5	2	3	4	6	4	5	8

Table Notes

1. Joists based on 50 ksi for the 16, 14 and 12 gage thicknesses, and 33 ksi for thinner members.
2. ES = Single Member, 2 Equal Spans.
3. Check reactions for web crippling.
4. Loads are based on continuous lateral support of the compression flange.
5. For two equal spans, the listed span is the distance from either end support to the center support. Joists must be continuous over the center support.
6. Joists must be braced against rotation at all supports by track or blocking.
7. Where deflection controls: Total load deflection (TL) = L/240, Live load deflection (LL) = L/360.
8. Unbalanced live load plus dead load for double spans not addressed by tables. Check unbalanced live load plus dead load condition.
9. Web punchouts were not considered for shear or web crippling. Span length reduction required for web punchout < 1.5D from edge of bearing, per ICBO AC46. (D = overall depth of web)
10. To determine equivalent pound per square foot (PSF) capacities, divide the pound per lineal toot (PLF) values shown by the joist spacing (i.e. 24" o.c. by 2, 16" o.c. by 1.333, etc.)

Allowable Uniform Loads (lbs/ft.)

Span (ft)	Load Condition	7-1/4" CEE				7-1/4" JW				8" CEE					8" JW					8" JWE			
		20 Ga	18 Ga	16 Ga	14 Ga	20 Ga	18 Ga	16 Ga	14 Ga	20 Ga	18 Ga	16 Ga	14 Ga	12 Ga	20 Ga	18 Ga	16 Ga	14 Ga	12 Ga	18 Ga	16 Ga	14 Ga	12 Ga
		725S162				725S200				800S162					800S200					800S250			
		-33	-43	-54	-68	-33	-43	-54	-68	-33	-43	-54	-68	-97	-33	-43	-54	-68	-97	-43	-54	-68	-97
10	TL	91	145	241	344	97	148	260	378	91	152	278	397	574	91	170	294	434	644	173	304	399	684
	LL	91	145	197	243	97	148	227	280	91	152	250	309	424	91	170	287	355	489	173	304	399	558
10	TL	68	133	241	344	69	135	254	378	65	128	246	397	574	67	133	252	434	644	134	255	399	684
ES	LL	68	133	241	344	69	135	254	378	65	128	246	397	574	67	133	252	434	644	134	255	399	684
12	TL	63	100	168	211	67	103	180	243	69	105	193	268	368	74	118	204	301	425	120	211	277	475
	LL	63	92	114	140	67	103	131	162	69	105	145	179	245	74	118	166	205	283	120	186	234	323
12	TL	53	100	168	239	54	103	180	262	51	99	190	275	398	52	103	194	301	447	104	197	277	475
ES	LL	53	100	161	199	54	103	180	230	51	99	190	253	347	52	103	194	291	401	104	197	277	457
14	TL	46	73	107	133	49	75	124	153	50	77	137	169	232	54	86	150	194	267	88	155	203	305
	LL	44	58	71	88	49	66	82	102	50	73	91	112	154	54	84	104	129	178	88	117	147	203
14	TL	42	73	123	175	44	75	132	193	41	77	142	202	292	43	83	150	221	328	83	155	203	349
ES	LL	42	73	101	125	44	75	117	144	41	77	129	159	218	43	83	148	183	252	83	155	203	288
16	TL	35	56	72	89	37	58	83	102	38	59	91	113	155	41	66	105	130	179	67	118	148	204
	LL	30	38	48	59	34	44	55	68	38	49	61	75	103	41	56	70	86	119	64	78	98	136
16	TL	35	56	94	134	36	58	101	147	34	59	108	155	224	35	66	114	169	251	67	118	156	267
ES	LL	35	55	68	84	36	58	78	97	34	59	86	107	146	35	66	99	122	169	67	111	139	193
18	TL	28	41	50	62	30	45	58	72	30	47	64	79	109	33	52	73	91	125	53	82	104	143
	LL	21	27	33	41	24	31	38	48	26	34	42	53	72	30	39	49	60	83	45	55	69	95
18	TL	28	44	74	106	30	45	80	116	29	47	86	122	177	30	52	90	134	198	53	93	123	211
ES	LL	28	38	47	59	30	44	55	68	29	47	60	75	103	30	52	69	86	118	53	78	98	135
20	TL	22	29	36	45	24	34	42	52	24	37	47	58	79	26	42	53	66	91	43	60	75	104
	LL	15	19	24	30	17	22	28	35	19	25	31	38	53	22	28	35	44	61	32	40	50	69
20	TL	22	36	60	86	24	37	65	94	24	38	69	99	143	26	42	73	108	161	43	76	99	171
ES	LL	21	28	34	43	24	32	40	49	24	35	44	54	75	26	40	50	62	86	43	57	71	98
22	TL	17	22	27	34	19	25	31	39	20	28	35	43	59	22	32	40	50	68	35	45	57	78
	LL	11	14	18	22	13	17	21	26	14	19	23	29	39	16	21	26	33	45	24	30	38	52
24	TL	13	17	21	26	15	19	24	30	16	21	27	33	46	18	25	31	38	53	28	34	43	60
	LL	8	11	14	17	10	13	16	20	11	14	18	22	30	12	16	20	25	35	19	23	29	40
26	TL	10	13	16	20	12	15	19	23	13	17	21	26	36	15	19	24	30	41	22	27	34	47
	LL	7	9	11	13	8	10	12	15	8	11	14	17	24	10	13	16	20	27	14	18	23	31
28	TL	8	10	13	16	9	12	15	19	10	13	17	21	29	12	15	19	24	33	17	22	27	38
	LL	5	7	8	11	6	8	10	12	7	9	11	14	19	8	10	13	16	22	11	14	18	25
30	TL	6	8	10	13	7	10	12	15	8	11	13	17	23	9	12	15	19	27	14	17	22	31
	LL	4	5	7	9	5	6	8	10	5	7	9	11	15	6	8	10	13	18	9	11	14	20
32	TL	5	7	9	11	6	8	10	12	7	9	11	14	19	8	10	13	16	22	12	14	18	25
	LL	3	4	6	7	4	5	6	8	4	6	7	9	12	5	7	8	10	14	8	9	12	17
34	TL	4	6	7	9	5	6	8	10	5	7	9	11	16	6	8	10	13	18	10	12	15	21
	LL	3	4	5	6	3	4	5	7	3	5	6	7	10	4	5	7	9	12	6	8	10	14
36	TL	3	5	6	7	4	5	7	9	5	6	8	9	13	5	7	9	11	15	8	10	13	17
	LL	2	3	4	5	3	3	4	6	3	4	5	6	9	3	4	6	7	10	5	6	8	11
38	TL	3	4	5	6	3	5	6	7	4	5	6	8	11	4	6	7	9	13	7	8	11	15
	LL	2	2	3	4	2	3	4	5	2	3	4	5	7	3	4	5	6	8	4	5	7	10
40	TL	2	3	4	5	3	4	5	6	3	4	5	7	9	4	5	6	8	11	6	7	9	13
	LL	1	2	3	3	2	2	3	4	2	3	3	4	6	2	3	4	5	7	4	5	6	8
42	TL	2	3	3	4	2	3	4	5	3	4	5	6	8	3	4	5	7	9	5	6	8	11
	LL	1	2	2	3	1	2	3	3	2	2	3	4	5	2	3	3	4	6	3	4	5	7

See pages 25 & 26 for footnotes pertaining to these tables

Allowable Uniform Loads (lbs/ft.)

Span (ft)	Load Condition	8" SCJ			9-1/4" CEE			9-1/4"JW			10" CEE				10" JW				10" JWE			
		18 Ga	16 Ga	14 Ga	18 Ga	16 Ga	14 Ga	18 Ga	16 Ga	14 Ga	18 Ga	16 Ga	14 Ga	12 Ga	18 Ga	16 Ga	14 Ga	12 Ga	18 Ga	16 Ga	14 Ga	12 Ga
		800S350			925S162			925S200			1000S162				1000S200				1000S250			
		-54	-68	-97	-43	-54	-68	-43	-54	-68	-43	-54	-68	-97	-43	-54	-68	-97	-43	-54	-68	-97
10	TL	369	515	740	173	319	491	173	335	535	160	318	492	802	160	318	547	889	160	318	532	937
	LL	369	515	731	173	319	443	173	335	505	160	318	492	741	160	318	547	845	160	318	532	937
10	TL	274	480	740	122	236	430	126	240	445	118	228	410	802	121	232	427	889	122	235	422	937
ES	LL	274	480	740	122	236	430	126	240	445	118	228	410	802	121	232	427	889	122	235	422	937
12	TL	256	358	514	120	221	341	134	232	371	129	237	341	557	133	250	380	617	133	260	370	651
	LL	232	301	423	120	207	256	134	232	292	129	237	311	429	133	250	353	489	133	260	370	552
12	TL	213	358	514	95	184	332	99	187	344	92	179	317	557	96	182	332	617	96	185	328	651
ES	LL	213	358	514	95	184	332	99	187	344	92	179	317	557	96	182	332	617	96	185	328	651
14	TL	188	263	377	88	162	242	98	171	272	95	174	251	405	106	183	279	453	108	191	271	478
	LL	146	189	266	88	130	161	98	148	184	95	158	196	270	106	179	222	307	108	191	250	347
14	TL	172	263	377	77	148	250	80	151	272	75	145	251	409	78	148	266	453	79	150	263	478
ES	LL	172	263	377	77	148	228	80	151	260	75	145	251	382	78	148	266	435	79	150	263	478
16	TL	144	190	267	67	124	162	75	130	185	72	133	192	271	81	140	213	309	83	146	208	349
	LL	97	127	178	67	87	108	75	99	123	72	106	131	181	81	120	149	206	83	135	168	232
16	TL	142	201	289	63	122	192	66	125	209	62	120	192	313	65	123	213	347	66	125	208	366
ES	LL	138	179	252	63	122	153	66	125	174	62	120	186	256	65	123	211	291	66	125	208	329
18	TL	103	133	188	53	92	114	59	103	130	57	105	138	190	64	111	157	217	65	115	164	245
	LL	68	89	125	49	61	76	56	69	86	57	74	92	127	64	84	104	144	65	94	118	163
18	TL	114	159	228	53	98	151	56	103	165	53	101	151	247	55	104	169	274	56	106	164	289
ES	LL	97	126	177	53	86	107	56	98	122	53	101	130	179	55	104	148	205	56	106	164	231
20	TL	75	97	137	43	67	83	48	76	94	46	81	100	139	52	90	114	158	53	93	129	178
	LL	50	65	91	36	44	55	41	50	63	43	54	67	92	49	61	76	105	53	69	86	119
20	TL	92	128	185	43	79	122	48	83	133	45	85	123	200	47	89	136	222	48	91	133	234
ES	LL	71	92	129	43	63	78	48	72	89	45	76	95	131	47	87	108	149	48	91	121	168
22	TL	56	73	103	35	50	62	40	57	71	38	61	75	104	43	69	86	119	44	77	96	134
	LL	37	48	68	27	33	41	30	38	47	32	40	50	69	37	46	57	79	41	51	64	89
24	TL	43	56	79	30	38	48	33	44	54	32	47	58	80	36	53	66	91	36	60	74	103
	LL	29	37	52	20	25	32	23	29	36	25	31	38	53	28	35	44	61	32	40	49	69
26	TL	34	44	62	24	30	37	28	34	43	27	37	45	63	30	42	52	72	31	47	58	81
	LL	22	29	41	16	20	25	18	23	28	19	24	30	42	22	28	34	48	25	31	39	54
28	TL	27	35	49	19	24	30	22	27	34	23	29	36	50	26	33	41	57	27	37	47	65
	LL	18	23	33	13	16	20	14	18	23	15	19	24	33	18	22	27	38	20	25	31	43
30	TL	22	28	40	16	19	24	18	22	28	19	24	29	41	22	27	33	46	23	30	38	52
	LL	14	19	27	10	13	16	12	15	18	12	16	19	27	14	18	22	31	16	20	25	35
32	TL	18	23	33	13	16	20	15	18	23	16	19	24	33	18	22	27	38	20	25	31	43
	LL	12	15	22	8	10	13	10	12	15	10	13	16	22	12	15	18	25	13	16	21	29
34	TL	15	19	27	11	13	16	12	15	19	13	16	20	28	15	18	23	32	17	21	26	36
	LL	10	13	18	7	9	11	8	10	12	8	11	13	18	10	12	15	21	11	14	17	24
36	TL	12	16	23	9	11	14	10	13	16	11	13	17	23	12	15	19	27	14	17	22	30
	LL	8	11	15	6	7	9	7	8	10	7	9	11	15	8	10	13	18	9	11	14	20
38	TL	10	14	19	7	9	12	8	11	13	9	11	14	20	10	13	16	23	12	15	18	26
	LL	7	9	13	5	6	8	5	7	9	6	7	9	13	7	8	11	15	8	10	12	17
40	TL	9	12	17	6	8	10	7	9	11	8	10	12	17	9	11	14	19	10	12	16	22
	LL	6	8	11	4	5	6	5	6	7	5	6	8	11	6	7	9	13	6	8	10	14
42	TL	8	10	14	5	7	8	6	8	10	7	8	10	15	8	9	12	17	9	11	13	19
	LL	5	7	9	3	4	5	4	5	6	4	5	7	10	5	6	8	11	6	7	9	12

See pages 25 & 26 for footnotes pertaining to these tables

Allowable Uniform Loads (lbs/ft.)

Span (ft)	Load Condition	10" SCJ			12" CEE			12" JW			12" JWE			12" SCJ			14" JW			14" JWE		
		16 Ga	14 Ga	12 Ga	16 Ga	14 Ga	12 Ga	16 Ga	14 Ga	12 Ga	16 Ga	14 Ga	12 Ga	16 Ga	14 Ga	12 Ga	16 Ga	14 Ga	12 Ga	16 Ga	14 Ga	12 Ga
		1000S350			1200S162			1200S200			1200S250			1200S350			1400S200			1400S250		
		-54	-68	-97	-54	-68	-97	-54	-68	-97	-54	-68	-97	-54	-68	-97	-54	-68	-97	-54	-68	-97
10	TL	318	641	1003	264	531	1062	264	531	1165	264	531	1221	264	531	1293	225	453	1278	225	453	1331
	LL	318	641	1003	264	531	1062	264	531	1165	264	531	1221	264	531	1293	225	453	1278	225	453	1331
10	TL	248	459	1003	209	385	952	211	397	989	211	393	1006	211	420	1028	180	362	923	180	362	945
ES	LL	248	459	1003	209	385	952	211	397	989	211	393	1006	211	420	1028	180	362	923	180	362	945
12	TL	265	471	696	220	409	738	220	443	809	220	436	847	220	443	898	188	378	888	188	378	954
	LL	265	471	696	220	409	682	220	443	769	220	436	847	220	443	898	188	378	888	188	378	954
12	TL	197	360	696	166	303	733	168	313	764	170	309	779	176	334	798	150	291	721	150	289	740
ES	LL	197	360	696	166	303	733	168	313	764	170	309	779	176	334	798	150	291	721	150	289	740
14	TL	227	346	511	188	300	542	188	332	594	188	320	622	188	379	660	161	324	652	161	324	701
	LL	227	319	448	188	300	429	188	332	484	188	320	541	188	379	660	161	324	652	161	324	701
14	TL	161	291	511	136	245	542	138	255	594	140	251	622	148	273	640	128	239	581	128	237	599
ES	LL	161	291	511	136	245	542	138	255	594	140	251	622	148	273	640	128	239	581	128	237	599
16	TL	180	265	391	157	230	415	165	254	455	165	245	476	165	315	505	141	283	499	141	283	536
	LL	166	213	300	157	208	287	165	234	324	165	245	362	165	315	461	141	283	478	141	283	530
16	TL	135	241	391	114	204	415	116	212	455	118	209	476	125	229	505	108	201	480	109	199	496
ES	LL	135	241	391	114	204	407	116	212	455	118	209	476	125	229	505	108	201	480	109	199	496
18	TL	142	209	309	124	181	303	132	201	341	137	193	376	146	249	399	125	231	394	125	223	424
	LL	116	150	210	117	146	202	132	164	227	137	183	254	146	231	324	125	231	336	125	223	372
18	TL	115	204	309	97	172	328	99	180	359	101	177	376	108	195	399	93	172	394	94	170	418
ES	LL	115	204	298	97	172	286	99	180	322	101	177	360	108	195	399	93	172	394	94	170	418
20	TL	115	164	230	101	147	220	106	162	249	111	157	278	132	201	323	112	187	319	112	181	343
	LL	85	109	153	85	106	147	96	119	166	107	133	185	131	168	236	112	176	245	112	181	271
20	TL	99	169	250	84	147	265	86	155	291	87	152	305	94	169	323	81	149	319	82	147	343
ES	LL	99	154	217	84	147	208	86	155	235	87	152	263	94	169	323	81	149	319	82	147	343
22	TL	95	123	173	83	120	166	88	134	187	92	129	209	114	166	266	102	154	264	102	149	283
	LL	63	82	115	64	80	110	72	90	124	80	100	139	98	126	177	101	132	184	102	146	204
24	TL	73	95	133	70	92	127	74	104	144	77	109	161	96	140	205	86	129	212	90	125	235
	LL	49	63	88	49	61	85	55	69	96	62	77	107	76	97	136	78	102	141	88	112	157
26	TL	58	74	104	58	72	100	63	81	113	66	91	126	81	115	161	73	110	167	76	107	185
	LL	38	49	69	39	48	67	43	54	75	48	60	84	59	76	107	61	80	111	69	88	123
28	TL	46	59	84	46	58	80	52	65	90	56	73	101	70	92	129	63	95	133	66	92	148
	LL	31	39	56	31	38	53	35	43	60	39	48	67	47	61	86	49	64	89	55	71	99
30	TL	37	48	68	38	47	65	42	53	73	47	59	82	58	75	105	55	78	108	57	80	120
	LL	25	32	45	25	31	43	28	35	49	31	39	55	39	50	70	40	52	72	45	57	80
32	TL	31	40	56	31	39	53	35	43	60	39	48	68	48	61	86	48	64	89	50	70	99
	LL	20	26	37	20	26	35	23	29	40	26	32	45	32	41	57	32	43	59	37	47	66
34	TL	25	33	46	26	32	44	29	36	50	32	40	56	40	51	72	41	53	74	44	59	83
	LL	17	22	31	17	21	29	19	24	33	21	27	37	26	34	48	27	35	49	31	39	55
36	TL	21	28	39	22	27	37	24	30	42	27	34	47	33	43	60	34	45	63	39	50	69
	LL	14	18	26	14	18	25	16	20	28	18	22	31	22	28	40	23	30	42	26	33	46
38	TL	18	23	33	18	23	32	21	26	36	23	29	40	28	36	51	29	38	53	33	42	59
	LL	12	15	22	12	15	21	14	17	24	15	19	27	19	24	34	19	25	35	22	28	39
40	TL	15	20	28	16	19	27	18	22	31	20	25	34	24	31	44	25	33	45	28	36	50
	LL	10	13	19	10	13	18	12	14	20	13	16	23	16	21	29	16	22	30	19	24	33
42	TL	13	17	24	13	17	23	15	19	26	17	21	30	21	27	38	21	28	39	24	31	44
	LL	9	11	16	9	11	15	10	12	17	11	14	20	14	18	25	14	19	26	16	21	29

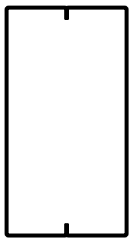
See pages 25 & 26 for footnotes pertaining to these tables

Header Allowable Uniform Loads (lb/ft)

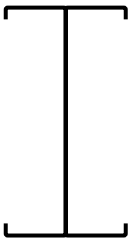
WEB (1/100 in)	Section (1/100 in)	Gage (mils)	SPAN (ft)						
			3	4	5	6	8	10	12
5-1/2 " (550)	CEE (162)	20, (33)	893 e	670 e	536 e	374 e	210 e	127 e	73 e
		18, (43)	1982 e	1232 e	789 e	547 e	308 e	164 e	95
		(33 ksi) 16, (54)	2779 e	1563 e	1000 e	694 e	390 e	203	117
		(33 ksi) 14, (68)	3514 e	1976 e	1265 e	878 e	488 e	250	144
		(50 ksi) 16, (54)	3643 e	2049 e	1311 e	910 e	396 e	203	117
		(50 ksi) 14, (68)	5176 e	2911 e	1863 e	1157 e	488	250	144
6" (600)	CN (137)	20, (33)	816 e	612 e	489 e	373 e	209 e	134 e	80 e
		18, (43)	1810 e	1233 e	789 e	548 e	308 e	178 e	103
		(33 ksi) 16, (54)	2812 e	1581 e	1012 e	703 e	395 e	220 e	127
		(33 ksi) 14, (68)	3562 e	2004 e	1282 e	890 e	501 e	270	156
		(50 ksi) 16, (54)	3610 e	2269 e	1452 e	108 e	429 e	220	127
		(50 ksi) 14, (68)	5274 e	2966 e	1898 e	1252 e	528 e	270	156
	CEE (162)	20, (33)	816 e	612 e	489 e	408 e	237 e	152 e	90 e
		18, (43)	1810 e	1357 e	889 e	617 e	347 e	202 e	117 e
		(33 ksi) 16, (54)	3135 e	1763 e	1128 e	783 e	440 e	250 e	144
		(33 ksi) 14, (68)	3968 e	2232 e	1428 e	992 e	558 e	308	178
		(50 ksi) 16, (54)	3610 e	2313 e	1480 e	1028 e	488 e	250	144
		(50 ksi) 14, (68)	5846 e	3288 e	2104 e	1426 e	601 e	308	178
		12, (97)	8403 e	4727 e	3025 e	1941 e	819	419	242
	JW (200)	20, (33)	816 e	612 e	489 e	408 e	254 e	162 e	104 e
		18, (43)	1810 e	1357 e	919 e	638 e	359 e	229 e	135 e
		16, (54)	3610 e	2500 e	1600 e	1111 e	566 e	290 e	167
		14, (68)	6475 e	3642 e	2331 e	1618 e	700 e	358	207
		12, (97)	9560 e	5377 e	3441 e	2270 e	958	490	283
	JWE (250)	18, (54)	1810 e	1357 e	967 e	671 e	377 e	241 e	155 e
		16, (54)	3610 e	2666 e	1706 e	1185 e	641 e	328 e	190
		14, (68)	5954 e	3349 e	2143 e	1488 e	807 e	413 e	239
		12, (97)	10277 e	5781 e	3700 e	2569 e	1109 e	567	328

"e" Web stiffeners required at each support.

Boxed Header



Back to Back Header



Notes:

1. Check web crippling at point loads.
2. Allowable loads are for simply supported headers with uniform bending only.
3. Members are assumed adequately braced for bending.
4. Values are for unpunched members.
5. Bearing length for web crippling = 1" minimum.
6. Allowable moment, shear and web crippling are based on twice the capacity of a single member. The moment of inertia is based on twice the value of a single member.
7. Headers are made from two "boxed" or back to back members.
8. Allowable loads have not been modified for wind or earthquake loading.
9. Deflection limit is L/360.

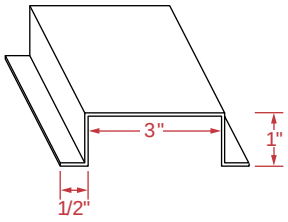
Header Allowable Uniform Loads (lb/ft)

WEB (1/100 in)	Section (1/100 in)	Gage (mils)	SPAN (ft)						
			3	4	5	6	8	10	12
8" (800)	CN (137)	20, (33)	606 e	454 e	363 e	303 e	227 e	174 e	121 e
		18, (43)	1344 e	1008 e	806 e	672 e	425 e	272 e	189 e
		(33 ksi) 16, (54)	2674 e	2005 e	1541 e	1070 e	602 e	385 e	258 e
		(33 ksi) 14, (68)	5397 e	3061 e	1959 e	1360 e	765 e	489 e	318 e
		(50 ksi) 16, (54)	2674 e	2005 e	1604 e	1337 e	778 e	446 e	258 e
		(50 ksi) 14, (68)	5397 e	4048 e	2901 e	2014 e	1076 e	550 e	318
	CEE (162)	20, (33)	606 e	454 e	363 e	303 e	227 e	181 e	138 e
		18, (43)	1344 e	1008 e	806 e	672 e	476 e	305 e	211 e
		(33 ksi) 16, (54)	2674 e	2005 e	1604 e	1178 e	663 e	424 e	290 e
		(33 ksi) 14, (68)	5397 e	3367 e	2155 e	1496 e	841 e	538 e	358 e
		(50 ksi) 16, (54)	2674 e	2005 e	1604 e	1337 e	871 e	501 e	290 e
		(50 ksi) 14, (68)	5397 e	4048 e	3177 e	2206 e	1210 e	619 e	358 e
		12, (97)	12761 e	7178 e	4594 e	3190 e	1658 e	849 e	491
	JW (200)	20, (33)	606 e	454 e	363 e	303 e	227 e	181 e	148 e
		18, (43)	1344 e	1008 e	806 e	672 e	504 e	340 e	236 e
		16, (54)	2674 e	2005 e	1604 e	1337 e	919 e	574 e	332 e
		14, (68)	5397 e	4048 e	3238 e	2415 e	1358 e	711 e	411 e
		12, (97)	14314 e	8052 e	5153 e	3578 e	1912 e	979 e	566
	JWE (250)	18, (43)	1344 e	1008 e	806 e	672 e	504 e	346 e	240 e
		16, (54)	2674 e	2005 e	1604 e	1337 e	951 e	608 e	373 e
		14, (68)	5397 e	4048 e	3197 e	2220 e	1249 e	799 e	468 e
		12, (97)	14832 e	8557 e	5477 e	3803 e	2139 e	1117 e	646
10" (1000)	CEE (162)	18, (43)	1069 e	801 e	641 e	534 e	400 e	320 e	258 e
		(33 ksi) 16, (54)	2124 e	1593 e	1274 e	1062 e	796 e	524 e	364 e
		(33 ksi) 14, (68)	4278 e	3208 e	2567 e	2081 e	1170 e	749 e	520 e
		(50 ksi) 16, (54)	2124 e	1593 e	1274 e	1062 e	796 e	637 e	474 e
		(50 ksi) 14, (68)	4278 e	3208 e	2567 e	2139 e	1537 e	984 e	623 e
		12, (97)	12614 e	9460 e	6420 e	4458 e	2507 e	1483 e	858 e
	JW (200)	18, (43)	1069 e	801 e	641 e	534 e	400 e	320 e	267 e
		16, (54)	2124 e	1593 e	1274 e	1062 e	796 e	637 e	500 e
		14, (68)	4278 e	3208 e	2567 e	2139 e	1604 e	1095 e	707 e
		12, (97)	12614 e	9460 e	7115 e	4941 e	2779 e	1690 e	978 e
	JWE (250)	18, (43)	1069 e	801 e	641 e	534 e	400 e	320 e	267 e
		16, (54)	2124 e	1593 e	1274 e	1062 e	796 e	637 e	520 e
		14, (68)	4278 e	3208 e	3567 e	2139 e	1604 e	1065 e	740 e
		12, (97)	12614 e	9460 e	7500 e	5208 e	2929 e	1875 e	1104 e
12" (1200)	CEE (162)	(33 ksi) 16, (54)	1761 e	1321 e	1056 e	880 e	660 e	528 e	427 e
		(33 ksi) 14, (68)	3543 e	2657 e	2126 e	1771 e	1328 e	857 e	595 e
		(50 ksi) 16, (54)	1761 e	1321 e	1056 e	880 e	660 e	528 e	440 e
		(50 ksi) 14, (68)	3543 e	2657 e	2126 e	1771 e	1328 e	1063 e	818 e
		12, (97)	10418 e	7814 e	6251 e	5209 e	3321 e	2125 e	1364 e
	JW (200)	16, (54)	1761 e	1321 e	1056 e	880 e	660 e	528 e	440 e
		14, (68)	3543 e	2657 e	2126 e	1771 e	1328 e	1063 e	753 e
		12, (97)	10418 e	7814 e	6251 e	5209 e	3643 e	2331 e	1538 e
	JWE (250)	16, (54)	1761 e	1321 e	1056 e	880 e	660 e	528 e	440 e
		14, (68)	3543 e	2657 e	2126 e	1771 e	1328 e	1063 e	885 e
		12, (97)	10418 e	7814 e	6251 e	5209 e	3815 e	2442 e	1695 e

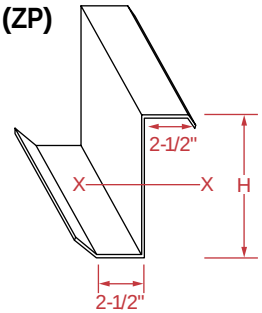
"e" Web stiffeners required at each support.

Heavy Duty Hat and Z-Purlins

Heavy Duty Purlin (HDP)



ZEE Purlin (ZP)



Product Data

- Heavy Duty Purlin - HDP x GA.
- ZEE Purlin - ZP x size x GA.
- Both products used to span Joist, Girts and Trusses.
- Wide Face facilitates the attachment of collateral material, while strengthening the overall assembly. Extended legs accommodate ease in attachment to sub-structure.

Section Properties – HDP

GA/Mil	WT (lb/ft)	GROSS PROP. A (in^2)	Ix (in^4)	Rx (in)	EFFECTIVE PROPERTIES Ix (+) (in^2)	Sx (+) (in^3)	Ma (+) (ft-lb)	Ix (-) (in^2)	Sx (-) (in^3)	Ma (-) (ft-lb)
20/33	0.67	0.197	0.030	0.389	0.029	0.043	71.5	0.030	0.045	83.1
18/43	0.87	0.255	0.038	0.385	0.038	0.056	92.5	0.038	0.056	107.8
16/54	1.07	0.316	0.045	0.379	0.045	0.068	168.6	0.045	0.068	197.4
14/68	1.33	0.390	0.054	0.371	0.054	0.080	241.6	0.054	0.080	241.6

Section Properties – ZP

WEB	GA/ Mil	GROSS SECTION PROPERTIES WT (lb/ft)	A (in^2)	Ix (in^4)	Sx (in^3)	Rx (in)	Iy (in^4)	Sy (in^3)	EFFECIVE PROPERTIES Ix (in^4)	Sx (in^3)	Mx (ft-lb)
4" (400)	18/43	1.50	0.441	1.232	0.616	1.671	0.759	0.268	1.147	0.477	785
	16/54	1.87	0.551	1.527	0.764	1.665	0.942	0.333	1.374	0.568	1418
	14/68	2.34	0.689	1.893	0.947	1.658	1.169	0.415	1.835	0.757	1888
	12/97	3.29	0.968	2.611	1.305	1.642	1.618	0.577	2.611	1.208	3014
6" (600)	18/43	1.81	0.532	3.080	1.027	2.407	0.759	0.268	2.860	0.820	1350
	16/54	2.26	0.664	3.829	1.276	2.401	0.942	0.333	3.450	0.985	2459
	14/68	2.83	0.832	4.762	1.587	2.393	1.169	0.415	4.610	1.302	3249
	12/97	3.99	1.172	6.614	2.205	2.376	1.618	0.577	6.614	2.052	5120
8" (800)	18/43	2.12	0.622	5.991	1.498	3.104	0.759	0.268	5.713	1.136	1871
	16/54	2.64	0.777	7.459	1.865	3.098	0.942	0.333	6.908	1.375	3431
	14/68	3.32	0.974	9.294	2.324	3.089	1.169	0.415	9.004	1.947	4858
	12/97	4.68	1.375	12.960	3.240	3.070	1.618	0.577	12.960	3.035	7571

Span Tables – Per Lineal Foot Allowable Uniform Load in Pounds

SECT	GA	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19	20'
HDP	20/33	171	78	44	28	17	11	7	5	4	3	2								
	18/43	221	101	57	37	22	14	9	6	5	4	3								
	16/54	402	183	88	45	26	16	11	8	6	4	3								
	14/68	562	246	104	53	31	19	13	9	7	5	4								
4 ZP	18/43	*	764	491	314	218	160	123	97	79	65	55	46	40	35	31	27	24	21	18
		*	764	491	314	218	160	123	97	79	65	55	43	34	28	23	19	16	14	12
	16/54	*	*	886	567	394	289	222	175	142	117	98	77	62	50	41	35	29	25	21
		*	*	886	567	394	289	221	155	113	85	66	52	41	34	28	23	19	17	14
	14/68	*	*	*	755	524	385	295	233	189	156	131	103	83	67	55	46	39	33	28
		*	*	*	755	524	385	295	208	151	114	88	69	55	45	37	31	26	22	19
6 ZP	18/43	*	753	524	392	306	247	204	167	135	112	94	80	69	60	53	47	42	37	34
		*	753	524	392	306	247	204	167	135	112	94	80	69	60	53	47	40	34	29
	16/54	*	*	*	757	589	473	384	304	246	203	171	145	125	109	96	85	73	62	53
		*	*	*	757	589	473	384	304	246	203	165	129	104	84	69	58	49	41	36
	14/68	*	*	*	*	903	663	508	401	325	269	226	192	166	144	127	112	98	83	71
		*	*	*	*	903	663	508	401	325	269	220	173	139	113	93	77	65	55	48
	12/97	*	*	*	*	*	1045	800	632	512	423	356	303	261	228	200	167	140	119	102
		*	*	*	*	*	1045	800	632	512	410	316	248	199	162	133	111	94	80	68
8 ZP	16/54	*	*	836	669	536	441	370	316	274	240	213	190	171	152	134	119	106	95	86
		*	*	836	669	536	441	370	316	274	240	213	190	171	152	134	116	98	83	71
	14/68	*	*	*	*	975	791	658	557	478	401	337	287	248	216	190	168	150	135	121
		*	*	*	*	975	791	658	557	478	401	337	287	248	216	181	151	127	108	93
	12/97	*	*	*	*	*	*	*	935	757	626	526	448	386	337	296	262	234	210	189
		*	*	*	*	*	*	*	935	757	626	526	448	386	317	261	218	183	156	134

Foot Notes: Structural ZEE and HDP Tables

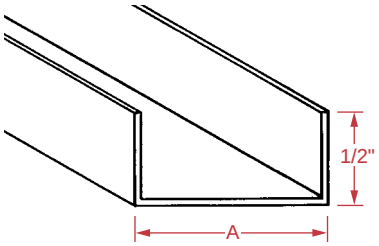
- The black figures in the following tables give the TOTAL (TL) safe uniformly distributed load carrying capacities in pounds lineal foot (PLF). The values shown in red are the LIVE loads (LL) per lineal foot (PLF) of joist which will produce a deflection of L/360 of the span.
- HDP and ZP Span tables are based on 3 span condition,gravity loading.
- To determine equivalent pound per square foot (PSF) capacities, divide the pound perlineal foot (PLF) values shown by the joist spacing (i.e. 24" o.c. divide by 1.333, etc.).

* Denotes total values in excess of 1000 pounds.

1. Applications involving multiple spans, cantilevers, concentrated loads, impact loading, etc. should be investigated separately.
2. Web crippling should be investigated in accordance with the table on page 23 and section 03.4 of the AISI Specification. Web stiffeners are recommended at all support and concentrated load locations.
3. Consult page 23 for bridging considerations.

CRC and DWC Properties and Tables

Cold Rolled Channel (CRC)



Product #	(A) in. Size	GA
CRC-075	.75	16
CRC-150	1.50	16
CRC-200	2.00	16
CRC-250	2.50	16
CRC-250	2.50	18

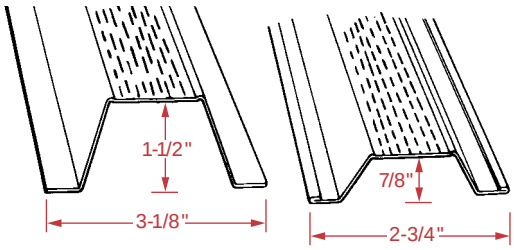
Uses

- Bridging (lateral support) in walls carrying axial and/or wind loads.
- Bracing studs at door bucks and furring for ceilings.
- Used in conjunction with metal lath and plaster in partitions, ceilings, column and beam enclosures, etc.

Product Data

- Available in galvanized meeting ASTM A-568 or Hot Dipped galvanized meeting ASTM A-653, G-60. Conforms to ASTM performance requirements.
- Lengths: 16' standard (other sizes available)

Drywall Furring Channel (DWC)



Uses

- Convenient accessory components for use in furring out ceilings and masonry walls. Knurled face prevents screw "ride" when attaching gypsum wallboard. 1-1/2" DWC is economical with respect to furring walls with electrical boxes (no need to set into concrete).

Product Data

- Available in 7/8" and 1-1/2" sizes.
- Gage: Standard 25 gage, also available in 22, 20, 18, and 16 gage.
- Lengths: Standard stock 12' (other lengths upon request).

Physical Structural Properties

SECTION	WEB (in)	GA	WT (lb/ft)	SECTION PROPERTIES					EFFECTIVE PROP.		
				A (in^2)	Ix (in^4)	Rx (in)	Iy (in^4)	Ry (in)	Ix (in^4)	Sx (in^3)	Ma (ft-lbs)
CRC	0.75	16	0.295	0.087	0.007	0.288	0.002	0.154	0.007	0.019	38.0
	1.5	16	0.439	0.129	0.039	0.548	0.002	0.144	0.039	0.052	102.3
	2	16	0.535	0.157	0.079	0.710	0.002	0.136	0.079	0.079	156.7
	2.5	18	0.511	0.150	0.115	0.875	0.003	0.130	0.115	0.092	175.4
		16	0.632	0.186	0.140	0.867	0.003	0.128	0.140	0.112	220.5
DWC	7/8" (.875)	25	0.282	0.081	0.010	0.345	0.048	0.767	0.010	0.020	33.0
		20	0.493	0.137	0.015	0.335	0.069	0.707	0.015	0.035	56.8
		18	0.645	0.179	0.018	0.318	0.085	0.693	0.018	0.042	69.6
		16	0.811	0.221	0.022	0.313	0.104	0.690	0.022	0.049	80.1
	1-1/2" (150)	25	0.346	0.101	0.032	0.567	0.070	0.832	0.030	0.034	56.7
		20	0.632	0.183	0.057	0.559	0.120	0.809	0.057	0.074	121.7
		18	0.830	0.239	0.071	0.546	0.149	0.795	0.071	0.094	155.3
		16	1.093	0.296	0.086	0.539	0.186	0.796	0.086	0.114	187.8

Span Tables – Per Lineal Foot Allowable Uniform Load in Pounds

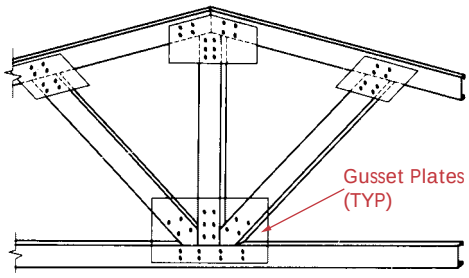
SECTION	SIZE (in)	GA	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'
CRC	0.75	16	90	41	23	15	10	8	6	5	4	3	3
	1.5	16	242	111	63	41	28	21	16	13	10	8	7
	2	16	368	169	96	62	43	32	24	19	16	13	11
	2.5	18	319	171	107	69	48	36	27	22	17	14	12
		16	447	235	135	87	61	45	34	27	22	18	15
DWC	7/8" (.875)	25	77	36	19	10	6	3	2	2	1	1	1
		20	138	62	30	15	9	6	4	3	2	1	1
		18	168	76	35	18	10	7	4	3	2	2	1
		16	193	88	42	21	12	8	5	4	3	2	2
	1-1/2" (150)	25	97	55	34	23	16	11	7	5	4	3	2
		20	282	133	75	48	33	21	14	10	7	5	4
		18	371	169	96	62	41	26	17	12	9	7	5
		16	449	204	116	75	49	31	21	15	11	8	6

Foot Notes: 3 Span Hat Channel and CRC Tables

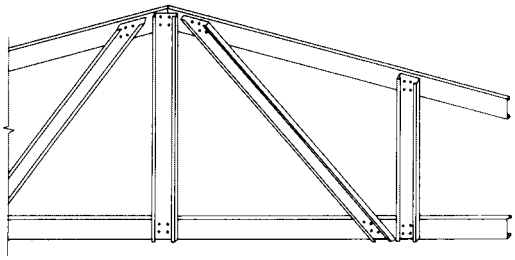
- For use in selection of members subjected to uniform wind loads.
- To determine equivalent pound per square foot (PSF) capacities, divide the pound per lineal foot (PLF) values shown by the joist spacing (i.e 24" o.c. divide by 2, 16" o.c. divide by 1.333 etc.

Notes:

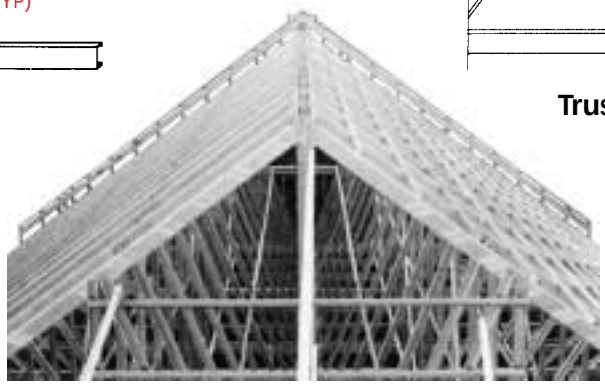
1. Applications involving cantilevers, concentrated loads, impact loading, etc. should be investigated separately.
2. Values assume continuous attachment of sheathing material to act as bracing against rotation.



Truss with In-Plane Members



Truss with Out-of-Plane Members



Light-gage steel trusses can be fabricated from DALE/INCOR framing components to provide a fully engineered, non-combustible sloped roof assembly.

DALE/INCOR supplies the individual framing components to the truss fabricator. Should you desire the names of engineering firms and/or fabricators familiar with light-gage truss design and construction in your area, please contact our Technical Services department at our Dearborn, Michigan office.

WEB in. (1/100 in)	SECTION (1/100 in)	GAGE (mils)	Unbraced Length (ft)																							
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12
2 1/2" (250)	CN (137)	20, (33)	2.599	2.488	2.351	2.139	1.900	1.658	1.425	1.207	1.016	0.860	0.741	0.649	0.576	0.516	0.468	0.427							
		18, (43)	3.678	3.473	3.211	2.914	2.599	2.285	1.964	1.669	1.408	1.208	1.056	0.938	0.843	0.767	0.703	0.651							
		16, (54)	6.616	6.215	5.528	4.792	4.020	3.311	2.692	2.234	1.905	1.661	1.474	1.327	1.209	1.113	1.034								
		14, (68)	8.629	7.849	6.937	5.999	5.114	4.323	3.641	3.083	2.681	2.379	2.146	1.921	1.656	1.443	1.268								
	CEE (162)	20, (33)	3.057	2.948	2.796	2.595	2.337	2.070	1.805	1.550	1.310	1.108	0.946	0.820	0.719	0.638	0.572	0.517	0.471	0.432	0.398				
		18, (43)	4.299	4.092	3.821	3.506	3.164	2.811	2.453	2.101	1.777	1.504	1.296	1.134	1.006	0.902	0.816	0.745	0.685	0.635	0.591				
		16, (54)	7.721	7.348	6.656	5.850	4.998	4.158	3.398	2.769	2.319	1.985	1.730	1.531	1.373	1.244	1.138	1.049	0.974	0.910	0.855				
		14, (68)	10.123	9.325	8.351	7.300	6.257	5.281	4.408	3.658	3.109	2.701	2.388	2.142	1.945	1.783	1.649	1.536	1.439	1.355	1.281				
3 5/8" (362)	CN (137)	20, (33)	2.661	2.583	2.482	2.368	2.189	1.994	1.794	1.597	1.407	1.226	1.065	0.937	0.834	0.749	0.676								
		18, (43)	3.803	3.661	3.474	3.251	3.006	2.747	2.484	2.226	1.980	1.748	1.530	1.340	1.181	1.029	0.905								
		16, (54)	6.873	6.597	6.178	5.599	4.989	4.380	3.798	3.259	2.740	2.301	1.934	1.647	1.421	1.237	1.088								
		14, (68)	9.258	8.732	8.072	7.332	6.541	5.727	4.924	4.070	3.304	2.731	2.294	1.955	1.686	1.468	1.291								
	CEE (162)	20, (33)	3.119	3.049	2.953	2.828	2.672	2.475	2.265	2.051	1.839	1.633	1.438	1.257	1.110	0.990	0.891	0.807	0.730	0.665	0.610				
		18, (43)	4.430	4.294	4.112	3.892	3.644	3.375	3.096	2.814	2.535	2.267	2.012	1.771	1.556	1.383	1.241	1.123	1.024	0.941	0.869				
		16, (54)	7.984	7.727	7.397	6.810	6.172	5.512	4.858	4.231	3.642	3.083	2.657	2.325	2.062	1.849	1.675	1.530	1.408	1.305	1.213				
		14, (68)	10.770	10.264	9.611	8.854	8.039	7.158	6.289	5.476	4.737	4.073	3.553	3.148	2.825	2.564	2.276	2.016	1.798	1.614					
	JW (200)	18, (43)	5.117	5.017	4.870	4.682	4.452	4.168	3.865	3.554	3.239	2.929	2.628	2.341	2.066	1.822	1.621	1.455	1.316	1.198	1.098	1.011	0.936	0.870	0.812
		16, (54)	8.653	8.513	8.325	8.088	7.652	6.939	6.202	5.476	4.779	4.105	3.502	3.033	2.661	2.360	2.114	1.910	1.738	1.593	1.469	1.362	1.269	1.188	1.117
		14, (68)	12.414	12.088	11.578	10.784	9.906	8.969	7.975	7.013	6.107	5.271	4.534	3.959	3.503	3.134	2.832	2.581	2.370	2.190	2.037	1.904	1.789	1.688	1.598
		12, (97)	18.030	17.245	16.233	15.064	13.807	12.526	11.271	10.079	8.973	7.966	7.049	6.272	5.651	5.148	4.732	4.385	4.090	3.838	3.579	3.246	2.958	2.706	2.485
4" (400)	CN (137)	20, (33)	2.686	2.613	2.519	2.410	2.253	2.066	1.874	1.682	1.495	1.317	1.149	1.012	0.901	0.804	0.717								
		18, (43)	3.857	3.724	3.549	3.340	3.107	2.859	2.604	2.352	2.108	1.868	1.615	1.402	1.229	1.077	0.947								
		16, (54)	6.984	6.725	6.353	5.803	5.216	4.622	4.041	3.425	2.852	2.406	2.024	1.725	1.487	1.296	1.139								
		14, (68)	9.492	9.001	8.377	7.670	6.887	6.032	5.172	4.273	3.462	2.861	2.404	2.049	1.766	1.539									
	CEE (162)	20, (33)	3.144	3.081	2.993	2.882	2.738	2.564	2.365	2.162	1.958	1.758	1.567	1.382	1.222	1.091	0.982	0.891	0.813	0.747	0.689				
		18, (43)	4.485	4.361	4.195	3.992	3.762	3.511	3.247	2.977	2.709	2.447	2.196	1.957	1.739	1.561	1.412	1.284	1.169	1.071	0.987				
		16, (54)	8.097	7.861	7.569	7.049	6.450	5.823	5.193	4.581	4.002	3.460	3.018	2.664	2.356	2.107	1.903	1.733	1.567	1.406	1.269				
		14, (68)	11.011	10.548	9.946	9.241	8.473	7.678	6.887	6.125	5.383	4.661	4.051	3.576	3.112	2.711	2.383	2.111	1.883	1.690					
	JW (200)	18, (43)	5.171	5.084	4.953	4.784	4.586	4.329	4.050	3.759	3.463	3.167	2.877	2.596	2.329	2.075	1.863	1.686	1.535	1.396	1.277	1.174	1.085	1.008	0.939
		16, (54)	8.760	8.634	8.465	8.260	7.895	7.325	6.633	5.941	5.266	4.623	4.015	3.514	3.109	2.753	2.461	2.219	2.016	1.844	1.697	1.571	1.461	1.365	1.281
		14, (68)	12.646	12.353	11.946	11.225	10.418	9.559	8.677	7.799	6.949	6.107	5.293	4.611	4.069	3.632	3.274	2.976	2.727	2.515	2.334	2.177	2.041	1.922	1.817
		12, (97)	19.130	18.387	17.421	16.291	15.061	13.787	12.520	11.297	10.145	9.080	8.111	7.223	6.488	5.893	5.403	4.995	4.627	4.153	3.748	3.400	3.098	2.834	2.603
6" (600)	CN (137)	20, (33)	2.733	2.660	2.564	2.453	2.287	2.091	1.887	1.681	1.478	1.282	1.107	0.968	0.856	0.763									
		18, (43)	3.962	3.827	3.645	3.426	3.176	2.905	2.622	2.336	2.054	1.780	1.542	1.351	1.196	1.068									
		16, (54)	7.194	6.924	6.512	5.912	5.257	4.579	3.909	3.265	2.744	2.346	2.034	1.783	1.578	1.408									
		14, (68)	9.924	9.390	8.691	7.872	6.978	6.055	5.143	4.277	3.597	3.074	2.661	2.328	2.055										
	CEE (162)	20, (33)	3.202	3.150	3.077	2.991	2.869	2.730	2.556	2.369	2.177	1.983	1.791	1.605	1.423	1.264	1.131	1.020	0.925	0.844					
		18, (43)	4.610	4.507	4.367	4.194	3.992	3.766	3.522	3.265	3.002	2.735	2.472	2.215	1.965	1.748	1.568	1.416	1.286	1.174					
		16, (54)	8.349	8.148	7.890	7.494	6.945	6.349	5.727	5.098	4.479	3.879	3.348	2.925	2.582	2.300	2.064	1.864	1.693	1.545					
		14, (68)	11.528	11.127	10.590	9.939	9.198	8.397	7.561	6.716	5.885	5.078	4.387	3.834	3.384	3.012	2.699	2.434	2.206						
	JW (200)	18, (43)	5.299	5.240	5.157	5.038	4.896	4.735	4.535	4.309	4.072	3.828	3.580	3.333	3.087	2.848	2.615	2.391	2.179	1.997	1.840	1.704	1.585	1.476	1.372
		16, (54)	9.009	8.922	8.803	8.656	8.485	8.195	7.793	7.222	6.641	6.063	5.497	4.952	4.427	3.961	3.574	3.250	2.950	2.688	2.461	2.263	2.089	1.936	1.799
		14, (68)	13.182	12.974	12.703	12.311	11.707	11.041	10.333	9.599	8.856	8.119	7.401	6.683	5.948	5.282	4.727	4.258	3.859	3.515	3.217	2.956	2.726	2.522	2.340
		12, (97)	20.952	20.463	19.809	19.014	18.108	17.121	16.011	14.833	13.620	12.393	11.174	9.982	8.817	7.815	6.975	6.192	5.523	4.957	4.474	4.058	3.697	3.383	

Foot Notes: Unbraced Axial Load Table

1. Allowable axial load in kips (K)
2. Table is for use in selection of members subjected to concentric axial loads, such as truss web members.
3. Values shown assume no mechanical bridging.
4. Values have been omitted where L/r exceeds 200.
5. Contact DALE/INCOR for allowable axial capacities of unbraced components not shown in the table.

FIRE RATING

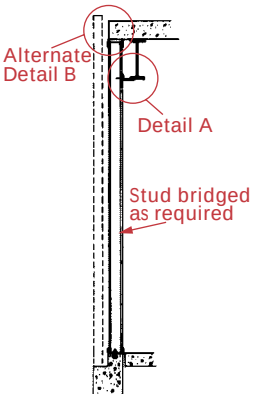
The following table depicts various fire rated assemblies, incorporating light weight steel framing components. Rather than listing all the specifications (i.e., attachment requirements, assembly constraints, etc.) we ask that the applicable standard is researched through the agency which conducted the test.

Test Reference	Fire Rating	Type of Assembly	Agency	Components
FM24676.4 FC224	2 HR	Floor/Ceiling	FM 1975	• 2-1/2 inches concrete. • 9/16 inch 28 GA deck and mesh • 7-1/4" x 18 GA joists, 24" o.c. • 2 layers 5/8" G.W.B. ceiling
FM29135 FC245	1 HR	Floor/Ceiling	FM 1977	• 2 inches concrete, (Note B) • 1-5/16 inch, 24 GA deck • 6 x 18GA joists, 24" o.c. • 1 layers 1/2" G.W.B. ceiling
L524	1 HR	Floor/Ceiling	UL 1988	• Min 7-1/4" x 18 GA, Steel Stud, 24" o.c. • Use any of the floor systems indicated in the UL test.
P511	1 HR	Roof/Ceiling	UI 1988	• Min 7-1/4" x 18 GA, Steel Joist, C Shape, 2" Flange Minimum, 24" o.c. • (See test for roof/ceiling components.
P512	1 HR	Roof/Ceiling	UL 1988	• Min 7-1/4" x 18 GA, Steel Joist, C Shape, 24" o.c. • See test for roof/ceiling components.
U418	3/4 HR	Bearing Wall	UL 1988	• See test.
U418	1 HR	Bearing Wall	UL 1988	• Two layers 1/2" thick, G.W.B., one side. • 3-1/2" or 5-1/2" x 18 GA Steel Stud, 24" o.c. • See test for exterior component.
U418	2 HR	Bearing Wall	UL 1988	• Three layers 1/2" thick G.W.B., one side. • 3-1/2" or 5-1/2" x 18 GA Steel Stud, 24" o.c. • See test for exterior component.
U425	3/4 , 1 HR	Bearing Wall Interior	UL 1988	• See Test
U425	1-1/2 HR	Bearing Wall Interior	UL 1988	• Two layers 1/2" thick G.W.B., each side. • 3-1/2" x 20 GA Steel Stud, 24" o.c.
U425	2 HR	Bearing Wall Interior	UL 1988	• Three layers 1/2" thick G.W.B. • 3-1/2" x 20 GA Steel Stud, 24" o.c.
U425	3/4 , 1, 1-1/2 HR	Bearing Wall Exterior	UL 1988	• See Test
U425	2 HR	Bearing Wall Exterior	UL 1988	• Three layers 1/2" thick G.W.B., interior side. • 3-1/2" x 20 GA Steel Stud, 24" o.c. • See test for exterior component.
U426	3 HR	Bearing Wall	UL 1988	• Four layers 1/2" thick G.W.B., each side. • 3-1/2" x 20 GA Steel Stud, 24" o.c.
U434	1 HR	Bearing Wall	UL 1988	• 7/8" thick Portland Cement Plaster • 3-1/2" x 20 GA Steel Stud, 24" o.c. • One layer 5/8" thick G.W.B. interior.

Note A: UL denotes Underwriters Laboratories, Inc., and FM denotes Factory Mutual Research Corporation.

Note B: Lightweight concrete measured from top flute of deck.

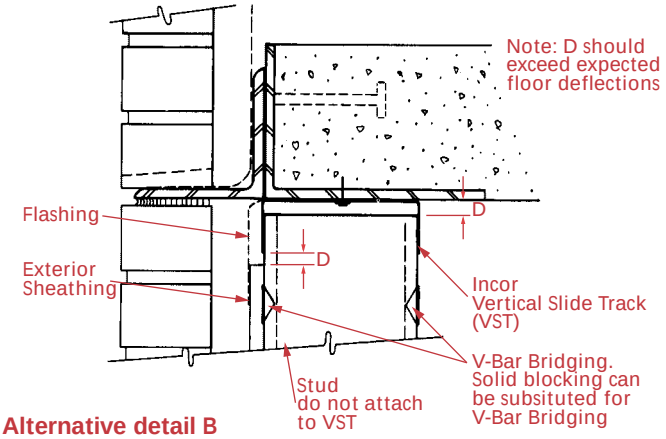
Consult a Fire Resistance Design Manual distributed by the Gypsum Association, 810 Front Street N.E. #510 Washington, D.C. 20002, for additional information. Furthermore, this publication addresses Sound Transmission Characteristics of steel framed assemblies.



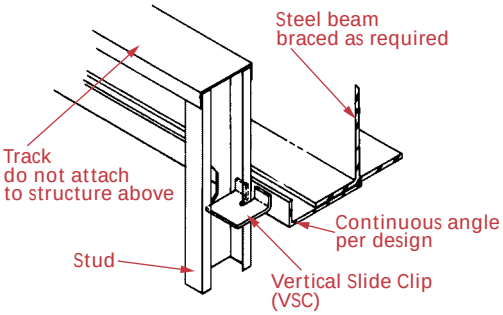
Infill wall

Infill allowing for vertical movement

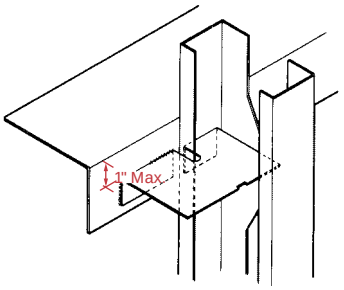
Provision for vertical movement of the building structure, without transfer of compressive loads to the exterior curtain wall, is frequently desirable. The details on the following pages are applicable for attaching all types of Incor steel studs, whether they are installed as individual components, as prefabricated framing assemblies or as prefinished panels with exterior facing in place.



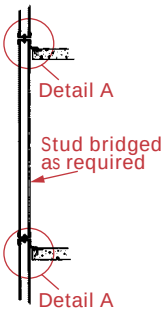
Alternative detail B



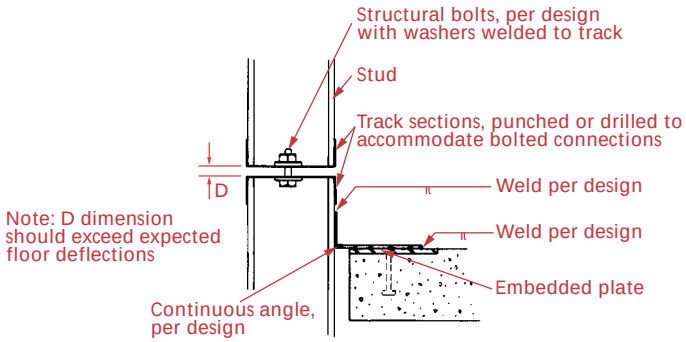
Alternative detail A



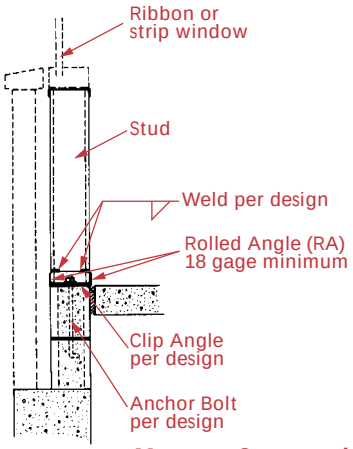
Typical VSC connection (stud reversed)



Full height, by-passing primary frame with provision for vertical movement

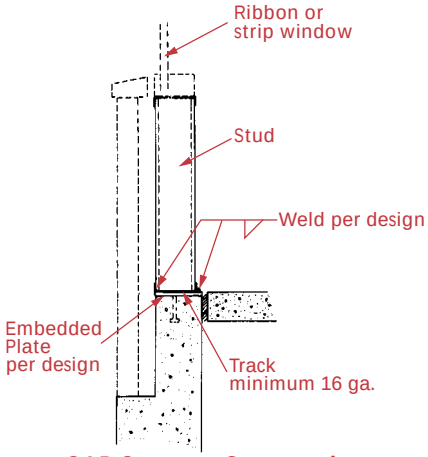


Detail A

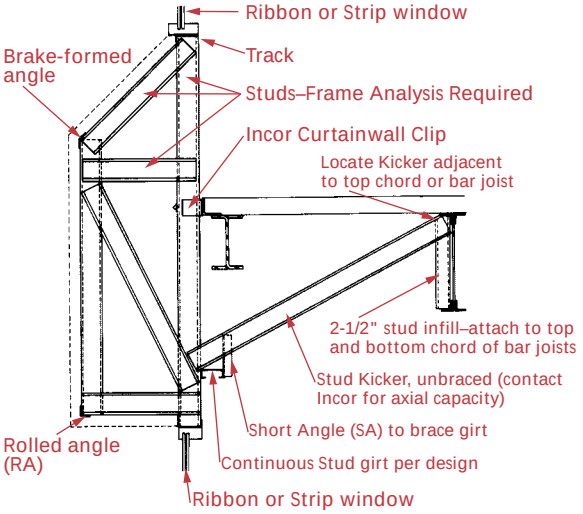


Masonry Construction

Stud wall (base connection to resist overturning due to lateral forces)



C.I.P Concrete Construction

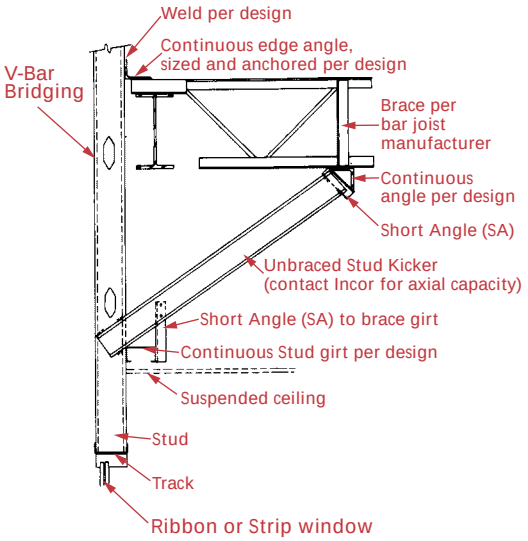


Recessed window with diagonal kicker

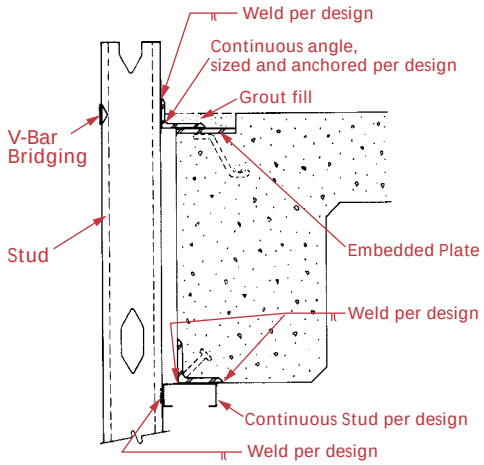
Spandrel conditions

Designer Note

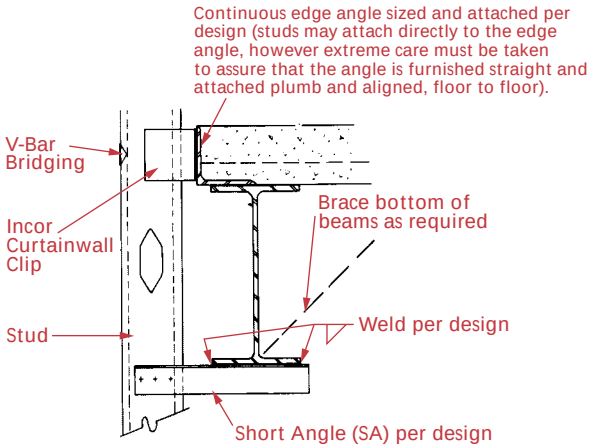
1. As spandrel walls must be rigidly attached to the primary frame, designer must allow for vertical movements in the construction of the window head.
2. Fire safing required in stud cavity where necessary.



Flush window with diagonal kicker

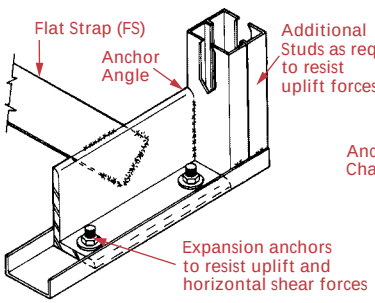


Stud attachment–concrete construction

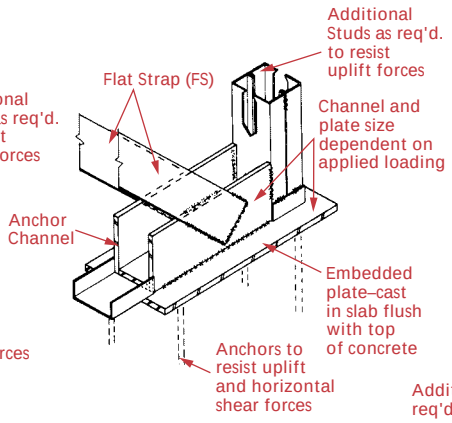


Stud attachment–post & beam construction

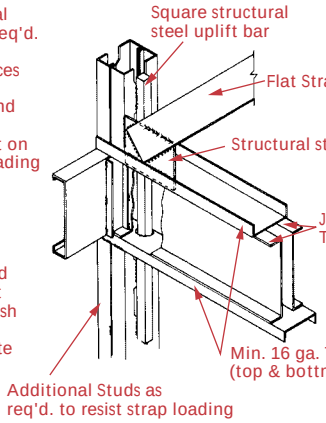
Detail A – anchorage at base (one to two-story only)



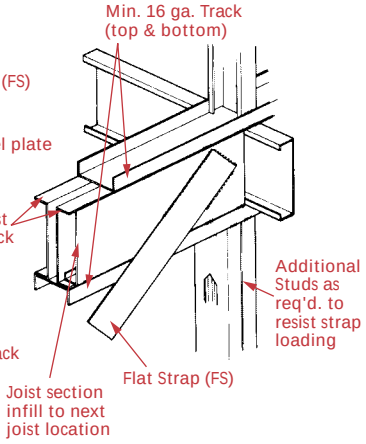
Alternate detail A – anchorage at base (greater than two-story)



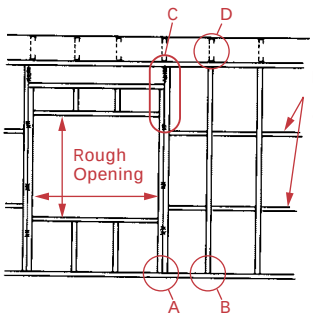
Detail B – anchorage at intermediate floors



Detail C – Attachment at top



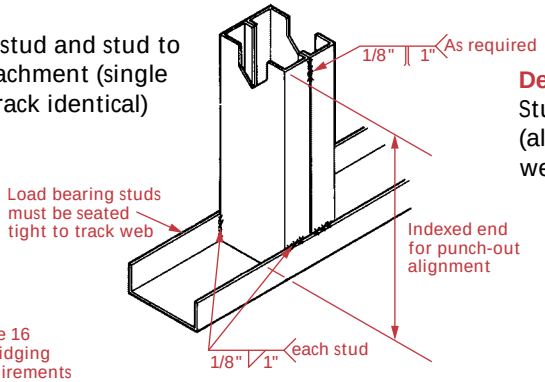
Typical load bearing wall panel



Refer to page 16 for lateral bridging detail & requirements

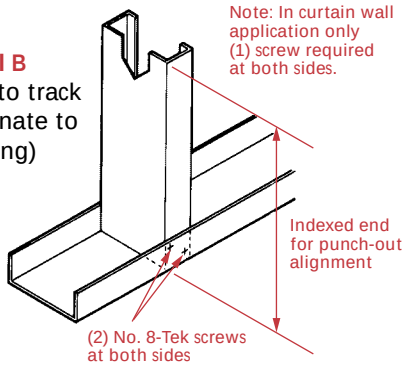
Detail A

Multiple stud and stud to track attachment (single stud to track identical)



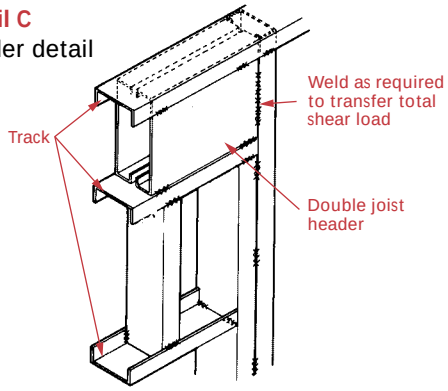
Detail B

Stud to track (alternate to welding)



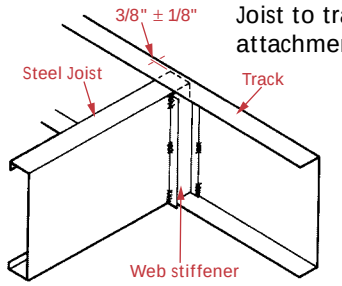
Detail C

Header detail

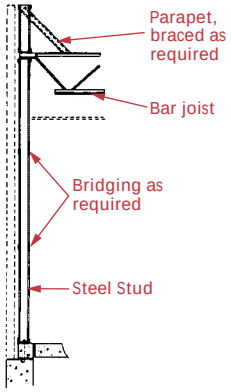


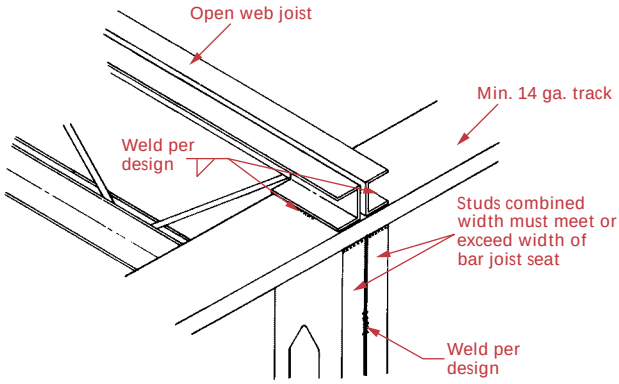
Detail D

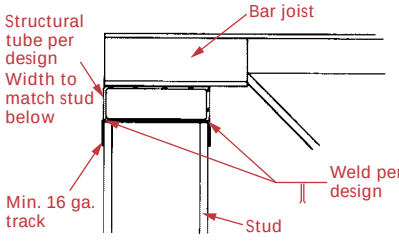
Joist to track attachment



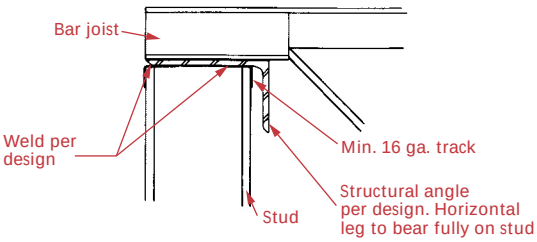
DALE/INCOR steel bearing applications







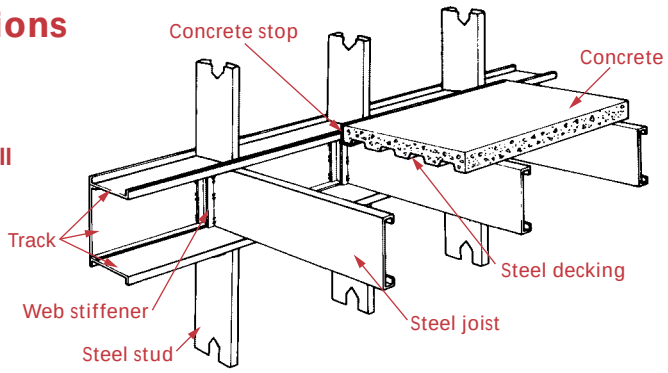
Alternative A – Bearing Wall – joists not aligned with studs



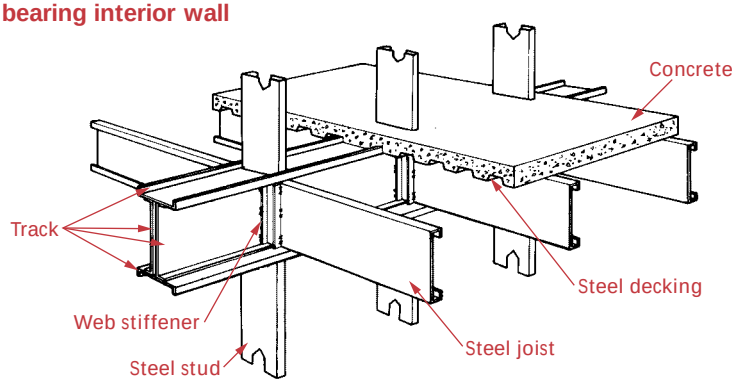
Alternative B – Bearing Wall – joists not aligned with studs

DALE/INCOR steel joist applications

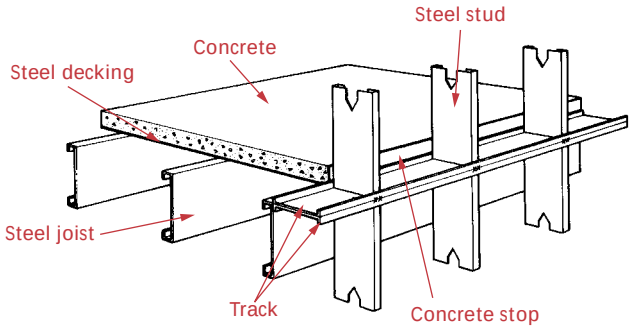
Load bearing exterior wall



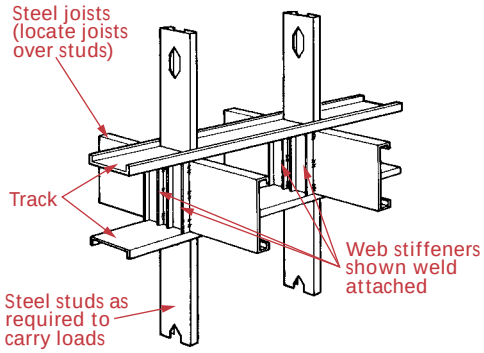
Load bearing interior wall



Non–bearing exterior wall



Interior support condition



Web Stiffening Requirements

To develop adequate bearing strength for the loads shown in the tables on pages 26-29, each joist requires the following:

- For simple span conditions-a web stiffener at each end.
- For two span conditions-a web stiffener at each end plus single stiffener permissible in single story construction.
- For cantilevered conditions-a web stiffener at the ends plus a single stiffener at support adjacent to cantilever.

DALE/INCOR® steel framing

Suggested Specifications

Part I - General

1.01 RELATED WORK SPECIFIED ELSEWHERE

1.02 WORKMANSHIP AND QUALiTY ASSURANCE

1.03 SUBMITTALS

Part 2 - Material

2.02.01 All stud (and/or) joist framing members shall be of the type, size and gage shown on the plans and shall be manufactured by

DALE/INCOR

2.02.02 Galvanized studs and joists 12, 14, and 16 gage may be formed from steel that corresponds to ASTM A653. Structural calculations should be prepared utilizing one of the following grades.

SQ Grade 33 minimum yield strength 33

SQ Grade 40 minimum yield strength 40

SQ Grade 50 minimum yield strength 50

2.02.03 All galvanized 18 and 20 gage studs (and/or) Joists, and all galvanized track, bridging, end enclosures and accessories shall be formed from steel that corresponds to the requirements of ASTM A653, SQ Grade 33, with a minimum yield of 33,000 psi.

2.02.04 DALE/INCOR It is suggested that all studs, joists and accessories should be formed from steel having a G-60 galvanized coating or equivalent, meeting ASTM A653 and C955.

2.02.05 The physical and structural properties listed by DALE/INCOR shall be considered the minimum permitted for all framing members. Specifically, the following minimum properties, calculated in accordance with the latest A.I.S.I. Specification, shall be provided as indicated on page 2.

Component	Ix	Resisting Moment
(Stud, Joist or Acccssory)	(in.⁴)	(in-k)

2.03 FABRICATION

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

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

2.03.03 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 held positively in place until properly fastened.

2.03.04 Axially loaded studs shall be installed in a manner which will assure that ends of the studs are positioned in the track with a minimum gap, prior to stud and track attachment.

2.03.05 Provide insulation equal to that specified elsewhere in all double jamb studs and double 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 Tracks shall be securely anchored to the supporting structure as shown on the plans.

3.02.03 At track butt joists, 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 tracks.

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 Wall stud bridging shall be attached in a manner to prevent stud rotation. Bridging rows shall be spaced according to the following schedule. Walls up to 10'0" height: one row at mid-height. Wall exceeding 10'0" height bridging rows spaced not to exceed 5'0" on-center.

3.02.07 Provision for structure vertical movement shall be provided where indicated on the plans using the DALE/INCOR Vertical Slice Clip or other means in accordance with DALE/INCOR Inc. recommendations.

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.

3.02.02 Tracks 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 shell 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 tracks.

3.03.06 Framed wall opening 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 securely attached to supporting members.

3.03.08 Temporary bracing shell 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. Bridging rows shall be equally spaced not to exceed 5'0" on-center for wind loading only, or 4'0" on-center for axial loading.

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 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 or a load distribution member shall be provided at the top track.

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

3.04.03 Joists 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 ends are not otherwise restrained from rotation.

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Birmingham, AL 35210
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Dale/Incor Houston, TX, LLC.
308 Hughes Street
Houston, TX 77023
1-877-606-STUD (713) 681-6808
FAX **(713) 681-7780**

e-mail: Info@daleincor.com Internet: www.daleincor.com

Active participants in relevant committees of ASTM and AISI.