HOT ROLLED CARBON STEEL STRUCTURAL SHAPES

UNITED STATES STEEL

HOT ROLLED CARBON STEEL STRUCTURAL SHAPES

Approved By National Bureau of Standards R216-46, February 15, 1946

SUPPLEMENTARY INFORMATION

Structural Tees Cut from Beams
Plate Size Limitation Tables
Floor Plates
Steel Sheet Piling
Bearing Piles
Crane Rails
Corrugated Sheeting
Standard Mill Practices

COLUMBIA STEEL COMPANY . . . . . San Francisco

TENNESSEE COAL, IRON & RAILROAD COMPANY . Birmingham

UNITED STATES STEEL COMPANY . . . . . Pittsburgh

UNITED STATES STEEL EXPORT COMPANY
Export Distributors — New York

UNITED STATES STEEL SUPPLY COMPANY
Warehouse Distributors — Chicago

UNITED STATES STEEL

COLUMBIA STEEL COMPANY
San Francisco, Cal.

TENNESSEE COAL, IRON AND RAILROAD COMPANY
Birmingham, Ala.

UNITED STATES STEEL COMPANY
Pittsburgh, Penna.

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Foreword

In Compliance with the recommendation of the U. S. Department of Commerce, National Bureau of Standards, this publication provides data pertaining to Simplified Practice Recommendation R216-46 for Hot Rolled Carbon Steel Structural Shapes and includes nominal dimensions, weights, properties and dimensions for detailing.

Data pertaining to other rolled products in common use by designers and fabricators are included as a matter of ready reference.

This publication supersedes earlier U·S·S publications Simplified Structural Steel Shapes, Structural Sections and Pocket Companion.

This edition is issued jointly by

COLUMBIA STEEL COMPANY

TENNESSEE COAL, IRON AND RAILROAD COMPANY

UNITED STATES STEEL COMPANY

Each company sells all the products listed, regardless of where produced.

The following symbols used with the sections indicate in which district or districts they are produced.

P. Produced in Pittsburgh district of United States Steel Company.

C. Produced in Chicago district of United States Steel Company.

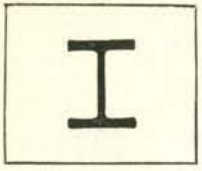
B. Produced in Birmingham district by Tennessee Coal, Iron and Railroad Company.

S. Produced in Pacific Coast district by Columbia Steel Company.

G. Produced in Geneva district by Geneva Steel Company.

SECTIONS OBTAINABLE IN USS HIGH-STRENGTH LOW-ALLOY STEELS

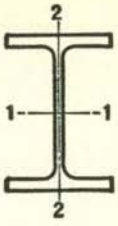
All the structural and car building sections shown in this publication except CB-362 and unequal angle A645 (2″x1¼″) can be furnished in U·S·S High-Strength, Low-Alloy Steels. Sections in U·S·S High-Strength, Low-Alloy Steels are not produced in all districts which produce the same sections in carbon steel. Consult the District Sales Office regarding the plant from which specific sections can be furnished.



WIDE FLANGE

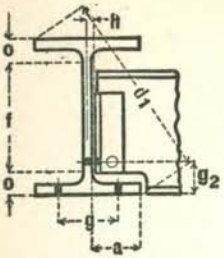
CB SECTIONS

PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Section	Flange		Web Thickness	Axis 1-1			Axis 2-2		
					Width	Thickness		I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
P. C.	36″ WF CB 362 36 x 16½ R=1.02	300	88.17	36.72	16.655	1.680	.945	20290.2	1105.1	15.17	1225.2	147.1	3.73
		280	82.32	36.50	16.595	1.570	.885	18819.3	1031.2	15.12	1127.5	135.9	3.70
		260	76.56	36.24	16.555	1.440	.845	17233.8	951.1	15.00	1020.6	123.3	3.65
		245	72.03	36.06	16.512	1.350	.802	16092.2	892.5	14.95	944.7	114.4	3.62
		230	67.73	35.88	16.475	1.260	.765	14988.4	835.5	14.88	870.9	105.7	3.59
P. C.	36″ WF CB 361 36 x 12 R=.80	194	57.11	36.48	12.117	1.260	.770	12103.4	663.6	14.56	355.4	58.7	2.49
		182	53.54	36.32	12.072	1.180	.725	11281.5	621.2	14.52	327.7	54.3	2.47
		170	49.98	36.16	12.027	1.100	.680	10470.0	579.1	14.47	300.6	50.0	2.45
		160	47.09	36.00	12.000	1.020	.653	9738.8	541.0	14.38	275.4	45.9	2.42
		150	44.16	35.84	11.972	.940	.625	9012.1	502.9	14.29	250.4	41.8	2.38
P. C.	33″ WF CB 332 33 x 15¾ R=.96	240	70.52	33.50	15.865	1.400	.830	13585.1	811.1	13.88	874.3	110.2	3.52
		220	64.73	33.25	15.810	1.275	.775	12312.1	740.6	13.79	782.4	99.0	3.48
		200	58.79	33.00	15.750	1.150	.715	11048.2	669.6	13.71	691.7	87.8	3.43
P. C.	33″ WF CB 331 33 x 11½ R=.75	152	44.71	33.50	11.565	1.055	.635	8147.6	486.4	13.50	256.1	44.3	2.39
		141	41.51	33.31	11.535	.960	.605	7442.2	446.8	13.39	229.7	39.8	2.35
		130	38.26	33.10	11.510	.855	.580	6699.0	404.8	13.23	201.4	35.0	2.29
P. C.	30″ WF CB 302 30 x 15 R=.91	210	61.78	30.38	15.105	1.315	.775	9872.4	649.9	12.64	707.9	93.7	3.38
		190	55.90	30.12	15.040	1.185	.710	8825.9	586.1	12.57	624.6	83.1	3.34
		172	50.65	29.88	14.985	1.065	.655	7891.5	528.2	12.48	550.1	73.4	3.30
P. C.	30″ WF CB 301 30 x 10½ R=.70	132	38.83	30.30	10.551	1.000	.615	5753.1	379.7	12.17	185.0	35.1	2.18
		124	36.45	30.16	10.521	.930	.585	5347.1	354.6	12.11	169.7	32.3	2.16
		116	34.13	30.00	10.500	.850	.564	4919.1	327.9	12.00	153.2	29.2	2.12
		108	31.77	29.82	10.484	.760	.548	4461.0	299.2	11.85	135.1	25.8	2.06
P. C.	27″ WF CB 272 27 x 14 R=.86	177	52.10	27.31	14.090	1.190	.725	6728.6	492.8	11.36	518.9	73.7	3.16
		160	47.04	27.08	14.023	1.075	.658	6018.6	444.5	11.31	458.0	65.3	3.12
		145	42.68	26.88	13.965	.975	.600	5414.3	402.9	11.26	406.9	58.3	3.09
P. C.	27″ WF CB 271 27 x 10 R=.64	114	33.53	27.28	10.070	.932	.570	4080.5	299.2	11.03	149.6	29.7	2.11
		102	30.01	27.07	10.018	.827	.518	3604.1	266.3	10.96	129.5	25.9	2.08
		94	27.65	26.91	9.990	.747	.490	3266.7	242.8	10.87	115.1	23.0	2.04

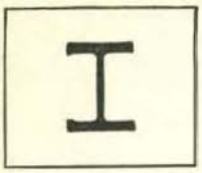
For key to symbols in first column, refer to page 3.



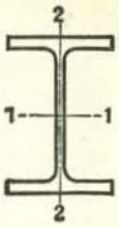
WIDE FLANGE
CB SECTIONS
DIMENSIONS OF SECTIONS

Section Index and Nominal Depth	Weight per Foot	Depth of Section	Flange		Web		Distance						Usual Gage g
			Width	Thickness	Thickness	Half Thickness	a	f	o	d_1	Min. g_2	Clear. h	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
36″ WF CB 362 36 x 16½ R=1.02	300	36¾	16⅝	1 11/16	15/16	½	7⅞	31⅛	2 13/16	40⅜	4	9/16	5½
	280	36½	16⅝	1 9/16	⅞	7/16	7⅞	31⅛	2 11/16	40⅛	4	½	5½
	260	36¼	16½	1 7/16	⅞	7/16	7⅞	31⅛	2 9/16	39⅞	3¾	½	5½
	245	36	16½	1⅜	13/16	⅜	7⅞	31⅛	2 7/16	39¾	3¾	7/16	5½
	230	35⅞	16½	1¼	¾	⅜	7⅞	31⅛	2⅜	39½	3½	7/16	5½
36″ WF CB 361 36 x 12 R=.80	194	36½	12⅛	1¼	13/16	⅜	5⅝	32¼	2⅛	38½	3¼	7/16	5½
	182	36⅜	12⅛	1 3/16	¾	⅜	5⅝	32¼	2 1/16	38⅜	3¼	7/16	5½
	170	36⅛	12	1⅛	11/16	⅜	5⅝	32¼	1 15/16	38⅛	3¼	7/16	5½
	160	36	12	1	11/16	5/16	5⅝	32¼	1⅞	38	3	⅜	5½
	150	35⅞	12	15/16	⅝	5/16	5⅝	32¼	1 13/16	37⅞	3	⅜	5½
33″ WF CB 332 33 x 15¾ R=.96	240	33½	15⅞	1⅜	⅞	7/16	7½	28⅝	2 7/16	37⅛	3¾	½	5½
	220	33¼	15¾	1¼	13/16	⅜	7½	28⅝	2 5/16	36⅞	3½	7/16	5½
	200	33	15¾	1⅛	¾	⅜	7½	28⅝	2 3/16	36⅝	3½	7/16	5½
33″ WF CB 331 33 x 11½ R=.75	152	33½	11⅝	1 1/16	⅝	5/16	5½	29¾	1⅞	35½	3	⅜	5½
	141	33¼	11½	15/16	⅝	5/16	5½	29¾	1¾	35¼	3	⅜	5½
	130	33⅛	11½	⅞	9/16	5/16	5½	29¾	1 11/16	35⅛	3	⅜	5½
30″ WF CB 302 30 x 15 R=.91	210	30⅜	15⅛	1 5/16	13/16	⅜	7⅛	25¾	2 5/16	34	3½	7/16	5½
	190	30⅛	15	1 3/16	¾	⅜	7⅛	25¾	2 3/16	33¾	3½	7/16	5½
	172	29⅞	15	1 1/16	11/16	5/16	7⅛	25¾	2 1/16	33½	3¼	⅜	5½
30″ WF CB 301 30 x 10½ R=.70	132	30¼	10½	1	⅝	5/16	5	26⅞	1 11/16	32⅛	3	⅜	5½
	124	30⅛	10½	15/16	⅝	5/16	5	26⅞	1 5/8	31⅞	3	⅜	5½
	116	30	10½	⅞	9/16	5/16	5	26⅞	1 9/16	31¾	2¾	⅜	5½
	108	29⅞	10½	¾	9/16	5/16	5	26⅞	1½	31⅝	2¾	⅜	5½
27″ WF CB 272 27 x 14 R=.86	177	27¼	14⅛	1 3/16	¾	⅜	6¾	23	2⅛	30¾	3¼	7/16	5½
	160	27⅛	14	1 1/16	11/16	5/16	6¾	23	2 1/16	30½	3¼	⅜	5½
	145	26⅞	14	1	⅝	5/16	6¾	23	1 15/16	30⅜	3¼	⅜	5½
27″ WF CB 271 27 x 10 R=.64	114	27¼	10⅛	15/16	9/16	5/16	4¾	24	1⅝	29⅛	2¾	⅜	5½
	102	27⅛	10	13/16	½	¼	4¾	24	1 9/16	28⅞	2¾	5/16	5½
	94	26⅞	10	¾	½	¼	4¾	24	1 7/16	28¾	2¾	5/16	5½

Gages g_2 are based on 1¼″ edge distance (⅞″ maximum rivet).

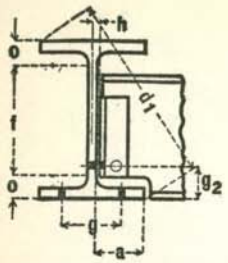


WIDE FLANGE
CB SECTIONS
PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Section	Flange		Web Thickness	Axis 1-1			Axis 2-2		
					Width	Thickness		I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
P. C.	24" WF CB 243 24 x 14 R=.70	160	47.04	24.72	14.091	1.135	.656	5110.3	413.5	10.42	492.6	69.9	3.23
		145	42.62	24.49	14.043	1.020	.608	4561.0	372.5	10.34	434.3	61.8	3.19
		130	38.21	24.25	14.000	.900	.565	4009.5	330.7	10.24	375.2	53.6	3.13
P. C.	24" WF CB 242 24 x 12 R=.70	120	35.29	24.31	12.088	.930	.556	3635.3	299.1	10.15	254.0	42.0	2.68
		110	32.36	24.16	12.042	.855	.510	3315.0	274.4	10.12	229.1	38.0	2.66
		100	29.43	24.00	12.000	.775	.468	2987.3	248.9	10.08	203.5	33.9	2.63
P. C.	24" WF CB 241 24 x 9 R=.54	94	27.63	24.29	9.061	.872	.516	2683.0	220.9	9.85	102.2	22.6	1.92
		84	24.71	24.09	9.015	.772	.470	2364.3	196.3	9.78	88.3	19.6	1.89
		76	22.37	23.91	8.985	.682	.440	2096.4	175.4	9.68	76.5	17.0	1.85
P. C.	21" WF CB 213 21 x 13 R=.65	142	41.76	21.46	13.132	1.095	.659	3403.1	317.2	9.03	385.9	58.8	3.04
		127	37.34	21.24	13.061	.985	.588	3017.2	284.1	8.99	338.6	51.8	3.01
		112	32.93	21.00	13.000	.865	.527	2620.6	249.6	8.92	289.7	44.6	2.96
P. C.	21" WF CB 212 21 x 9 R=.65	96	28.21	21.14	9.038	.935	.575	2088.9	197.6	8.60	109.3	24.2	1.97
		82	24.10	20.86	8.962	.795	.499	1752.4	168.0	8.53	89.6	20.0	1.93
P C.	21" WF CB 211 21 x 8¼ R=.54	73	21.46	21.24	8.295	.740	.455	1600.3	150.7	8.64	66.2	16.0	1.76
		68	20.02	21.13	8.270	.685	.430	1478.3	139.9	8.59	60.4	14.6	1.74
		62	18.23	20.99	8.240	.615	.400	1326.8	126.4	8.53	53.1	12.9	1.71
P. C.	18" WF CB 183 18 x 11¾ R=.60	114	33.51	18.48	11.833	.991	.595	2033.8	220.1	7.79	255.6	43.2	2.76
		105	30.86	18.32	11.792	.911	.554	1852.5	202.2	7.75	231.0	39.2	2.73
		96	28.22	18.16	11.750	.831	.512	1674.7	184.4	7.70	206.8	35.2	2.71
P. C.	18" WF CB 182 18 x 8¾ R=.60	85	24.97	18.32	8.838	.911	.526	1429.9	156.1	7.57	99.4	22.5	2.00
		77	22.63	18.16	8.787	.831	.475	1286.8	141.7	7.54	88.6	20.2	1.98
		70	20.56	18.00	8.750	.751	.438	1153.9	128.2	7.49	78.5	17.9	1.95
		64	18.80	17.87	8.715	.686	.403	1045.8	117.0	7.46	70.3	16.1	1.93
P. C.	18" WF CB 181 18 x 7½ R=.43	60	17.64	18.25	7.558	.695	.416	984.0	107.8	7.47	47.1	12.5	1.63
		55	16.19	18.12	7.532	.630	.390	889.9	98.2	7.41	42.0	11.1	1.61
		50	14.71	18.00	7.500	.570	.358	800.6	89.0	7.38	37.2	9.9	1.59

For key to symbols in first column, refer to page 3.



WIDE FLANGE
CB SECTIONS
DIMENSIONS OF SECTIONS

Section Index and Nominal Depth	Weight per Foot	Depth of Section	Flange		Web		Distance						Usual Gage g
			Width	Thickness	Thickness	Half Thickness	a	f	o	d_1	Min. g_2	Clear. h	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
24″ WF	160	24¾	14⅛	1⅛	11/16	5/16	6¾	20¾	2	28½	3¼	⅜	5½
CB 243	145	24½	14	1	⅝	5/16	6¾	20¾	1⅞	28¼	3¼	⅜	5½
24 x 14	130	24¼	14	⅞	9/16	5/16	6¾	20¾	1¾	28	3	⅜	5½
R=.70													
24″ WF	120	24¼	12⅛	15/16	9/16	5/16	5¾	20⅞	1 11/16	27⅛	3	⅜	5½
CB 242	110	24⅛	12	⅞	½	¼	5¾	20⅞	1⅝	27	2¾	5/16	5½
24 x 12	100	24	12	¾	½	¼	5¾	20⅞	1 9/16	26⅞	2¾	5/16	5½
R=.70													
24″ WF	94	24¼	9	⅞	9/16	¼	4¼	21⅜	1 7/16	25⅞	2¾	5/16	5½
CB 241	84	24⅛	9	¾	½	¼	4¼	21⅜	1⅜	25¾	2¾	5/16	5½
24 x 9	76	23⅞	9	11/16	7/16	¼	4¼	21⅜	1¼	25⅝	2½	5/16	5½
R=.54													
21″ WF	142	21½	13⅛	1⅛	11/16	⅜	6¼	17¾	1⅞	25¼	3	7/16	5½
CB 213	127	21¼	13	1	9/16	5/16	6¼	17¾	1¾	25	3	⅜	5½
21 x 13	112	21	13	⅞	9/16	¼	6¼	17¾	1⅝	24¾	3	5/16	5½
R=.65													
21″ WF													
CB 212	96	21⅛	9	15/16	9/16	5/16	4¼	18	1 9/16	23	2¾	⅜	5½
21 x 9	82	20⅞	9	13/16	½	¼	4¼	18	1 7/16	22¾	2¾	5/16	5½
R=.65													
21″ WF	73	21¼	8¼	¾	½	¼	4	18⅝	1 5/16	22⅞	2½	5/16	5½
CB 211	68	21⅛	8¼	11/16	7/16	¼	4	18⅝	1¼	22¾	2½	5/16	5½
21 x 8¼	62	21	8¼	⅝	⅜	3/16	4	18⅝	1 3/16	22⅝	2½	¼	5½
R=.54													
18″ WF	114	18½	11⅞	1	⅝	5/16	5⅝	15⅛	1 11/16	22	3	⅜	5½
CB 183	105	18⅜	11¾	15/16	9/16	5/16	5⅝	15⅛	1⅝	21⅞	2¾	⅜	5½
18 x 11¾	96	18⅛	11¾	13/16	½	¼	5⅝	15⅛	1½	21¾	2¾	5/16	5½
R=.60													
18″ WF	85	18⅜	8⅞	15/16	9/16	¼	4⅛	15⅜	1½	20⅜	2¾	5/16	5½
CB 182	77	18⅛	8¾	13/16	½	¼	4⅛	15⅜	1⅜	20⅛	2¾	5/16	5½
18 x 8¾	70	18	8¾	¾	7/16	¼	4⅛	15⅜	1 5/16	20	2¾	5/16	5½
R=.60	64	17⅞	8¾	11/16	7/16	3/16	4⅛	15⅜	1¼	20	2½	¼	5½
18″ WF	60	18¼	7½	11/16	7/16	3/16	3⅝	15⅞	1 3/16	19⅞	2½	¼	3½
CB 181	55	18⅛	7½	⅝	⅜	3/16	3⅝	15⅞	1⅛	19⅝	2½	¼	3½
18 x 7½	50	18	7½	9/16	⅜	3/16	3⅝	15⅞	1 1/16	19½	2¼	¼	3½
R=.43													

Gages g_2 are based on 1¼″ edge distance (⅞″ maximum rivet).

WIDE FLANGE

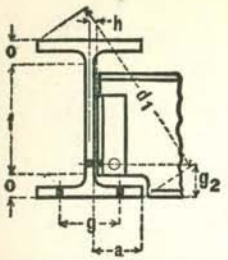
CB SECTIONS

PROPERTIES OF SECTIONS

District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Section	Flange		Web Thickness	Axis 1-1			Axis 2-2		
					Width	Thickness		I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
P. C.	16" WF CB 163 16 x 11½ R=.60	96	28.22	16.32	11.533	.875	.535	1355.1	166.1	6.93	207.2	35.9	2.71
		88	25.87	16.16	11.502	.795	.504	1222.6	151.3	6.87	185.2	32.2	2.67
P. C.	16" WF CB 162 16 x 8½ R=.60	78	22.92	16.32	8.586	.875	.529	1042.6	127.8	6.74	87.5	20.4	1.95
		71	20.86	16.16	8.543	.795	.486	936.9	115.9	6.70	77.9	18.2	1.93
		64	18.80	16.00	8.500	.715	.443	833.8	104.2	6.66	68.4	16.1	1.91
		58	17.04	15.86	8.464	.645	.407	746.4	94.1	6.62	60.5	14.3	1.88
P. C.	16" WF CB 161 16 x 7 R=.43	50	14.70	16.25	7.073	.628	.380	655.4	80.7	6.68	34.8	9.8	1.54
		45	13.24	16.12	7.039	.563	.346	583.3	72.4	6.64	30.5	8.7	1.52
		40	11.77	16.00	7.000	.503	.307	515.5	64.4	6.62	26.5	7.6	1.50
		36	10.59	15.85	6.992	.428	.299	446.3	56.3	6.49	22.1	6.3	1.45
P. C.	14" WF CB 146 14 x 16 R=.60	426	125.25	18.69	16.695	3.033	1.875	6610.3	707.4	7.26	2359.5	282.7	4.34
		398	116.98	18.31	16.590	2.843	1.770	6013.7	656.9	7.17	2169.7	261.6	4.31
		370	108.78	17.94	16.475	2.658	1.655	5454.2	608.1	7.08	1986.0	241.1	4.27
		342	100.59	17.56	16.365	2.468	1.545	4911.5	559.4	6.99	1806.9	220.8	4.24
		314	92.30	17.19	16.235	2.283	1.415	4399.4	511.9	6.90	1631.4	201.0	4.20
		287	84.37	16.81	16.130	2.093	1.310	3912.1	465.5	6.81	1466.5	181.8	4.17
		264	77.63	16.50	16.025	1.938	1.205	3526.0	427.4	6.74	1331.2	166.1	4.14
		246	72.33	16.25	15.945	1.813	1.125	3228.9	397.4	6.68	1226.6	153.9	4.12
		237	69.69	16.12	15.910	1.748	1.090	3080.9	382.2	6.65	1174.8	147.7	4.11
		228	67.06	16.00	15.865	1.688	1.045	2942.4	367.8	6.62	1124.8	141.8	4.10
		219	64.36	15.87	15.825	1.623	1.005	2798.2	352.6	6.59	1073.2	135.6	4.08
		211	62.07	15.75	15.800	1.563	.980	2671.4	339.2	6.56	1028.6	130.2	4.07
		202	59.39	15.63	15.750	1.503	.930	2538.8	324.9	6.54	979.7	124.4	4.06
		193	56.73	15.50	15.710	1.438	.890	2402.4	310.0	6.51	930.1	118.4	4.05
		184	54.07	15.38	15.660	1.378	.840	2274.8	295.8	6.49	882.7	112.7	4.04
		176	51.73	15.25	15.640	1.313	.820	2149.6	281.9	6.45	837.9	107.1	4.02
		167	49.09	15.12	15.600	1.248	.780	2020.8	267.3	6.42	790.2	101.3	4.01
		158	46.47	15.00	15.550	1.188	.730	1900.6	253.4	6.40	745.0	95.8	4.00
		150	44.08	14.88	15.515	1.128	.695	1786.9	240.2	6.37	702.5	90.6	3.99
		142	41.85	14.75	15.500	1.063	.680	1672.2	226.7	6.32	660.1	85.2	3.97
		*320	94.12	16.81	16.710	2.093	1.890	4141.7	492.8	6.63	1635.1	195.7	4.17
P. C.	14" WF CB 145 14 x 14½ R=.60	136	39.98	14.75	14.740	1.063	.660	1593.0	216.0	6.31	567.7	77.0	3.77
		127	37.33	14.62	14.690	.998	.610	1476.7	202.0	6.29	527.6	71.8	3.76
		119	34.99	14.50	14.650	.938	.570	1373.1	189.4	6.26	491.8	67.1	3.75
		111	32.65	14.37	14.620	.873	.540	1266.5	176.3	6.23	454.9	62.2	3.73
		103	30.26	14.25	14.575	.813	.495	1165.8	163.6	6.21	419.7	57.6	3.72
		95	27.94	14.12	14.545	.748	.465	1063.5	150.6	6.17	383.7	52.8	3.71
		87	25.56	14.00	14.500	.688	.420	966.9	138.1	6.15	349.7	48.2	3.70

*Column Core Section.

For key to symbols in first column, refer to page 3.



WIDE FLANGE
CB SECTIONS
DIMENSIONS OF SECTIONS

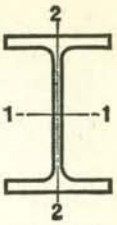
Section Index and Nominal Depth	Weight per Foot	Depth of Section	Flange		Web		Distance						Usual Gage
			Width	Thick-ness	Thick-ness	Half Thick-ness	a	f	o	d_1	Min. g_2	Clear. h	g
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
16″ WF CB 163 16 x 11½ R=.60	96	16⅜	11½	⅞	9/16	5/16	5½	13⅛	1⅝	20	2¾	⅜	5½
	88	16⅛	11½	13/16	½	¼	5½	13⅛	1½	19⅞	2¾	5/16	5½
16″ WF CB 162 16 x 8½ R=.60	78	16⅜	8⅝	⅞	9/16	¼	4	13⅜	1½	18½	2¾	5/16	5½
	71	16⅛	8½	13/16	½	¼	4	13⅜	1⅜	18¼	2¾	5/16	5½
	64	16	8½	11/16	7/16	¼	4	13⅜	1⅝	18⅛	2½	5/16	5½
	58	15⅞	8½	⅝	7/16	¼	4	13⅜	1¼	18	2½	5/16	5½
16″ WF CB 161 16 x 7 R=.43	50	16¼	7⅛	⅝	⅜	3/16	3⅜	14	1⅛	17¾	2½	¼	3½
	45	16⅛	7	9/16	⅜	3/16	3⅜	14	1⅛	17⅝	2¼	¼	3½
	40	16	7	½	5/16	3/16	3⅜	14	1	17½	2¼	¼	3½
	36	15⅞	7	7/16	5/16	3/16	3⅜	14	15/16	17⅜	2¼	¼	3½
	426	18¾	16¾	3⅛	1⅞	15/16	7⅜	11⅜	3⅝	25⅛	5	1	
	398	18¼	16⅝	2 13/16	1 13/16	⅞	7⅜	11⅜	3 7/16	24¾	4¾	15/16	
	370	18	16½	2 11/16	1 11/16	13/16	7⅜	11⅜	3¼	24⅜	4½	⅞	
	342	17½	16⅜	2⅞	1 9/16	13/16	7⅜	11⅜	3 1/16	24	4¼	⅞	
	314	17¼	16¼	2 5/16	1 7/16	¾	7⅜	11⅜	2⅞	23¾	4¼	13/16	
	287	16¾	16⅛	2 1/16	1 5/16	11/16	7⅜	11⅜	2 11/16	23⅜	4	¾	
	264	16½	16	1 15/16	1¼	⅝	7⅜	11⅜	2 9/16	23	3¾	11/16	
	246	16¼	16	1 13/16	1⅛	9/16	7⅜	11⅜	2 7/16	22⅞	3¾	⅝	
	237	16⅛	15⅞	1¾	1⅛	9/16	7⅜	11⅜	2⅜	22¾	3¾	⅝	
14″ WF CB 146 14 x 16 R=.60	228	16	15⅞	1 11/16	1 1/16	9/16	7⅜	11⅜	2 5/16	22⅝	3½	⅝	3—5½—3
	219	15⅞	15⅞	1⅝	1	½	7⅜	11⅜	2¼	22½	3½	9/16	
	211	15¾	15¾	1 9/16	1	½	7⅜	11⅜	2 3/16	22⅜	3½	9/16	
	202	15⅝	15¾	1½	15/16	½	7⅜	11⅜	2⅛	22¼	3½	9/16	
	193	15½	15¾	1 1/16	⅞	7/16	7⅜	11⅜	2 1/16	22⅛	3¼	½	
	184	15⅜	15⅝	1⅜	⅞	7/16	7⅜	11⅜	2	22	3¼	½	
	176	15¼	15⅝	1 5/16	13/16	7/16	7⅜	11⅜	1 15/16	21⅞	3¼	½	
	167	15⅛	15⅝	1¼	13/16	⅜	7⅜	11⅜	1⅞	21¾	3¼	7/16	
	158	15	15½	1 3/16	¾	⅜	7⅜	11⅜	1 13/16	21⅝	3	7/16	
	150	14⅞	15½	1⅛	11/16	⅜	7⅜	11⅜	1¾	21½	3	7/16	
	142	14¾	15½	1 1/16	1 1/16	⅜	7⅜	11⅜	1 11/16	21½	3	7/16	
	*320	16¾	16¾	2 1/16	1 7/8	15/16	7⅜	11⅜	2 11/16	23¾	4	1	
	136	14¾	14¾	1 1/16	1 1/16	⅜	7	11⅜	1 11/16	20⅞	3	7/16	5½
14″ WF CB 145 14 x 14½ R=.60	127	14⅝	14¾	1	⅝	5/16	7	11⅜	1⅝	20¾	3	⅜	5½
	119	14½	14⅝	15/16	9/16	5/16	7	11⅜	1 9/16	20⅝	2¾	⅜	5½
	111	14⅜	14⅝	⅞	9/16	5/16	7	11⅜	1½	20½	2¾	⅜	5½
	103	14¼	14⅝	13/16	½	¼	7	11⅜	1 7/16	20½	2¾	5/16	5½
	95	14⅛	14½	¾	½	¼	7	11⅜	1⅜	20¼	2¾	5/16	5½
	87	14	14½	11/16	7/16	¼	7	11⅜	1 5/16	20¼	2½	5/16	5½

*Column Core Section.
Gages g_2 are based on 1¼″ edge distance (⅞″ maximum rivet).

WIDE FLANGE

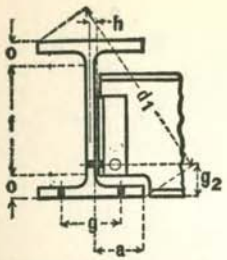
CB SECTIONS

PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Section	Flange		Web Thickness	Axis 1-1			Axis 2-2		
					Width	Thickness		I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
P. C.	14″ WF CB 144 14 x 12 R=.60	84	24.71	14.18	12.023	.778	.451	928.4	130.9	6.13	225.5	37.5	3.02
		78	22.94	14.06	12.000	.718	.428	851.2	121.1	6.09	206.9	34.5	3.00
P. C.	14″ WF CB 143 14 x 10 R=.60	74	21.76	14.19	10.072	.783	.450	796.8	112.3	6.05	133.5	26.5	2.48
		68	20.00	14.06	10.040	.718	.418	724.1	103.0	6.02	121.2	24.1	2.46
		61	17.94	13.91	10.000	.643	.378	641.5	92.2	5.98	107.3	21.5	2.45
P. C.	14″ WF CB 142 14 x 8 R=.60	53	15.59	13.94	8.062	.658	.370	542.1	77.8	5.90	57.5	14.3	1.92
		48	14.11	13.81	8.031	.593	.339	484.9	70.2	5.86	51.3	12.8	1.91
		43	12.65	13.68	8.000	.528	.308	429.0	62.7	5.82	45.1	11.3	1.89
P. C.	14″ WF CB 141 14 x 6¾ R=.43	38	11.17	14.12	6.776	.513	.313	385.3	54.6	5.87	24.6	7.3	1.49
		34	10.00	14.00	6.750	.453	.287	339.2	48.5	5.83	21.3	6.3	1.46
		30	8.81	13.86	6.733	.383	.270	289.6	41.8	5.73	17.5	5.2	1.41
P. C.	12″ WF CB 124 12 x 12 R=.60	190	55.86	14.38	12.670	1.736	1.060	1892.5	263.2	5.82	589.7	93.1	3.25
		161	47.38	13.88	12.515	1.486	.905	1541.8	222.2	5.70	486.2	77.7	3.20
		133	39.11	13.38	12.365	1.236	.755	1221.2	182.5	5.59	389.9	63.1	3.16
		120	35.31	13.12	12.320	1.106	.710	1071.7	163.4	5.51	345.1	56.0	3.13
		106	31.19	12.88	12.230	.986	.620	930.7	144.5	5.46	300.9	49.2	3.11
		99	29.09	12.75	12.190	.921	.580	858.5	134.7	5.43	278.2	45.7	3.09
		92	27.06	12.62	12.155	.856	.545	788.9	125.0	5.40	256.4	42.2	3.08
		85	24.98	12.50	12.105	.796	.495	723.3	115.7	5.38	235.5	38.9	3.07
		79	23.22	12.38	12.080	.736	.470	663.0	107.1	5.34	216.4	35.8	3.05
		72	21.16	12.25	12.040	.671	.430	597.4	97.5	5.31	195.3	32.4	3.04
		65	19.11	12.12	12.000	.606	.390	533.4	88.0	5.28	174.6	29.1	3.02
P. C.	12″ WF CB 123 12 x 10 R=.60	58	17.06	12.19	10.014	.641	.359	476.1	78.1	5.28	107.4	21.4	2.51
		53	15.59	12.06	10.000	.576	.345	426.2	70.7	5.23	96.1	19.2	2.48
P. C.	12″ WF CB 122 12 x 8 R=.60	50	14.71	12.19	8.077	.641	.371	394.5	64.7	5.18	56.4	14.0	1.96
		45	13.24	12.06	8.042	.576	.336	350.8	58.2	5.15	50.0	12.4	1.94
		40	11.77	11.94	8.000	.516	.294	310.1	51.9	5.13	44.1	11.0	1.94
P. C.	12″ WF CB 121 12 x 6½ R=.37	36	10.59	12.24	6.565	.540	.305	280.8	45.9	5.15	23.7	7.2	1.50
		31	9.12	12.09	6.525	.465	.265	238.4	39.4	5.11	19.8	6.1	1.47
		27	7.97	11.96	6.500	.400	.240	204.1	34.1	5.06	16.6	5.1	1.44

For key to symbols in first column, refer to page 3.



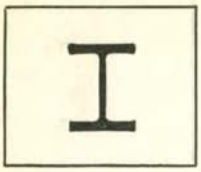
WIDE FLANGE

CB SECTIONS

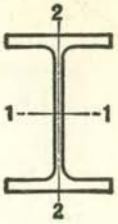
DIMENSIONS OF SECTIONS

Section Index and Nominal Depth	Weight per Foot	Depth of Section	Flange		Web		Distance						Usual Gage
			Width	Thick-ness	Thick-ness	Half Thick-ness	a	f	o	d_1	Min. g_2	Clear. h	g
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
14" WF													
CB 144	84	14 1/8	12	3/4	7/16	1/4	5 3/4	11 3/8	1 3/8	18 5/8	2 3/4	5/16	5 1/2
14 x 12	78	14	12	11/16	7/16	1/4	5 3/4	11 3/8	1 5/16	18 1/2	2 1/2	5/16	5 1/2
R = .60													
14" WF	74	14 1/4	10 1/8	13/16	7/16	1/4	4 3/4	11 3/8	1 3/8	17 1/2	2 3/4	5/16	5 1/2
CB 143	68	14	10	11/16	7/16	1/4	4 3/4	11 3/8	1 5/16	17 1/4	2 1/2	5/16	5 1/2
14 x 10	61	13 7/8	10	5/8	3/8	3/16	4 3/4	11 3/8	1 1/4	17 1/8	2 1/2	1/4	5 1/2
R = .60													
14" WF	53	14	8	11/16	3/8	3/16	3 7/8	11 3/8	1 1/4	16 1/8	2 1/2	1/4	5 1/2
CB 142	48	13 3/4	8	9/16	3/8	3/16	3 7/8	11 3/8	1 3/16	16	2 1/2	1/4	5 1/2
14 x 8	43	13 5/8	8	1/2	5/16	3/16	3 7/8	11 3/8	1 1/8	15 7/8	2 1/2	1/4	5 1/2
R = .60													
14" WF	38	14 1/8	6 3/4	1/2	5/16	3/16	3 1/4	12 1/8	1	15 3/4	2 1/4	1/4	3 1/2
CB 141	34	14	6 3/4	7/16	5/16	3/16	3 1/4	12 1/8	15/16	15 5/8	2 1/4	1/4	3 1/2
14 x 6 3/4	30	13 7/8	6 3/4	3/8	5/16	1/8	3 1/4	12 1/8	7/8	15 1/2	2 1/4	3/16	3 1/2
R = .43													
	190	14 3/8	12 5/8	1 3/4	1 1/16	9/16	5 3/4	9 3/4	2 5/16	19 1/4	3 3/4	5/8	5 1/2
	161	13 7/8	12 1/2	1 1/2	15/16	7/16	5 3/4	9 3/4	2 1/16	18 3/4	3 1/2	1/2	5 1/2
	133	13 3/8	12 3/8	1 1/4	3/4	3/8	5 3/4	9 3/4	1 13/16	18 1/4	3 1/4	7/16	5 1/2
	120	13 1/8	12 3/8	1 1/8	3/4	3/8	5 3/4	9 3/4	1 11/16	18	3	7/16	5 1/2
12" WF	106	12 7/8	12 1/4	1	5/8	5/16	5 3/4	9 3/4	1 9/16	17 7/8	3	3/8	5 1/2
CB 124	99	12 3/4	12 1/4	15/16	5/8	5/16	5 3/4	9 3/4	1 1/2	17 3/4	2 3/4	3/8	5 1/2
12 x 12	92	12 5/8	12 1/8	7/8	9/16	5/16	5 3/4	9 3/4	1 7/16	17 1/2	2 3/4	3/8	5 1/2
R = .60	85	12 1/2	12 1/8	13/16	1/2	1/4	5 3/4	9 3/4	1 3/8	17 1/2	2 3/4	5/16	5 1/2
	79	12 3/8	12 1/8	3/4	1/2	1/4	5 3/4	9 3/4	1 5/16	17 3/8	2 3/4	5/16	5 1/2
	72	12 1/4	12	11/16	7/16	1/4	5 3/4	9 3/4	1 1/4	17 1/4	2 1/2	5/16	5 1/2
	65	12 1/8	12	5/8	3/8	3/16	5 3/4	9 3/4	1 3/16	17 1/8	2 1/2	1/4	5 1/2
12" WF													
CB 123	58	12 1/4	10	5/8	3/8	3/16	4 7/8	9 3/4	1 1/4	15 7/8	2 1/2	1/4	5 1/2
12 x 10	53	12	10	9/16	3/8	3/16	4 7/8	9 3/4	1 3/16	15 5/8	2 1/2	1/4	5 1/2
R = .60													
12" WF	50	12 1/4	8 1/8	5/8	3/8	3/16	3 7/8	9 3/4	1 1/4	14 5/8	2 1/2	1/4	5 1/2
CB 122	45	12	8	9/16	3/8	3/16	3 7/8	9 3/4	1 3/16	14 1/2	2 1/2	1/4	5 1/2
12 x 8	40	12	8	1/2	5/16	3/16	3 7/8	9 3/4	1 1/8	14 3/8	2 1/2	1/4	5 1/2
R = .60													
12" WF	36	12 1/4	6 5/8	9/16	5/16	3/16	3 1/8	10 3/8	15/16	14	2 1/4	1/4	3 1/2
CB 121	31	12 1/8	6 1/2	7/16	1/4	1/8	3 1/8	10 3/8	7/8	13 3/4	2 1/4	3/16	3 1/2
12 x 6 1/2	27	12	6 1/2	3/8	1/4	1/8	3 1/8	10 3/8	13/16	13 5/8	2 1/4	3/16	3 1/2
R = .37													

Gages g_2 are based on 1 1/4" edge distance (7/8" maximum rivet).

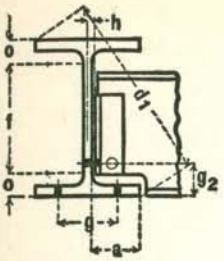


WIDE FLANGE
CB SECTIONS
PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Section	Flange		Web Thickness	Axis 1-1			Axis 2-2		
					Width	Thickness		I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
P.C.	10″ WF CB 103 10 x 10 R=.50	112	32.92	11.38	10.415	1.248	.755	718.7	126.3	4.67	235.4	45.2	2.67
		100	29.43	11.12	10.345	1.118	.685	625.0	112.4	4.61	206.6	39.9	2.65
		89	26.19	10.88	10.275	.998	.615	542.4	99.7	4.55	180.6	35.2	2.63
		77	22.67	10.62	10.195	.868	.535	457.2	86.1	4.49	153.4	30.1	2.60
		72	21.18	10.50	10.170	.808	.510	420.7	80.1	4.46	141.8	27.9	2.59
		66	19.41	10.38	10.117	.748	.457	382.5	73.7	4.44	129.2	25.5	2.58
		60	17.66	10.25	10.075	.683	.415	343.7	67.1	4.41	116.5	23.1	2.57
		54	15.88	10.12	10.028	.618	.368	305.7	60.4	4.39	103.9	20.7	2.56
		49	14.40	10.00	10.000	.558	.340	272.9	54.6	4.35	93.0	18.6	2.54
P.C.	10″ WF CB 102 10 x 8 R=.50	45	13.24	10.12	8.022	.618	.350	248.6	49.1	4.33	53.2	13.3	2.00
		39	11.48	9.94	7.990	.528	.318	209.7	42.2	4.27	44.9	11.2	1.98
		33	9.71	9.75	7.964	.433	.292	170.9	35.0	4.20	36.5	9.2	1.94
P.C.	10″ WF CB 101 10 x 5¾ R=.32	29	8.53	10.22	5.799	.500	.289	157.3	30.8	4.29	15.2	5.2	1.34
		25	7.35	10.08	5.762	.430	.252	133.2	26.4	4.26	12.7	4.4	1.31
		21	6.19	9.90	5.750	.340	.240	106.3	21.5	4.14	9.7	3.4	1.25
P.C.	8″ WF CB 83 8 x 8 R=.40	67	19.70	9.00	8.287	.933	.575	271.8	60.4	3.71	88.6	21.4	2.12
		58	17.06	8.75	8.222	.808	.510	227.3	52.0	3.65	74.9	18.2	2.10
		48	14.11	8.50	8.117	.683	.405	183.7	43.2	3.61	60.9	15.0	2.08
		40	11.76	8.25	8.077	.558	.365	146.3	35.5	3.53	49.0	12.1	2.04
		35	10.30	8.12	8.027	.493	.315	126.5	31.1	3.50	42.5	10.6	2.03
		31	9.12	8.00	8.000	.433	.288	109.7	27.4	3.47	37.0	9.2	2.01
P.C.	8″ WF CB 82 8 x 6½ R=.40	28	8.23	8.06	6.540	.463	.285	97.8	24.3	3.45	21.6	6.6	1.62
		24	7.06	7.93	6.500	.398	.245	82.5	20.8	3.42	18.2	5.6	1.61
P.C.	8″ WF CB 81 8 x 5¼ R=.32	20	5.88	8.14	5.268	.378	.248	69.2	17.0	3.43	8.50	3.2	1.20
		17	5.00	8.00	5.250	.308	.230	56.4	14.1	3.36	6.72	2.6	1.16

For key to symbols in first column, refer to page 3.



WIDE FLANGE
CB SECTIONS
DIMENSIONS OF SECTIONS

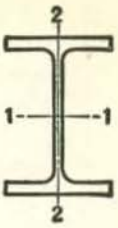
Section Index and Nominal Depth	Weight per Foot	Depth of Section	Flange		Web		Distance						Usual Gage
			Width	Thickness	Thickness	Half Thickness	a	f	o	d_1	Min. g_2	Clear. h	g
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
	112	11 3/8	10 3/8	1 1/4	3/4	3/8	4 7/8	7 7/8	1 3/4	15 1/2	3	7/16	5 1/2
	100	11 1/8	10 3/8	1 1/8	11/16	3/8	4 7/8	7 7/8	1 5/8	15 1/4	3	7/16	5 1/2
	89	10 7/8	10 1/4	1	5/8	5/16	4 7/8	7 7/8	1 1/2	15	2 3/4	3/8	5 1/2
10" WF	77	10 5/8	10 1/4	7/8	9/16	5/16	4 7/8	7 7/8	1 3/8	14 3/4	2 3/4	3/8	5 1/2
CB 103	72	10 1/2	10 1/8	13/16	1/2	1/4	4 7/8	7 7/8	1 5/16	14 5/8	2 3/4	5/16	5 1/2
10 x 10	66	10 3/8	10 1/8	3/4	7/16	1/4	4 7/8	7 7/8	1 1/4	14 1/2	2 1/2	5/16	5 1/2
R = .50	60	10 1/4	10 1/8	11/16	7/16	1/4	4 7/8	7 7/8	1 3/16	14 3/8	2 1/2	5/16	5 1/2
	54	10 1/8	10	5/8	3/8	3/16	4 7/8	7 7/8	1 1/8	14 1/4	2 1/2	1/4	5 1/2
	49	10	10	9/16	3/8	3/16	4 7/8	7 7/8	1 1/16	14 1/8	2 1/2	1/4	5 1/2
10" WF	45	10 1/8	8	5/8	3/8	3/16	3 7/8	7 7/8	1 1/8	13	2 1/2	1/4	5 1/2
CB 102	39	10	8	1/2	5/16	3/16	3 7/8	7 7/8	1 1/16	12 7/8	2 1/2	1/4	5 1/2
10 x 8	33	9 3/4	8	7/16	5/16	3/16	3 7/8	7 7/8	15/16	12 5/8	2 1/4	1/4	5 1/2
R = .50													
10" WF	29	10 1/4	5 3/4	1/2	5/16	3/16	2 3/4	8 1/2	7/8	11 3/4	2 1/4	1/4	2 3/4
CB 101	25	10 1/8	5 3/4	7/16	1/4	1/8	2 3/4	8 1/2	13/16	11 5/8	2 1/4	3/16	2 3/4
10 x 5 3/4	21	9 7/8	5 3/4	5/16	1/4	1/8	2 3/4	8 1/2	11/16	11 1/2	2	3/16	2 3/4
R = .32													
	67	9	8 1/4	15/16	9/16	5/16	3 7/8	6 3/8	1 5/16	12 1/4	2 3/4	3/8	5 1/2
8" WF	58	8 3/4	8 1/4	13/16	1/2	1/4	3 7/8	6 3/8	1 3/16	12	2 1/2	5/16	5 1/2
CB 83	48	8 1/2	8 1/8	11/16	7/16	3/16	3 7/8	6 3/8	1 1/16	11 7/8	2 1/2	1/4	5 1/2
8 x 8	40	8 1/4	8 1/8	9/16	3/8	3/16	3 7/8	6 3/8	15/16	11 5/8	2 1/4	1/4	5 1/2
R = .40	35	8 1/8	8	1/2	5/16	3/16	3 7/8	6 3/8	7/8	11 1/2	2 1/4	1/4	5 1/2
	31	8	8	7/16	5/16	3/16	3 7/8	6 3/8	13/16	11 3/8	2 1/4	1/4	5 1/2
8" WF													
CB 82	28	8	6 1/2	7/16	5/16	1/8	3 1/8	6 3/8	13/16	10 1/2	2 1/4	3/16	3 1/2
8 x 6 1/2	24	7 7/8	6 1/2	3/8	1/4	1/8	3 1/8	6 3/8	13/16	10 1/4	2 1/4	3/16	3 1/2
R = .40													
8" WF													
CB 81	20	8 1/8	5 1/4	3/8	1/4	1/8	2 1/2	6 3/4	11/16	9 3/4	2 1/4	3/16	2 3/4
8 x 5 1/4	17	8	5 1/4	5/16	1/4	1/8	2 1/2	6 3/4	5/8	9 5/8	2 1/4	3/16	2 3/4
R = .32													

Gages g_2 are based on 1 1/4" edge distance (7/8" maximum rivet).

WIDE FLANGE

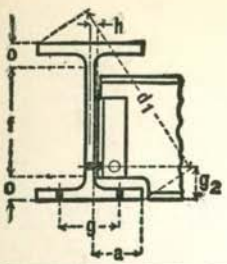
LIGHT BEAMS, STANCHIONS AND JOISTS

PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Section	Flange		Web Thickness	Axis 1-1			Axis 2-2		
					Width	Thickness		I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
LIGHT BEAMS													
P.C.	CBL 12	22.0	6.47	12.31	4.030	.424	.260	155.7	25.3	4.91	4.55	2.26	0.84
	12 x 4	19.0	5.62	12.16	4.010	.349	.240	130.1	21.4	4.81	3.67	1.83	0.81
	R=.30	16.5	4.86	12.00	4.000	.269	.230	105.3	17.5	4.65	2.79	1.39	0.76
P.C.	CBL 10	19.0	5.61	10.25	4.020	.394	.250	96.2	18.8	4.14	4.19	2.08	0.86
	10 x 4	17.0	4.98	10.12	4.010	.329	.240	81.8	16.2	4.05	3.45	1.72	0.83
	R=.30	15.0	4.40	10.00	4.000	.269	.230	68.8	13.8	3.95	2.79	1.39	0.80
P.C.	CBL 8	15.0	4.43	8.12	4.015	.314	.245	48.0	11.8	3.29	3.30	1.65	0.86
	8 x 4	13.0	3.83	8.00	4.000	.254	.230	39.5	9.88	3.21	2.62	1.31	0.83
	R=.30												
P.C.	CBL 6	16.0	4.72	6.25	4.030	.404	.260	31.7	10.1	2.59	4.32	2.14	0.96
	6 x 4	12.0	3.53	6.00	4.000	.279	.230	21.7	7.24	2.48	2.89	1.44	0.90
	R=.25												
STANCHIONS													
P.C.	CBS 6	25.0	7.35	6.37	6.080	.456	.320	53.5	16.8	2.69	17.1	5.6	1.52
	6 x 6	20.0	5.88	6.20	6.018	.367	.258	41.7	13.4	2.66	13.3	4.4	1.50
	R=.25	15.5	4.59	6.00	6.000	.269	.240	30.3	10.1	2.56	9.69	3.2	1.45
P.	CB 51	18.5	5.45	5.12	5.025	.420	.265	25.4	9.94	2.16	8.89	3.54	1.28
	5 x 5	16.0	4.70	5.00	5.000	.360	.240	21.3	8.53	2.13	7.51	3.00	1.26
	R=.3												
JOISTS													
P.C.	CBJ 12	14.0	4.14	11.91	3.970	.224	.200	88.2	14.8	4.61	2.25	1.13	0.74
	12 x 4												
	R=.30												
P.C.	CBJ 10	11.5	3.39	9.87	3.950	.204	.180	51.9	10.5	3.92	2.01	1.02	0.77
	10 x 4												
	R=.30												
P.C.	CBJ 8	10.0	2.95	7.90	3.940	.204	.170	30.8	7.79	3.23	1.99	1.01	0.82
	8 x 4												
	R=.30												
P.C.	CBJ 6	8.5	2.50	5.83	3.940	.194	.170	14.8	5.07	2.43	1.89	0.96	0.87
	6 x 4												
	R=.25												

For key to symbols in first column, refer to page 3.



WIDE FLANGE

LIGHT BEAMS, STANCHIONS AND JOISTS

DIMENSIONS OF SECTIONS

Section Index and Nominal Size	Weight per Foot	Depth of Section	Flange		Web		Distance						Usual Gage g
			Width	Thickness	Thickness	Half Thickness	a	f	o	d_1	Min. g_2	Clear. h	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
LIGHT BEAMS													
CBL 12	22.0	12¼	4	7/16	¼	⅛	1⅞	10¾	¾	13	2	3/16	2¼
12 x 4	19.0	12⅛	4	⅜	¼	⅛	1⅞	10¾	11/16	12¾	2	3/16	2¼
R=.30	16.5	12	4	¼	¼	⅛	1⅞	10¾	⅝	12⅝	1¾	3/16	2¼
CBL 10	19.0	10¼	4	⅜	¼	⅛	1⅞	8⅞	11/16	11	2	3/16	2¼
10 x 4	17.0	10⅛	4	5/16	¼	⅛	1⅞	8⅞	⅝	10⅞	2	3/16	2¼
R=.30	15.0	10	4	¼	¼	⅛	1⅞	8⅞	9/16	10¾	1¾	3/16	2¼
*CBL 8	15.0	8⅛	4	5/16	¼	⅛	1⅞	6⅞	⅝	9	2	3/16	2¼
8 x 4	13.0	8	4	¼	¼	⅛	1⅞	6⅞	9/16	9	1¾	3/16	2¼
R=.30													
*CBL 6	16.0	6¼	4	⅜	¼	⅛	1⅞	4⅞	11/16	7⅜	2	3/16	2¼
6 x 4	12.0	6	4	¼	¼	⅛	1⅞	4⅞	9/16	7¼	1¾	3/16	2¼
R=.25													
STANCHIONS													
CBS 6	25.0	6⅜	6	½	5/16	3/16	2⅞	4⅞	¾	8⅞	2¼	¼	3½
6 x 6	20.0	6¼	6	⅜	¼	3/16	2⅞	4⅞	11/16	8⅝	2	3/16	3½
R=.25	15.5	6	6	¼	¼	⅛	2⅞	4⅞	9/16	8½	2	3/16	3½
*CB 51	18.5	5⅛	5	7/16	¼	⅛	2⅜	3 11/16	11/16	7⅛	2¾	3/16	3
5 x 5	16.0	5	5	⅜	¼	⅛	2⅜	3 11/16	⅝	7	2¾	3/16	3
R=.3													
JOISTS													
CBJ 12													
12 x 4	14.0	11⅞	4	¼	3/16	⅛	1⅞	10¾	9/16	12½	1¾	3/16	2¼
R=.30													
CBJ 10													
10 x 4	11.5	9⅞	4	3/16	3/16	⅛	1⅞	8⅞	½	10⅝	1¾	3/16	2¼
R=.30													
CBJ 8													
8 x 4	10.0	7⅞	4	3/16	3/16	⅛	1⅞	6⅞	½	8⅞	1¾	3/16	2¼
R=.30													
CBJ 6													
6 x 4	8.5	5⅞	4	3/16	3/16	⅛	1⅞	5	7/16	7	1¾	3/16	2¼
R=.25													

*These sections as produced in the Pittsburgh District have a flange slope of 3° and the flange thickness shown is the average thickness.

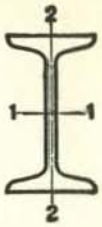
*This section has a flange slope of 3° and the flange thickness shown is the average thickness.

Gages g_2 are based on 1¼" edge distance (⅞" maximum rivet).

BEAMS

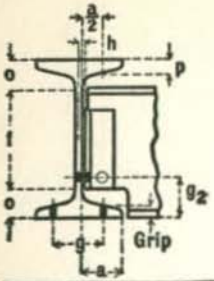
AMERICAN STANDARD

PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Beam	Width of Flange	Aver. Flange Thickness	Web Thickness	Axis 1-1			Axis 2-2		
								I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
P. C.	24″ 1 B 18	120.0	35.13	24	8.048	1.102	.798	3010.8	250.9	9.26	84.9	21.1	1.56
	24 x 7⅞ R=.60	105.9	30.98		7.875	1.102	.625	2811.5	234.3	9.53	78.9	20.0	1.60
P. C.	24″ 1 B 1	100.0	29.25	24	7.247	.871	.747	2371.8	197.6	9.05	58.4	13.4	1.29
	24 x 7	90.0	26.30		7.124	.871	.624	2230.1	185.8	9.21	45.5	12.8	1.32
	R=.60	79.9	23.33		7.000	.871	.500	2087.2	173.9	9.46	42.9	12.2	1.36
P. C.	20″ 1 B 2	95.0	27.74	20	7.200	.916	.800	1599.7	160.0	7.59	50.5	14.0	1.35
	20 x 7	85.0	24.80		7.053	.916	.653	1501.7	150.2	7.78	47.0	13.3	1.38
	R=.70												
P. C.	20″ 1 B 3	75.0	21.90	20	6.391	.789	.641	1263.5	126.3	7.60	30.1	9.4	1.17
	20 x 6¼	65.4	19.08		6.250	.789	.500	1169.5	116.9	7.83	27.9	8.9	1.21
	R=.60												
P.C.B.	18″ 1 B 4	70.0	20.46	18	6.251	.691	.711	917.5	101.9	6.70	24.5	7.8	1.09
	18 x 6	54.7	15.94		6.000	.691	.460	795.5	88.4	7.07	21.2	7.1	1.15
	R=.56												
P.C.B.G.	15″ 1 B 7	50.0	14.59	15	5.640	.622	.550	481.1	64.2	5.74	16.0	5.7	1.05
	15 x 5½	42.9	12.49		5.500	.622	.410	441.8	58.9	5.95	14.6	5.3	1.08
	R=.51												
P. C.	12″ 1 B 8	50.0	14.57	12	5.477	.659	.687	301.6	50.3	4.55	16.0	5.8	1.05
	12 x 5¼	40.8	11.84		5.250	.659	.460	268.9	44.8	4.77	13.8	5.3	1.08
	R=.56												
P.C.B.G.	12″ 1 B 9	35.0	10.20	12	5.078	.544	.428	227.0	37.8	4.72	10.0	3.9	0.99
	12 x 5	31.8	9.26		5.000	.544	.350	215.8	36.0	4.83	9.5	3.8	1.01
	R=.45												
P.C.B.G.	10″ 1 B 10	35.0	10.22	10	4.944	.491	.594	145.8	29.2	3.78	8.5	3.4	0.91
	10 x 4⅝	25.4	7.38		4.660	.491	.310	122.1	24.4	4.07	6.9	3.0	0.97
	R=.41												
P.C.B.G.	8″ 1 B 12	23.0	6.71	8	4.171	.425	.441	64.2	16.0	3.09	4.4	2.1	0.81
	8 x 4	18.4	5.34		4.000	.425	.270	56.9	14.2	3.26	3.8	1.9	0.84
	R=.37												
P.C.B.S.	7″ 1 B 13	20.0	5.83	7	3.860	.392	.450	41.9	12.0	2.68	3.1	1.6	0.74
	7 x 3⅝	15.3	4.43		3.660	.392	.250	36.2	10.4	2.86	2.7	1.5	0.78
	R=.35												

For key to symbols in first column, refer to page 3.



BEAMS

AMERICAN STANDARD

DIMENSIONS OF SECTIONS

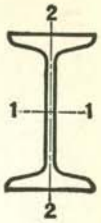
Section Index and Depth	Weight per Foot	Flange		Web		Distance							Max. Flange Rivet
		Width	Thickness, p	Thickness	Half Thickness	a	f	o	Min. g_2	Clear. h	Gage g	Grip	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
24″ I	120.0	8	1 1/8	13/16	7/16	3 5/8	20 1/8	1 15/16	3 1/4	1/2	4	1 1/8	1
B 18	105.9	7 7/8	1 1/8	5/8	5/16	3 5/8	20 1/8	1 15/16	3 1/4	3/8	4	1 1/8	1
R=.60													
24″ I	100.0	7 1/4	7/8	3/4	3/8	3 1/4	20 3/4	1 5/8	3	7/16	4	7/8	1
B 1	90.0	7 1/8	7/8	5/8	5/16	3 1/4	20 3/4	1 5/8	3	3/8	4	7/8	1
R=.60	79.9	7	7/8	1/2	1/4	3 1/4	20 3/4	1 5/8	3	5/16	4	7/8	1
20″ I	95.0	7 1/4	1 5/16	13/16	7/16	3 1/4	16 1/2	1 3/4	3 1/4	1/2	4	1 5/16	1
B 2	85.0	7	1 5/16	11/16	5/16	3 1/4	16 1/2	1 3/4	3 1/4	3/8	4	7/8	1
R=.70													
20″ I	75.0	6 3/8	1 3/16	5/8	5/16	2 7/8	16 7/8	1 9/16	3	3/8	3 1/2	1 3/16	7/8
B 3	65.4	6 1/4	1 3/16	1/2	1/4	2 7/8	16 7/8	1 9/16	3	5/16	3 1/2	3/4	7/8
R=.60													
18″ I	70.0	6 1/4	1 1/16	3/4	3/8	2 3/4	15 1/4	1 3/8	2 3/4	7/16	3 1/2	1 1/16	7/8
B 4	54.7	6	1 1/16	1/2	1/4	2 3/4	15 1/4	1 3/8	2 3/4	5/16	3 1/2	1 1/16	7/8
R=.56													
15″ I	50.0	5 5/8	5/8	9/16	5/16	2 1/2	12 1/2	1 1/4	2 3/4	3/8	3 1/2	9/16	3/4
B 7	42.9	5 1/2	5/8	7/16	1/4	2 1/2	12 1/2	1 1/4	2 3/4	5/16	3 1/2	9/16	3/4
R=.51													
12″ I	50.0	5 1/2	1 1/16	1 1/16	3/8	2 3/8	9 3/8	1 5/16	2 3/4	7/16	3	5/8	3/4
B 8	40.8	5 1/4	1 1/16	1/2	1/4	2 3/8	9 3/8	1 5/16	2 3/4	5/16	3	5/8	3/4
R=.56													
12″ I	35.0	5 1/8	9/16	7/16	1/4	2 3/8	9 3/4	1 1/8	2 1/2	5/16	3	1/2	3/4
B 9	31.8	5	9/16	3/8	3/16	2 3/8	9 3/4	1 1/8	2 1/2	1/4	3	1/2	3/4
R=.45													
10″ I	35.0	5	1/2	5/8	5/16	2 1/8	8	1	2 1/2	3/8	2 3/4	1/2	3/4
B 10	25.4	4 5/8	1/2	5/16	3/16	2 1/8	8	1	2 1/2	1/4	2 3/4	1/2	3/4
R=.41													
8″ I	23.0	4 1/8	7/16	7/16	1/4	1 7/8	6 1/4	7/8	2 1/4	5/16	2 1/4	7/16	3/4
B 12	18.4	4	7/16	5/16	1/8	1 7/8	6 1/4	7/8	2 1/4	3/16	2 1/4	7/16	3/4
R=.37													
7″ I	20.0	3 7/8	3/8	7/16	1/4	1 3/4	5 3/8	13/16	2	5/16	2 1/4	3/8	5/8
B 13	15.3	3 5/8	3/8	1/4	1/8	1 3/4	5 3/8	13/16	2 1/4	3/16	2 1/4	3/8	5/8
R=.35													

Gages g_2 are based on 1 1/4″ edge distance (7/8″ maximum rivet).

BEAMS

AMERICAN STANDARD

PROPERTIES OF SECTIONS

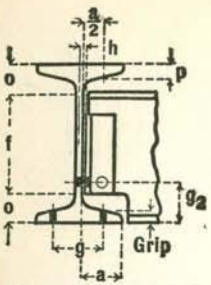


District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Beam	Width of Flange	Aver. Flange Thickness	Web Thickness	Axis 1-1			Axis 2-2		
								I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
	6″ 1												
P.C.B.G.	B 14	17.25	5.02	6	3.565	.359	.465	26.0	8.7	2.28	2.3	1.3	0.68
	6 x 3⅜	12.5	3.61		3.330	.359	.230	21.8	7.3	2.46	1.8	1.1	0.72
	R=.33												
	5″ 1												
P.C.	B 15	14.75	4.29	5	3.284	.326	.494	15.0	6.0	1.87	1.7	1.0	0.63
P.C.S.	5 x 3	10.0	2.87		3.000	.326	.210	12.1	4.8	2.05	1.2	0.82	0.65
	R=.31												
	4″ 1												
P.C.B.G.	B 16	9.5	2.76	4	2.796	.293	.326	6.7	3.3	1.56	0.91	0.65	0.58
P.C.B.S.G.	4 x 2⅝	7.7	2.21		2.660	.293	.190	6.0	3.0	1.64	0.77	0.58	0.59
	R=.29												
	3″ 1												
P.C.B.	B 17	7.5	2.17	3	2.509	.260	.349	2.9	1.9	1.15	0.59	0.47	0.52
P.C.B.S.	3 x 2⅜	5.7	1.64		2.330	.260	.170	2.5	1.7	1.23	0.46	0.40	0.53
	R=.27												

H-BEAMS

District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Beam	Width of Flange	Aver. Flange Thickness	Web Thickness	Axis 1-1			Axis 2-2		
								I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
	H 4												
P.C.	8 x 8	34.3	10.07	8	8.000	.459	.375	115.5	28.9	3.40	35.1	8.8	1.87
	R=.313												
	H 3a												
P.C.	6 x 6	25.0	7.35	6	5.938	.481	.313	47.0	15.7	2.53	14.9	5.0	1.43
	R=.313												
	H 3												
P.C.B.G.	6 x 6	20.0	5.88	6	5.938	.380	.250	38.8	12.9	2.57	11.4	3.8	1.39
	R=.313												
	H 2												
P.C.B.	5 x 5	18.9	5.54	5	5.000	.417	.313	23.8	9.5	2.08	7.8	3.1	1.20
	R=.313												
	H 1												
P.C.B.S.G.	4 x 4	13.0	3.82	4	3.937	.372	.250	10.4	5.2	1.65	3.4	1.7	.94
	R=.313												

For key to symbols in first column, refer to page 3.



BEAMS

AMERICAN STANDARD

DIMENSIONS OF SECTIONS

I

Section Index and Depth	Weight per Foot	Flange		Web		Distance							Max. Flange Rivet
		Width	Thick-ness, p	Thick-ness	Half Thick-ness	a	f	o	Min. g_2	Clear. h	Gage g	Grip	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
6″ I	17.25	3 5/8	3/8	1/2	1/4	1 1/2	4 1/2	3/4	2	5/16	2	3/8	5/8
B 14	12.5	3 3/8	3/8	1/4	1/8	1 1/2	4 1/2	3/4	2	3/16	2	5/16	5/8
R=.33													
5″ I	14.75	3 1/4	5/16	1/2	1/4	1 3/8	3 5/8	11/16	2	5/16	1 3/4	5/16	1/2
B 15	10.0	3	5/16	1/4	1/8	1 3/8	3 5/8	11/16	2	3/16	1 3/4	5/16	1/2
R=.31													
4″ I	9.5	2 3/4	5/16	5/16	3/16	1 1/4	2 3/4	5/8	2	1/4	1 1/2	5/16	1/2
B 16	7.7	2 5/8	5/16	3/16	1/8	1 1/4	2 3/4	5/8	2	3/16	1 1/2	5/16	1/2
R=.29													
3″ I	7.5	2 1/2	1/4	3/8	3/16	1 1/8	1 7/8	9/16	.....	1/4	1 1/2	1/4	3/8
B 17	5.7	2 3/8	1/4	3/16	1/8	1 1/8	1 7/8	9/16	.....	3/16	1 1/2	1/4	3/8
R=.27													

H-BEAMS

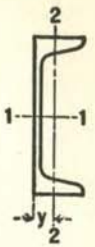
Section Index and Depth	Weight per Foot	Flange		Web		Distance						Max. Flange Rivet
		Width	Thick-ness, p.	Thick-ness	Half Thick-ness	a	f	o	Min. g_2	Gage g	Grip	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
H 4												
8	34.3	8	7/16	3/8	3/16	3 13/16	6 1/4	7/8	2 1/4	5	7/16	7/8
R=.313												
H 3a												
6	25.0	6	1/2	5/16	3/16	2 13/16	4 1/4	7/8	2 1/4	3 1/2	1/2	7/8
R=.313												
H 3												
6	20.0	6	3/8	1/4	1/8	2 7/8	4 7/16	3/4	2	3 1/2	3/8	7/8
R=.313												
H 2												
5	18.9	5	7/16	5/16	3/16	2 3/8	3 3/8	13/16	2	2 3/4	7/16	3/4
R=.313												
H 1												
4	13.0	4	3/8	1/4	1/8	1 7/8	2 1/2	3/4	2	2 1/4	3/8	5/8
R=.313												

Gages g_2 are based on 1 1/4″ edge distance (7/8″ maximum rivet).

CHANNELS

AMERICAN STANDARD

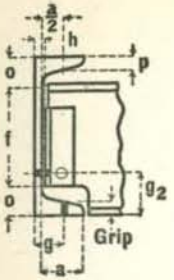
PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Channel	Width of Flange	Aver. Flange Thickness	Web Thickness	Axis 1-1			Axis 2-2			
								I	S	r	I	S	r	y
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.	In.
P.C.	†C 60 18 x 4 R=.625	58.0	16.98	18	4.200	.625	.700	670.7	74.5	6.29	18.5	5.6	1.04	0.88
		51.9	15.18		4.100	.625	.600	622.1	69.1	6.40	17.1	5.3	1.06	0.87
		45.8	13.38		4.000	.625	.500	573.5	63.7	6.55	15.8	5.1	1.09	0.89
		42.7	12.48		3.950	.625	.450	549.2	61.0	6.64	15.0	4.9	1.10	0.90
P.C.B.G.	C 1 15 x 3⅜ R=.50	50.0	14.64	15	3.716	.650	.716	401.4	53.6	5.24	11.2	3.8	0.87	0.80
		40.0	11.70		3.520	.650	.520	346.3	46.2	5.44	9.3	3.4	0.89	0.78
		33.9	9.90		3.400	.650	.400	312.6	41.7	5.62	8.2	3.2	0.91	0.79
P.C.	C 20 13 x 4 R=.48	50.0	14.66	13	4.412	.610	.787	312.9	48.1	4.62	16.7	4.9	1.07	0.98
P.C.B.		40.0	11.71		4.185	.610	.560	271.4	41.7	4.82	13.9	4.3	1.09	0.97
P.C.B.		35.0	10.24		4.072	.610	.447	250.7	38.6	4.95	12.5	4.0	1.10	0.99
P.C.B.		31.8	9.30		4.000	.610	.375	237.5	36.5	5.05	11.6	3.9	1.11	1.01
P.C.B.G.	C 2 12 x 3 R=.38	30.0	8.79	12	3.170	.501	.510	161.2	26.9	4.28	5.2	2.1	0.77	0.68
		25.0	7.32		3.047	.501	.387	143.5	23.9	4.43	4.5	1.9	0.79	0.68
		20.7	6.03		2.940	.501	.280	128.1	21.4	4.61	3.9	1.7	0.81	0.70
P.C.B.G.	C 3 10 x 2⅝ R=.34	30.0	8.80	10	3.033	.436	.673	103.0	20.6	3.42	4.0	1.7	0.67	0.65
		25.0	7.33		2.886	.436	.526	90.7	18.1	3.52	3.4	1.5	0.68	0.62
		20.0	5.86		2.739	.436	.379	78.5	15.7	3.66	2.8	1.3	0.70	0.61
		15.3	4.47		2.600	.436	.240	66.9	13.4	3.87	2.3	1.2	0.72	0.64
P.C.B.	C 4 9 x 2½ R=.33	20.0	5.86	9	2.648	.413	.448	60.6	13.5	3.22	2.4	1.2	0.65	0.59
		15.0	4.39		2.485	.413	.285	50.7	11.3	3.40	1.9	1.0	0.67	0.59
		13.4	3.89		2.430	.413	.230	47.3	10.5	3.49	1.8	0.97	0.67	0.61
P.C.B.G.	C 5 8 x 2¼ R=.32	18.75	5.49	8	2.527	.390	.487	43.7	10.9	2.82	2.00	1.00	0.60	0.57
		13.75	4.02		2.343	.390	.303	35.8	9.0	2.99	1.50	0.86	0.62	0.56
		11.50	3.36		2.260	.390	.220	32.3	8.1	3.10	1.30	0.79	0.63	0.58
P.C.B.S.G.	C 6 7 x 2⅛ R=.31	14.75	4.32	7	2.299	.366	.419	27.1	7.7	2.51	1.40	0.79	0.57	0.53
		12.25	3.58		2.194	.366	.314	24.1	6.9	2.59	1.20	0.71	0.58	0.53
		9.80	2.85		2.090	.366	.210	21.1	6.0	2.72	0.98	0.63	0.59	0.55
P.C.B.G.	C 7 6 x 2 R=.30	13.00	3.81	6	2.157	.343	.437	17.3	5.8	2.13	1.10	0.65	0.53	0.52
		10.50	3.07		2.034	.343	.314	15.1	5.0	2.22	0.87	0.57	0.53	0.50
		8.20	2.39		1.920	.343	.200	13.0	4.3	2.34	0.70	0.50	0.54	0.52
P.C.B.S.G.	C 8 5 x 1¾ R=.29	9.00	2.63	5	1.885	.320	.325	8.8	3.5	1.83	0.64	0.45	0.49	0.48
		6.70	1.95		1.750	.320	.190	7.4	3.0	1.95	0.48	0.38	0.50	0.49
P.C.B.S.G.	C 9 4 x 1⅝ R=.28	7.25	2.12	4	1.720	.296	.320	4.5	2.3	1.47	0.44	0.35	0.46	0.46
		5.40	1.56		1.580	.296	.180	3.8	1.9	1.56	0.32	0.29	0.45	0.46
P.C.B.	C 10 3 x 1½ R=.27	6.00	1.75	3	1.596	.273	.356	2.1	1.4	1.08	0.31	0.27	0.42	0.46
P.C.B.S.		5.00	1.46		1.498	.273	.258	1.8	1.2	1.12	0.25	0.24	0.41	0.44
P.C.B.S.		4.10	1.19		1.410	.273	.170	1.6	1.1	1.17	0.20	0.21	0.41	0.44

†C 60 is not an American standard channel.

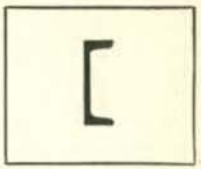
For key to symbols in first column, refer to page 3.



CHANNELS

AMERICAN STANDARD

DIMENSIONS OF SECTIONS



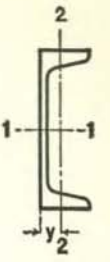
Section Index and Depth	Weight per Foot	Flange		Web		Distance							Max. Flange Rivet
		Width	Thickness, p	Thickness	Half Thickness	a	f	o	Min. g_2	Clear. h	Gage g	Grip	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
†C 60	58.0	4 1/4	5/8	11/16	3/8	3 1/2	15 3/8	1 5/16	2 3/4	3/4	2 1/2	5/8	1
18	51.9	4 1/8	5/8	5/8	5/16	3 1/2	15 3/8	1 5/16	2 3/4	11/16	2 1/2	5/8	1
R=.625	45.8	4	5/8	1/2	1/4	3 1/2	15 3/8	1 5/16	2 3/4	9/16	2 1/2	5/8	1
	42.7	4	5/8	7/16	1/4	3 1/2	15 3/8	1 5/16	2 3/4	1/2	2 1/2	5/8	1
C 1	50.0	3 3/4	5/8	3/4	3/8	3	12 3/8	1 5/16	2 3/4	13/16	2 1/4	5/8	1
15	40.0	3 1/2	5/8	9/16	1/4	3	12 3/8	1 5/16	2 3/4	5/8	2	5/8	1
R=.50	33.9	3 3/8	5/8	7/16	3/16	3	12 3/8	1 5/16	2 3/4	1/2	2	5/8	1
C 20	50.0	4 3/8	5/8	13/16	7/16	3 5/8	10 3/8	1 5/16	2 3/4	7/8	2 1/2	5/8	1
13	40.0	4 1/8	5/8	9/16	5/16	3 5/8	10 3/8	1 5/16	2 3/4	5/8	2 1/2	9/16	1
R=.48	35.0	4 1/8	5/8	7/16	1/4	3 5/8	10 3/8	1 5/16	2 3/4	1/2	2 1/2	9/16	1
	31.8	4	5/8	3/8	3/16	3 5/8	10 3/8	1 5/16	2 3/4	7/16	2 1/2	9/16	1
C 2	30.0	3 1/8	1/2	1/2	1/4	2 5/8	9 7/8	1 1/16	2 1/2	9/16	1 3/4	1/2	7/8
12	25.0	3	1/2	3/8	3/16	2 5/8	9 7/8	1 1/16	2 1/2	7/16	1 3/4	1/2	7/8
R=.38	20.7	3	1/2	5/16	1/8	2 5/8	9 7/8	1 1/16	2 1/2	3/8	1 3/4	1/2	7/8
C 3	30.0	3	7/16	11/16	3/8	2 3/8	8 1/8	1 5/16	2 1/2	3/4	1 3/4	7/16	3/4
10	25.0	2 7/8	7/16	9/16	1/4	2 3/8	8 1/8	1 5/16	2 1/2	5/8	1 3/4	7/16	3/4
R=.34	20.0	2 3/4	7/16	3/8	3/16	2 3/8	8 1/8	1 5/16	2 1/2	7/16	1 1/2	7/16	3/4
	15.3	2 5/8	7/16	1/4	1/8	2 3/8	8 1/8	1 5/16	2 1/2	5/16	1 1/2	7/16	3/4
C 4	20.0	2 5/8	7/16	7/16	1/4	2 1/4	7 1/4	7/8	2 1/2	1/2	1 1/2	7/16	3/4
9	15.0	2 1/2	7/16	5/16	3/16	2 1/4	7 1/4	7/8	2 1/2	3/8	1 3/8	7/16	3/4
R=.33	13.4	2 3/8	7/16	1/4	1/8	2 1/4	7 1/4	7/8	2 1/2	7/16	1 3/8	3/8	3/4
C 5	18.75	2 1/2	3/8	1/2	1/4	2	6 3/8	13/16	2 1/4	9/16	1 1/2	3/8	3/4
8	13.75	2 3/8	3/8	5/16	3/16	2	6 3/8	13/16	2 1/4	3/8	1 3/8	3/8	3/4
R=.32	11.5	2 1/4	3/8	1/4	1/8	2	6 3/8	13/16	2 1/4	5/16	1 3/8	3/8	3/4
C 6	14.75	2 1/4	3/8	7/16	1/4	1 7/8	5 3/8	13/16	2	1/2	1 1/4	3/8	5/8
7	12.25	2 1/4	3/8	5/16	3/16	1 7/8	5 3/8	13/16	2	3/8	1 1/4	3/8	5/8
R=.31	9.8	2 1/8	3/8	1/4	1/8	1 7/8	5 3/8	13/16	2	5/16	1 1/4	3/8	5/8
C 7	13.0	2 1/8	3/8	7/16	1/4	1 3/4	4 1/2	3/4	2	1/2	1 3/8	5/16	5/8
6	10.5	2	3/8	5/16	3/16	1 3/4	4 1/2	3/4	2	3/8	1 1/8	3/8	5/8
R=.30	8.2	1 7/8	3/8	3/16	1/8	1 3/4	4 1/2	3/4	2	1/4	1 1/8	5/16	5/8
C 8	9.0	1 7/8	5/16	5/16	3/16	1 1/2	3 5/8	11/16	2	3/8	1 1/8	5/16	1/2
5	6.7	1 3/4	5/16	3/16	1/8	1 1/2	3 5/8	11/16	2	1/4	1 1/8	5/16	1/2
R=.29													
C 9	7.25	1 3/4	5/16	5/16	3/16	1 3/8	2 3/4	5/8	2	3/8	1	5/16	1/2
4	5.4	1 5/8	5/16	3/16	1/8	1 3/8	2 3/4	5/8	2	1/4	1	1/4	1/2
R=.28													
C 10	6.0	1 5/8	1/4	3/8	3/16	1 1/4	1 3/4	5/8	.....	7/16	7/8	5/16	1/2
3	5.0	1 1/2	1/4	1/4	1/8	1 1/4	1 3/4	5/8	.....	5/16	7/8	1/4	1/2
R=.27	4.1	1 3/8	1/4	3/16	1/8	1 1/4	1 3/4	5/8	.....	1/4	7/8	1/4	1/2

Gages g_2 are based on 1 1/4" edge distance (7/8" maximum rivet).
†C 60 is not an American standard channel.

CHANNELS

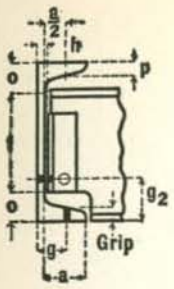
CAR BUILDING AND SHIPBUILDING

PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Channel	Width of Flange	Aver. Flange Thickness	Web Thickness	Axis 1-1			Axis 2-2			
								I	S	r	I	S	r	y
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.	In.
P.C.	C 60 18 x 4 R=.625	58.0	16.98	18	4.200	.625	.700	670.7	74.5	6.29	18.5	5.6	1.04	0.88
		51.9	15.18		4.100	.625	.600	622.1	69.1	6.40	17.1	5.3	1.06	0.87
		45.8	13.38		4.000	.625	.500	573.5	63.7	6.55	15.8	5.1	1.09	0.89
		42.7	12.48		3.950	.625	.450	549.2	61.0	6.64	15.0	4.9	1.10	0.90
P.C.G.	C 20 13 x 4 R=.48	50.0	14.66	13	4.412	.610	.787	312.9	48.1	4.62	16.7	4.9	1.07	0.98
P.C.B.G.		40.0	11.71		4.185	.610	.560	271.4	41.7	4.82	13.9	4.3	1.09	0.97
P.C.B.G.		35.0	10.24		4.072	.610	.447	250.7	38.6	4.95	12.5	4.0	1.10	0.99
P.C.B.G.		31.8	9.30		4.000	.610	.375	237.5	36.5	5.05	11.6	3.9	1.11	1.01
P.C.B.G.	C 170 12 x 4 R=.50	50.0	14.64	12	4.135	.700	.835	268.1	44.7	4.28	17.8	5.8	1.10	1.06
		45.0	13.16		4.012	.700	.712	250.4	41.7	4.36	16.1	5.4	1.11	1.05
		40.0	11.70		3.890	.700	.590	232.8	38.8	4.46	14.5	5.1	1.12	1.05
		35.0	10.23		3.767	.700	.467	215.1	35.8	4.59	12.9	4.8	1.12	1.07
P.G.	C 171 12 x 3½ R=.60	37.0	10.80	12	3.600	.600	.600	203.4	33.9	4.34	10.3	3.8	0.98	0.89
		32.9	9.60		3.500	.600	.500	189.0	31.5	4.44	9.4	3.6	0.99	0.89
		30.9	9.00		3.450	.600	.450	181.8	30.3	4.50	8.9	3.5	0.99	0.90
P.G.	C 26 10 x 4 R=.575	41.1	12.06	10	4.319	.575	.794	156.3	31.3	3.61	16.4	5.1	1.17	1.11
		33.6	9.81		4.100	.575	.575	138.0	27.6	3.75	13.7	4.6	1.18	1.11
		28.5	8.31		3.950	.575	.425	125.5	25.1	3.89	11.8	4.2	1.19	1.15
P.G.	C 27 10 x 3½ R=.575	28.3	8.23	10	3.500	.575	.475	116.9	23.4	3.77	8.6	3.4	1.02	0.96
		24.9	7.23		3.400	.575	.375	108.6	21.7	3.88	7.6	3.2	1.03	0.98
P.C.	C 28 10 x 3½ R=.50	25.3	7.38	10	3.550	.500	.425	106.0	21.2	3.79	7.9	3.0	1.04	0.94
		21.9	6.38		3.450	.500	.325	97.6	19.5	3.91	7.0	2.8	1.05	0.98
P.C.G.	C 32 9 x 3½ R=.55	25.4	7.41	9	3.500	.550	.450	87.3	19.4	3.43	8.0	3.2	1.04	1.00
		23.9	6.96		3.450	.550	.400	84.3	18.7	3.48	7.5	3.1	1.04	1.01

For key to symbols in first column, refer to page 3.



CHANNELS

CAR BUILDING AND SHIP BUILDING

DIMENSIONS OF SECTIONS

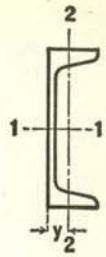
Section Index and Depth	Weight per Foot	Flange		Web		Distance							Max. Flange Rivet
		Width	Thickness, p	Thickness	Half Thickness	a	f	o	Min. g_2	Clear. h	Gage g	Grip	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
C 60	58.0	4 1/4	5/8	11/16	3/8	3 1/2	15 3/8	1 5/16	2 3/4	3/4	2 1/2	5/8	1
18	51.9	4 1/8	5/8	5/8	5/16	3 1/2	15 3/8	1 5/16	2 3/4	11/16	2 1/2	5/8	1
R=.625	45.8	4	5/8	1/2	1/4	3 1/2	15 3/8	1 5/16	2 3/4	9/16	2 1/2	5/8	1
	42.7	4	5/8	7/16	1/4	3 1/2	15 3/8	1 5/16	2 3/4	1/2	2 1/2	5/8	1
C 20	50.0	4 3/8	5/8	13/16	7/16	3 5/8	10 3/8	1 5/16	2 3/4	7/8	2 1/2	5/8	1
13	40.0	4 1/8	5/8	9/16	5/16	3 5/8	10 3/8	1 5/16	2 3/4	5/8	2 1/2	9/16	1
R=.48	35.0	4 1/8	5/8	7/16	1/4	3 5/8	10 3/8	1 5/16	2 3/4	1/2	2 1/2	9/16	1
	31.8	4	5/8	3/8	3/16	3 5/8	10 3/8	1 5/16	2 3/4	7/16	2 1/2	9/16	1
C 170	50.0	4 1/8	11/16	7/8	7/16	3 3/8	9 1/2	1 1/4	2 1/2	15/16	2 1/2	11/16	1
12	45.0	4	11/16	11/16	3/8	3 3/8	9 1/2	1 1/4	2 1/2	3/4	2 1/2	11/16	1
R=.50	40.0	3 7/8	11/16	5/8	5/16	3 3/8	9 1/2	1 1/4	2 1/2	11/16	2 1/2	11/16	1
	35.0	3 3/4	11/16	1/2	1/4	3 3/8	9 1/2	1 1/4	2 1/2	9/16	2 1/2	11/16	1
C 171	37.0	3 5/8	5/8	5/8	5/16	3	9 1/2	1 1/4	2 1/2	11/16	2 1/4	5/8	7/8
12	32.9	3 1/2	5/8	1/2	1/4	3	9 1/2	1 1/4	2 1/2	9/16	2 1/4	9/16	7/8
R=.60	30.9	3 1/2	5/8	7/16	1/4	3	9 1/2	1 1/4	2 1/2	1/2	2 1/4	9/16	7/8
C 26	41.1	4 5/16	9/16	13/16	7/16	3 1/2	7 1/2	1 1/4	2 1/2	7/8	2 1/2	9/16	7/8
10	33.6	4 1/8	9/16	9/16	5/16	3 1/2	7 1/2	1 1/4	2 1/2	5/8	2 1/2	9/16	7/8
R=.575	28.5	4	9/16	7/16	1/4	3 1/2	7 1/2	1 1/4	2 1/2	1/2	2 1/2	9/16	7/8
C 27	28.3	3 1/2	9/16	1/2	1/4	3	7 5/8	1 3/16	2 1/2	9/16	2	9/16	7/8
10	24.9	3 3/8	9/16	3/8	9/16	3	7 5/8	1 3/16	2 1/2	7/16	2	9/16	7/8
R=.575													
C 28	25.3	3 1/2	1/2	7/16	1/4	3 1/8	7 7/8	1 1/16	2 1/2	1/2	2	1/2	7/8
10	21.9	3 1/2	1/2	5/16	3/16	3 1/8	7 7/8	1 1/16	2 1/2	3/8	2	1/2	7/8
R=.50													
C 32	25.4	3 1/2	9/16	7/16	1/4	3	6 3/4	1 1/8	2 1/2	1/2	2	9/16	7/8
9	23.9	3 1/2	9/16	7/16	3/16	3	6 3/4	1 1/8	2 1/2	1/2	2	9/16	7/8
R=.55													

Gages g are usual standard gages, but may be varied if conditions require.
Gages g_2 are based on 1 1/4" edge distance (7/8" maximum rivet).

CHANNELS

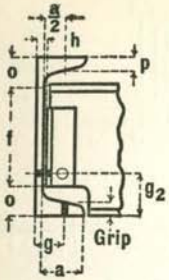
CAR BUILDING AND SHIP BUILDING

PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Channel	Width of Flange	Aver. Flange Thickness	Web Thickness	Axis 1-1			Axis 2-2			
								I	S	r	I	S	r	y
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.	In.
P.C.G.	C 36 8 x 3½ R=.525	22.8 21.4	6.63 6.23	8	3.500 3.450	.525 .525	.425 .375	63.3 61.2	15.8 15.3	3.09 3.13	7.4 6.9	3.0 2.9	1.05 1.05	1.04 1.05
P.B.G.	C 37 8 x 3 R=.50	20.0 18.7	5.83 5.43	8	3.025 2.975	.500 .500	.400 .350	54.0 51.9	13.5 13.0	3.05 3.09	4.7 4.4	2.2 2.1	0.90 0.90	0.86 0.88
P.C.	C 41 7 x 3½ R=.50	22.7 19.1	6.60 5.55	7	3.600 3.450	.500 .500	.500 .350	47.1 42.8	13.5 12.2	2.67 2.78	7.5 6.3	3.0 2.7	1.07 1.07	1.07 1.11
P.	C 42 7 x 3 R=.475	17.6	5.12	7	3.000	.475	.375	37.3	10.7	2.70	4.2	2.0	0.90	0.90
P.G.	C 46 6 x 3½ R=.475	18.0	5.22	6	3.500	.475	.375	29.4	9.8	2.38	6.1	2.6	1.08	1.15
P.C.	C 56 6 x 3½ R=.385	15.3	4.48	6	3.500	.385	.340	25.3	8.4	2.38	5.1	2.1	1.08	1.08
P.	C 47 6 x 3 R=.475	16.3 15.1	4.75 4.37	6	3.000 2.938	.475 .475	.375 .313	25.8 24.7	8.6 8.2	2.33 2.38	4.0 3.6	1.9 1.8	0.91 0.91	0.95 0.97
P.	C 48 6 x 2½ R=.375	12.0	3.52	6	2.500	.375	.313	18.6	6.2	2.30	2.0	1.1	0.75	0.72
P.	C 200 4 x 2½ R=.28	13.8	4.00	4	2.500	.500	.500	8.8	4.4	1.49	2.2	1.4	0.74	0.86
P. P.C.	*C 192 *C 193 3 x 1⅞ R=.19	9.0 7.1	2.64 2.08	3	2.125 1.938	.351 .351	.500 .313	3.1 2.7	2.1 1.8	1.09 1.14	0.97 0.71	0.68 0.56	0.61 0.58	0.71 0.68

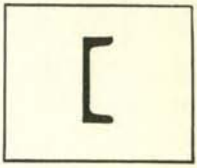
*C 193 and C 192 are identical except that C 193 flanges are flared out to 3⅛" at toe of flanges.
For key to symbols in first column refer to page 3.



CHANNELS

CAR BUILDING AND SHIP BUILDING

DIMENSIONS OF SECTIONS

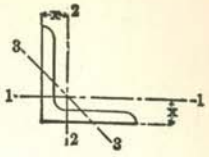


Section Index and Depth	Weight per Foot	Flange		Web		Distance							Max. Flange Rivet
		Width	Thickness, p	Thickness	Half Thickness	a	f	o	Min. g_2	Clear. h	Gage g	Grip	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
C 36	22.8	3½	½	7/16	¼	3⅛	5⅞	1 1/16	2¼	½	2	½	⅞
8	21.4	3½	½	⅜	3/16	3⅛	5⅞	1 1/16	2¼	7/16	2	½	⅞
R=.525													
C 37	20.0	3	½	7/16	3/16	2⅝	5⅞	1 1/16	2¼	½	1¾	½	⅞
8	18.7	3	½	⅜	3/16	2⅝	5⅞	1 1/16	2¼	7/16	1¾	½	⅞
R=.50													
C 41	22.7	3⅝	½	½	¼	3⅛	4⅞	1 1/16	2¼	9/16	2	½	⅞
7	19.1	3½	½	⅜	3/16	3⅛	4⅞	1 1/16	2¼	7/16	2	½	⅞
R=.50													
C 42													
7	17.6	3	½	⅜	3/16	2⅝	5	1	2¼	7/16	1¾	½	⅞
R=.475													
C 46													
6	18.0	3½	½	⅜	3/16	3⅛	4	1	2¼	7/16	2	½	⅞
R=.475													
C 56													
6	15.3	3½	⅜	⅜	3/16	3⅛	4⅜	13/16	2	7/16	2	⅜	⅞
R=.385													
C 47	16.3	3	½	⅜	3/16	2⅝	4	1	2¼	7/16	1¾	½	¾
6	15.1	3	½	5/16	3/16	2⅝	4	1	2¼	⅜	1¾	½	¾
R=.475													
C 48													
6	12.0	2½	⅜	5/16	3/16	2⅛	4½	¾	2	⅜	1½	⅜	⅝
R=.375													
C 200													
4	13.8	2½	½	½	¼	2	2⅜	13/16	2	9/16	1½	½	⅝
R=.28													
*C 192													
*C 193	9.0	2⅛	⅜	½	¼	1⅝	1⅞	9/16	...	9/16	...	..	..
3	7.1	2	⅜	5/16	3/16	1⅝	1⅞	9/16	...	⅜	...	..	..
R=.19													

Gages g are usual standard gages, but may be varied if conditions require.
Gages g_2 are based on 1¼" edge distance (⅞" maximum rivet).
*C 193 and C 192 are identical except that C 193 flanges are flared out to 3⅛" at toe of flanges.

EQUAL ANGLES

PROPERTIES OF SECTIONS

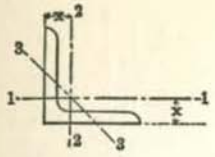


District Rolled	Section Index	Size	Thickness	Weight per Foot	Area of Section	Axis 1-1 and Axis 2-2				Axis 3-3
						I	S	r	x	r min.
		In.	In.	Lbs.	In.²	In.⁴	In.³	In.	In.	In.
P.C.B.	A 1 R=5/8	8 x 8	1 1/8	56.9	16.73	98.0	17.5	2.42	2.41	1.55
			1	51.0	15.00	89.0	15.8	2.44	2.37	1.56
			7/8	45.0	13.23	79.6	14.0	2.45	2.32	1.56
			3/4	38.9	11.44	69.7	12.2	2.47	2.28	1.57
			5/8	32.7	9.61	59.4	10.3	2.49	2.23	1.58
			9/16	29.6	8.68	54.1	9.3	2.50	2.21	1.58
			1/2	26.4	7.75	48.6	8.4	2.51	2.19	1.58
P.C.B.G.	A 2 R=1/2	6 x 6	o1	37.4	11.00	35.5	8.6	1.80	1.86	1.16
P.C.B.G.			o7/8	33.1	9.73	31.9	7.6	1.81	1.82	1.17
P.C.B.G.			3/4	28.7	8.44	28.2	6.7	1.83	1.78	1.17
P.C.B.G.			5/8	24.2	7.11	24.2	5.7	1.84	1.73	1.17
P.C.B.G.			9/16	21.9	6.43	22.1	5.1	1.85	1.71	1.18
P.C.B.G.			1/2	19.6	5.75	19.9	4.6	1.86	1.68	1.18
P.C.B.G.			7/16	17.2	5.06	17.7	4.1	1.87	1.66	1.19
P.C.B.G.			3/8	14.9	4.36	15.4	3.5	1.88	1.64	1.19
P.G.			*5/16	12.6	3.66	13.0	3.0	1.89	1.61	1.19
P.C.	A 3 R=1/2	5 x 5	7/8	27.2	7.98	17.8	5.2	1.49	1.57	0.96
P.C.B.S.			o3/4	23.6	6.94	15.7	4.5	1.50	1.52	0.97
P.C.B.S.			5/8	20.0	5.86	13.6	3.9	1.52	1.48	0.97
P.C.B.S.			1/2	16.2	4.75	11.3	3.2	1.54	1.43	0.98
P.C.B.S.			7/16	14.3	4.18	10.0	2.8	1.55	1.41	0.98
P.C.B.S.			3/8	12.3	3.61	8.7	2.4	1.56	1.39	0.99
P.C.B.S.			*5/16	10.3	3.03	7.4	2.0	1.56	1.36	0.99
P.C.B.G.	A 4 R=3/8	4 x 4	3/4	18.5	5.44	7.7	2.8	1.19	1.27	0.77
			5/8	15.7	4.61	6.7	2.4	1.20	1.23	0.77
			1/2	12.8	3.75	5.6	2.0	1.22	1.18	0.78
			7/16	11.3	3.31	5.0	1.8	1.23	1.16	0.78
			3/8	9.8	2.86	4.4	1.5	1.23	1.14	0.79
			5/16	8.2	2.40	3.7	1.3	1.24	1.12	0.79
			*1/4	6.6	1.94	3.0	1.0	1.25	1.09	0.79
P.C.B.G.	A 5 R=3/8	3 1/2 x 3 1/2	1/2	11.1	3.25	3.6	1.5	1.06	1.06	0.68
			7/16	9.8	2.87	3.3	1.3	1.07	1.04	0.68
			3/8	8.5	2.48	2.9	1.2	1.07	1.01	0.69
			5/16	7.2	2.09	2.5	0.98	1.08	0.99	0.69
			1/4	5.8	1.69	2.0	0.79	1.09	0.97	0.69

*Special gage.

oWhen produced in Birmingham District, leg length will exceed standard tolerance.

For key to symbols in first column, refer to page 3.



EQUAL ANGLES

PROPERTIES OF SECTIONS

District Rolled	Section Index	Size	Thickness	Weight per Foot	Area of Section	Axis 1-1 and Axis 2-2				Axis 3-3
						I	S	r	x	r min.
		In.	In.	Lbs.	In.²	In.⁴	In.³	In.	In.	In.
P.C.B.S.	A 7 R=5/16	3 x 3	1/2	9.4	2.75	2.2	1.1	0.90	0.93	0.58
			7/16	8.3	2.43	2.0	0.95	0.91	0.91	0.58
			3/8	7.2	2.11	1.8	0.83	0.91	0.89	0.58
			5/16	6.1	1.78	1.5	0.71	0.92	0.87	0.59
			1/4	4.9	1.44	1.2	0.58	0.93	0.84	0.59
			*3/16	3.71	1.09	0.96	0.44	0.94	0.82	0.59
P.C.B.	†A 9 R=1/4	2 1/2 x 2 1/2	o1/2	7.7	2.25	1.2	0.73	0.74	0.81	0.47
P.C.B.S.			3/8	5.9	1.73	0.98	0.57	0.75	0.76	0.48
P.C.B.S.			5/16	5.0	1.47	0.85	0.48	0.76	0.74	0.49
P.C.B.S.			1/4	4.1	1.19	0.70	0.39	0.77	0.72	0.49
P.C.B.S.			3/16	3.07	0.90	0.55	0.30	0.78	0.69	0.49
P.C.B.S.	†A 11 R=1/4	2 x 2	3/8	4.7	1.36	0.48	0.35	0.59	0.64	0.39
			5/16	3.92	1.15	0.42	0.30	0.60	0.61	0.39
			1/4	3.19	0.94	0.35	0.25	0.61	0.59	0.39
			3/16	2.44	0.71	0.28	0.19	0.62	0.57	0.40
			1/8	1.65	0.48	0.19	0.13	0.63	0.55	0.40
P.C.B.S.	†A 12 R=1/4	1 3/4 x 1 3/4	1/4	2.77	0.81	0.23	0.19	0.53	0.53	0.34
			3/16	2.12	0.62	0.18	0.14	0.54	0.51	0.35
			1/8	1.44	0.42	0.13	0.10	0.55	0.48	0.35
P.C.B.S.	†A 13 R=3/16	1 1/2 x 1 1/2	1/4	2.34	0.69	0.14	0.13	0.45	0.47	0.29
			3/16	1.80	0.53	0.11	0.10	0.46	0.44	0.29
			1/8	1.23	0.36	0.08	0.07	0.46	0.42	0.30
P.C.B.S.	†A 15 R=3/16	1 1/4 x 1 1/4	1/4	1.92	0.56	0.08	0.09	0.37	0.40	0.24
			3/16	1.48	0.43	0.06	0.07	0.38	0.38	0.24
			1/8	1.01	0.30	0.04	0.05	0.38	0.35	0.25
P.C.B.S.	†A 16 R=1/8	1 x 1	1/4	1.49	0.44	0.04	0.06	0.29	0.34	0.19
			3/16	1.16	0.34	0.03	0.04	0.30	0.32	0.19
			1/8	0.80	0.23	0.02	0.03	0.31	0.30	0.19

*Special gage. †Bar size.

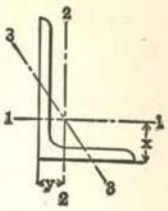
oWhen produced in Birmingham District, leg length will exceed standard tolerance.

For key to symbols in first column, refer to page 3.

L

UNEQUAL ANGLES

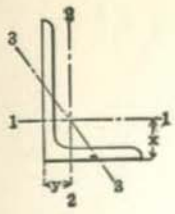
PROPERTIES OF SECTIONS



District Rolled	Section Index	Size	Thickness	Weight per Foot	Area of Section	Axis 1-1				Axis 2-2				Axis 3-3
						I	S	r	x	I	S	r	y	r min.
		In.	In.	Lbs.	In.²	In.⁴	In.³	In.	In.	In.⁴	In.³	In.	In.	In.
C.G.	A 94 R=½	9 x 4	1	40.8	12.00	97.0	17.6	2.84	3.50	12.0	4.0	1.00	1.00	0.83
			⅞	36.1	10.61	86.8	15.7	2.86	3.45	10.8	3.6	1.01	0.95	0.84
			¾	31.3	9.19	76.1	13.6	2.88	3.41	9.6	3.1	1.02	0.91	0.84
			⅝	26.3	7.73	64.9	11.5	2.90	3.36	8.3	2.6	1.04	0.86	0.85
			9/16	23.8	7.00	59.1	10.4	2.91	3.33	7.6	2.4	1.04	0.83	0.85
			½	21.3	6.25	53.2	9.3	2.92	3.31	6.9	2.2	1.05	0.81	0.85
P.C.B.	A 18 R=½	8 x 6	o1	44.2	13.00	80.8	15.1	2.49	2.65	38.8	8.9	1.73	1.65	1.28
			⅞	39.1	11.48	72.3	13.4	2.51	2.61	34.9	7.9	1.74	1.61	1.28
			¾	33.8	9.94	63.4	11.7	2.53	2.56	30.7	6.9	1.76	1.56	1.29
			⅝	28.5	8.36	54.1	9.9	2.54	2.52	26.3	5.9	1.77	1.52	1.29
			9/16	25.7	7.56	49.3	9.0	2.55	2.50	24.0	5.3	1.78	1.50	1.30
			½	23.0	6.75	44.3	8.0	2.56	2.47	21.7	4.8	1.79	1.47	1.30
			7/16	20.2	5.93	39.2	7.1	2.57	2.45	19.3	4.2	1.80	1.45	1.31
P.C.G.	A 50 R=½	8 x 4	1	37.4	11.00	69.6	14.1	2.52	3.05	11.6	3.9	1.03	1.05	0.85
			⅞	33.1	9.73	62.5	12.5	2.53	3.00	10.5	3.5	1.04	1.00	0.85
			¾	28.7	8.44	54.9	10.9	2.55	2.95	9.4	3.1	1.05	0.95	0.85
			⅝	24.2	7.11	46.9	9.2	2.57	2.91	8.1	2.6	1.07	0.91	0.86
			9/16	21.9	6.43	42.8	8.4	2.58	2.88	7.4	2.4	1.07	0.88	0.86
			½	19.6	5.75	38.5	7.5	2.59	2.86	6.7	2.2	1.08	0.86	0.86
			7/16	17.2	5.06	34.1	6.6	2.60	2.83	6.0	1.9	1.09	0.83	0.87
P.C.G.	A 60 R=½	7 x 4	⅞	30.2	8.86	42.9	9.7	2.20	2.55	10.2	3.5	1.07	1.05	0.86
			¾	26.2	7.69	37.8	8.4	2.22	2.51	9.1	3.0	1.09	1.01	0.86
			⅝	22.1	6.48	32.4	7.1	2.24	2.46	7.8	2.6	1.10	0.96	0.86
			9/16	20.0	5.87	29.6	6.5	2.24	2.44	7.2	2.4	1.11	0.94	0.87
			½	17.9	5.25	26.7	5.8	2.25	2.42	6.5	2.1	1.11	0.92	0.87
			7/16	15.8	4.62	23.7	5.1	2.26	2.39	5.8	1.9	1.12	0.89	0.88
			⅜	13.6	3.98	20.6	4.4	2.27	2.37	5.1	1.6	1.13	0.87	0.88

oWhen produced in Birmingham District, leg length will exceed standard tolerance.

For key to symbols in first column, refer to page 3.



UNEQUAL ANGLES

PROPERTIES OF SECTIONS

L

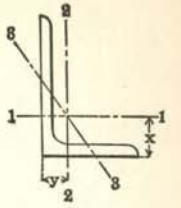
District Rolled	Section Index	Size	Thickness	Weight per Foot	Area of Section	Axis 1-1				Axis 2-2				Axis 3-3
						I	S	r	x	I	S	r	y	r min.
		In.	In.	Lbs.	In.²	In.⁴	In.³	In.	In.	In.⁴	In.³	In.	In.	In.
P.C.B.G.			°7/8	27.2	7.98	27.7	7.2	1.86	2.12	9.8	3.4	1.11	1.12	0.86
P.C.B.G.			3/4	23.6	6.94	24.5	6.2	1.88	2.08	8.7	3.0	1.12	1.08	0.86
P.C.B.G.			5/8	20.0	5.86	21.1	5.3	1.90	2.03	7.5	2.5	1.13	1.03	0.86
P.C.B.G.	A 20		9/16	18.1	5.31	19.3	4.8	1.90	2.01	6.9	2.3	1.14	1.01	0.87
P.C.B.G.	R=1/2	6 x 4	1/2	16.2	4.75	17.4	4.3	1.91	1.99	6.3	2.1	1.15	0.99	0.87
P.C.B.G.			7/16	14.3	4.18	15.5	3.8	1.92	1.96	5.6	1.9	1.16	0.96	0.87
P.C.B.G.			3/8	12.3	3.61	13.5	3.3	1.93	1.94	4.9	1.6	1.17	0.94	0.88
P.C.G.			*5/16	10.3	3.03	11.4	2.8	1.94	1.92	4.2	1.4	1.17	0.92	0.88
P.C.†B.			1/2	15.3	4.50	16.6	4.2	1.92	2.08	4.3	1.6	0.97	0.83	0.76
P.C.B.	A 21		3/8	11.7	3.42	12.9	3.2	1.94	2.04	3.3	1.2	0.99	0.79	0.77
P.C.B.	R=1/2	6 x 3 1/2	5/16	9.8	2.87	10.9	2.7	1.95	2.01	2.9	1.0	1.00	0.76	0.77
P.C.			*1/4	7.9	2.31	8.9	2.2	1.96	1.99	2.3	0.85	1.01	0.74	0.78
P.C.B.G.			°3/4	19.8	5.81	13.9	4.3	1.55	1.75	5.6	2.2	0.98	1.00	0.75
P.C.B.G.			5/8	16.8	4.92	12.0	3.7	1.56	1.70	4.8	1.9	0.99	0.95	0.75
P.C.B.G.	A 23		1/2	13.6	4.00	10.0	3.0	1.58	1.66	4.1	1.6	1.01	0.91	0.75
P.C.B.G.	R=7/16	5 x 3 1/2	7/16	12.0	3.53	8.9	2.6	1.59	1.63	3.6	1.4	1.01	0.88	0.76
P.C.B.G.			3/8	10.4	3.05	7.8	2.3	1.60	1.61	3.2	1.2	1.02	0.86	0.76
P.C.B.G.			5/16	8.7	2.56	6.6	1.9	1.61	1.59	2.7	1.0	1.03	0.84	0.76
P.C.G.			*1/4	7.0	2.06	5.4	1.6	1.61	1.56	2.2	0.83	1.04	0.81	0.76
P.C.B.S.			1/2	12.8	3.75	9.5	2.9	1.59	1.75	2.6	1.1	0.83	0.75	0.65
P.C.B.S.	A 24		7/16	11.3	3.31	8.4	2.6	1.60	1.73	2.3	1.0	0.84	0.73	0.65
P.C.B.S.	R=3/8	5 x 3	3/8	9.8	2.86	7.4	2.2	1.61	1.70	2.0	0.89	0.84	0.70	0.65
P.C.B.S.			5/16	8.2	2.40	6.3	1.9	1.61	1.68	1.8	0.75	0.85	0.68	0.66
C.S.			*1/4	6.6	1.94	5.1	1.5	1.62	1.66	1.4	0.61	0.86	0.66	0.66

*Special gage.
†In Chicago District, length of either or both legs may be exceeded by at least 1/16" over permissible over-tolerance.
°When produced in Birmingham District, leg length will exceed standard tolerance.
For key to symbols in first column, refer to page 3.

L

UNEQUAL ANGLES

PROPERTIES OF SECTIONS

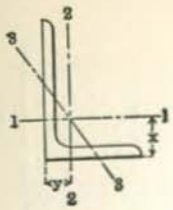


District Rolled	Section Index	Size	Thickness	Weight per Foot	Area of Section	Axis 1-1				Axis 2-2				Axis 3-3
						I	S	r	x	I	S	r	y	r min.
		In.	In.	In.	In.²	In.⁴	In.³	In.	In.	In.⁴	In.³	In.	In.	In.
P.C.			5/8	14.7	4.30	6.4	2.4	1.22	1.29	4.5	1.8	1.03	1.04	0.72
P.C.B.			1/2	11.9	3.50	5.3	1.9	1.23	1.25	3.8	1.5	1.04	1.00	0.72
P.C.B.	A 26	4 x 3 1/2	7/16	10.6	3.09	4.8	1.7	1.24	1.23	3.4	1.4	1.05	0.98	0.72
P.C.B.	R=3/8		3/8	9.1	2.67	4.2	1.5	1.25	1.21	3.0	1.2	1.06	0.96	0.73
P.C.B.			5/16	7.7	2.25	3.6	1.3	1.26	1.18	2.6	1.0	1.07	0.93	0.73
P.C.B.			*1/4	6.2	1.81	2.9	1.0	1.27	1.16	2.1	0.81	1.07	0.91	0.73
P.C.B.G.	A 27 R=3/8	4 x 3	°5/8	13.6	3.98	6.0	2.3	1.23	1.37	2.9	1.4	0.85	0.87	0.64
			1/2	11.1	3.25	5.1	1.9	1.25	1.33	2.4	1.1	0.86	0.83	0.64
			7/16	9.8	2.87	4.5	1.7	1.25	1.30	2.2	1.0	0.87	0.80	0.64
			3/8	8.5	2.48	4.0	1.5	1.26	1.28	1.9	0.87	0.88	0.78	0.64
			5/16	7.2	2.09	3.4	1.2	1.27	1.26	1.7	0.73	0.89	0.76	0.65
			*1/4	5.8	1.69	2.8	1.0	1.28	1.24	1.4	0.60	0.90	0.74	0.65
P.C.B.S.G.	A 28 R=3/8	3 1/2 x 3	1/2	10.2	3.00	3.5	1.5	1.07	1.13	2.3	1.1	0.88	0.88	0.62
			7/16	9.1	2.65	3.1	1.3	1.08	1.10	2.1	0.98	0.89	0.85	0.62
			3/8	7.9	2.30	2.7	1.1	1.09	1.08	1.9	0.85	0.90	0.83	0.62
			5/16	6.6	1.93	2.3	0.95	1.10	1.06	1.6	0.72	0.90	0.81	0.63
			1/4	5.4	1.56	1.9	0.78	1.11	1.04	1.3	0.59	0.91	0.79	0.63
P.C.B.			1/2	9.4	2.75	3.2	1.4	1.09	1.20	1.4	0.76	0.70	0.70	0.53
P.C.B.	A 29		7/16	8.3	2.43	2.9	1.3	1.09	1.18	1.2	0.68	0.71	0.68	0.54
P.C.B.S.	R=5/16	3 1/2 x 2 1/2	3/8	7.2	2.11	2.6	1.1	1.10	1.16	1.1	0.59	0.72	0.66	0.54
P.C.B.S.			5/16	6.1	1.78	2.2	0.93	1.11	1.14	0.94	0.50	0.73	0.64	0.54
P.C.B.S.			1/4	4.9	1.44	1.8	0.75	1.12	1.11	0.78	0.41	0.74	0.61	0.54
P.C.B.			°1/2	8.5	2.50	2.1	1.0	0.91	1.00	1.3	0.74	0.72	0.75	0.52
P.C.B.	A 32		°7/16	7.6	2.21	1.9	0.93	0.92	0.98	1.2	0.66	0.73	0.73	0.52
P.C.B.S.	R=5/16	3 x 2 1/2	3/8	6.6	1.92	1.7	0.81	0.93	0.96	1.0	0.58	0.74	0.71	0.52
P.C.B.S.			5/16	5.6	1.62	1.4	0.69	0.94	0.93	0.90	0.49	0.74	0.68	0.53
P.C.B.S.			1/4	4.5	1.31	1.2	0.56	0.95	0.91	0.74	0.40	0.75	0.66	0.53

*Special gage.

°When produced in Birmingham District, leg length will exceed standard tolerance.

For key to symbols in first column, refer to page 3.



UNEQUAL ANGLES

PROPERTIES OF SECTIONS

L

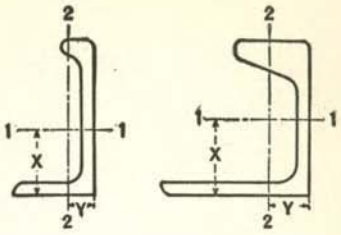
District Rolled	Section Index	Size	Thick-ness	Weight per Foot	Area of Section	Axis 1-1				Axis 2-2				Axis 3-3
						I	S	r	x	I	S	r	y	r min.
		In.	In.	Lbs.	In.²	In.⁴	In.³	In.	In.	In.⁴	In.³	In.	In.	In.
P.C.B.		3 x 2	½	7.7	2.25	1.9	1.0	0.92	1.08	0.67	0.47	0.55	0.58	0.43
P.C.B.			3/16	6.8	2.00	1.7	0.89	0.93	1.06	0.61	0.42	0.55	0.56	0.43
P.C.B.S.	A 33		3/8	5.9	1.73	1.5	0.78	0.94	1.04	0.54	0.37	0.56	0.54	0.43
P.C.B.S.	R=5/16		5/16	5.0	1.47	1.3	0.66	0.95	1.02	0.47	0.32	0.57	0.52	0.43
P.C.B.S.			¼	4.1	1.19	1.1	0.54	0.95	0.99	0.39	0.26	0.57	0.49	0.43
P.C.B.S.			*3/16	3.07	0.90	0.84	0.41	0.97	0.97	0.31	0.20	0.58	0.47	0.44
P.C.B.S.	†A 35 R=¼	2½ x 2	3/8	5.3	1.55	0.91	0.55	0.77	0.83	0.51	0.36	0.58	0.58	0.42
			5/16	4.5	1.31	0.79	0.47	0.78	0.81	0.45	0.31	0.58	0.56	0.42
			¼	3.62	1.06	0.65	0.38	0.78	0.79	0.37	0.25	0.59	0.54	0.42
			3/16	2.75	0.81	0.51	0.29	0.79	0.76	0.29	0.20	0.60	0.51	0.43
P.C.S.	†A 48 R=¼	2½x1½	5/16	3.92	1.15	0.71	0.44	0.79	0.90	0.19	0.17	0.41	0.40	0.32
			¼	3.19	0.94	0.59	0.36	0.79	0.88	0.16	0.14	0.41	0.38	0.32
			3/16	2.44	0.72	0.46	0.28	0.80	0.85	0.13	0.11	0.42	0.35	0.33
P.C.B.S.	†A 37 R=¼	2 x 1½	¼	2.77	0.81	0.32	0.24	0.62	0.66	0.15	0.14	0.43	0.41	0.32
			3/16	2.12	0.62	0.25	0.18	0.63	0.64	0.12	0.11	0.44	0.39	0.32
			1/8	1.44	0.42	0.17	0.13	0.64	0.62	0.09	0.08	0.45	0.37	0.33
P.	†A 645 R=¼	2 x 1¼	¼	2.55	0.75	0.30	0.23	0.63	0.71	0.09	0.10	0.34	0.33	0.27
			3/16	1.96	0.57	0.23	0.18	0.64	0.69	0.07	0.08	0.35	0.31	0.27
			1/8	1.36	0.40	0.17	0.13	0.65	0.65	0.05	0.05	0.36	0.28	0.27
P.C.	†A 39 R=¼	1¾x1¼	¼	2.34	0.69	0.20	0.18	0.54	0.60	0.09	0.10	0.35	0.35	0.27
			3/16	1.80	0.53	0.16	0.14	0.55	0.58	0.07	0.08	0.36	0.33	0.27
			1/8	1.23	0.36	0.11	0.09	0.56	0.56	0.05	0.05	0.37	0.31	0.27

*Special gage. †Bar size.

For key to symbols in first column, refer to page 3.

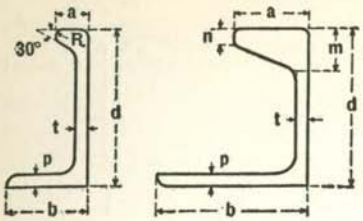
BULB ANGLES

PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Width of Flange	Thickness		Axis 1-1				Axis 2-2			
					Web	Flange	I	S	r	x	I	S	r	y
		Lbs.	In.²	In.	In.	In.	In.⁴	In.³	In.	In.	In.⁴	In.³	In.	In.
SHIP BUILDING														
P.G.	BA 313 10 x 3½	32.3	9.49	3.69	.64	.61	118.1	22.1	3.53	4.69	6.2	2.2	0.81	0.77
		29.9	8.78	3.63	.58	.58	110.7	20.9	3.55	4.70	5.6	2.0	0.80	0.75
		27.2	7.98	3.57	.52	.485	102.9	19.6	3.59	4.80	5.1	1.8	0.80	0.72
		24.8	7.28	3.51	.46	.455	95.4	18.4	3.62	4.82	4.6	1.6	0.80	0.70
		22.4	6.57	3.45	.40	.425	88.0	17.2	3.66	4.85	4.1	1.5	0.79	0.68
P.	BA 312 9 x 3½	23.8	7.00	3.57	.50	.465	73.3	15.1	3.24	4.19	4.7	1.7	0.82	0.72
		21.6	6.35	3.51	.44	.435	67.7	14.1	3.27	4.21	4.2	1.5	0.82	0.70
		19.4	5.70	3.45	.38	.405	62.2	13.1	3.30	4.22	3.7	1.4	0.81	0.68
P.G.	BA 311 8 x 3½	24.3	7.14	3.68	.58	.55	57.0	12.7	2.83	3.53	5.2	1.9	0.85	0.78
		20.0	5.87	3.56	.46	.43	48.9	11.1	2.89	3.61	4.2	1.5	0.85	0.72
		16.0	4.70	3.44	.34	.37	40.9	9.4	2.95	3.62	3.3	1.2	0.84	0.69
P.	BA 309 7 x 3½	21.1	6.19	3.68	.56	.54	37.5	9.2	2.46	2.95	4.8	1.8	0.88	0.80
		17.1	5.03	3.56	.44	.41	32.0	8.0	2.52	3.03	3.9	1.4	0.88	0.74
		13.6	3.98	3.44	.32	.35	26.4	6.7	2.58	3.01	3.0	1.1	0.87	0.71
P.C.G.	BA 307 6 x 3½	17.4	5.12	3.69	.52	.49	22.7	6.3	2.10	2.42	4.3	1.6	0.92	0.82
		13.9	4.06	3.57	.40	.365	19.0	5.3	2.16	2.47	3.4	1.2	0.91	0.76
		10.7	3.13	3.45	.28	.305	15.3	4.4	2.21	2.45	2.6	0.94	0.91	0.73
P.	BA 303 5 x 2½	9.8	2.88	2.56	.36	.33	9.1	3.1	1.78	2.06	1.1	0.56	0.63	0.55
		7.3	2.13	2.44	.24	.27	7.1	2.4	1.83	2.01	0.81	0.42	0.62	0.51
P.	BA 145 3 x 2	3.8	1.12	2.00	.19	.19	1.3	0.74	1.09	1.24	0.31	0.20	0.54	0.45
CAR BUILDING														
P.C.	BA 125 5 x 4½	19.1	5.64	4.50	.438	.438	20.8	7.9	1.91	2.39	7.9	2.4	1.18	1.23
P.C.	BA 124 5 x 3½	13.0	3.82	3.50	.375	.375	13.5	4.9	1.88	2.22	3.3	1.2	0.92	0.86
P.	BA 122 4 x 3½	14.3	4.21	3.50	.500	.500	8.7	3.7	1.44	1.65	3.9	1.5	0.96	0.99
P.C.B.	BA 123 4 x 3½	11.9	3.48	3.50	.375	.375	7.9	3.5	1.50	1.77	3.1	1.2	0.94	0.94

For key to symbols in first column, refer to page 3.



BULB ANGLES

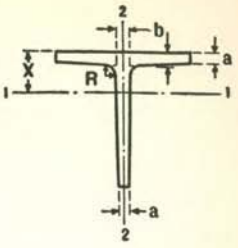
DIMENSIONS OF SECTIONS

Section Index and Nominal Size	Weight per Foot	Flange		Web		Bulb			
		Width b	Thickness p	Depth d	Thickness t	Width a	Radius R	Thickness m	Thickness n
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.
SHIP BUILDING									
	32.3	3¾	5/8	10	5/8	1 15/16	.40	—	—
	29.9	3 5/8	9/16	10	9/16	1 7/8	.40	—	—
BA 313	27.2	3 5/8	½	10	½	1 13/16	.40	—	—
10 x 3½	24.8	3½	7/16	10	7/16	1¾	.40	—	—
	22.4	3½	7/16	10	3/8	1 11/16	.40	—	—
	23.8	3 5/8	7/16	9	½	1 11/16	.36	—	—
BA 312	21.6	3½	7/16	9	7/16	1 5/8	.36	—	—
9 x 3½	19.4	3½	3/8	9	3/8	1 9/16	.36	—	—
	24.3	3 5/8	9/16	8	9/16	1 5/8	.32	—	—
BA 311	20.0	3½	7/16	8	7/16	1½	.32	—	—
8 x 3½	16.0	3½	3/8	8	5/16	1 3/8	.32	—	—
	21.1	3 5/8	9/16	7	9/16	1½	.28	—	—
BA 309	17.1	3½	7/16	7	7/16	1 3/8	.28	—	—
7 x 3½	13.6	3½	3/8	7	5/16	1¼	.28	—	—
	17.4	3¾	½	6	½	1 5/16	.24	—	—
BA 307	13.9	3 5/8	3/8	6	3/8	1 3/16	.24	—	—
6 x 3½	10.7	3½	5/16	6	¼	1 1/16	.24	—	—
BA 303	9.8	2½	5/16	5	3/8	1	.20	—	—
5 x 2½	7.3	2½	¼	5	¼	7/8	.20	—	—
BA 145 3 x 2	3.8	2	3/16	3	3/16	9/16	.25	—	—
CAR BUILDING									
BA 125 5 x 4½	19.1	4½	7/16	5	7/16	2¼	—	1 9/32	9/16
BA 124 5 x 3½	13.0	3½	3/8	5	3/8	1½	—	29/32	7/16
BA 122 4 x 3½	14.3	3½	½	4	½	1½	—	15/16	½
BA 123 4 x 3½	11.9	3½	3/8	4	3/8	1½	—	29/32	½

TEES

EQUAL AND UNEQUAL

PROPERTIES AND DIMENSIONS OF SECTIONS



District Rolled	Section Index	Weight per Foot	Area of Section	Size					Axis 1-1				Axis 2-2		
				Flange	Stem	Thickness Toe a	Thickness Root b	Radius of Fillet R	I	S	r	x	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.	In.⁴	In.³	In.	In.	In.⁴	In.³	In.

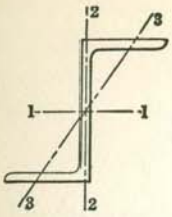
EQUAL TEES

P.C.	T1	13.5	3.97	4	4	½	9/16	½	5.7	2.0	1.20	1.18	2.8	1.4	0.84
P.C.	T8	7.8	2.27	3	3	3/8	7/16	5/16	1.8	0.86	0.90	0.88	0.90	0.60	0.63
P.C.	T9	6.7	1.95	3	3	5/16	3/8	5/16	1.6	0.74	0.90	0.86	0.75	0.50	0.62
P.C.	†T 10	6.4	1.87	2½	2½	3/8	7/16	¼	1.0	0.59	0.74	0.76	0.52	0.42	0.53
P.C.	†T 11	5.5	1.60	2½	2½	5/16	3/8	¼	0.88	0.50	0.74	0.74	0.44	0.35	0.52
P.C.	†T 13	4.1	1.19	2¼	2¼	¼	5/16	¼	0.52	0.32	0.66	0.65	0.25	0.22	0.46
P.C.	†T 14	4.3	1.26	2	2	5/16	3/8	¼	0.44	0.31	0.59	0.61	0.23	0.23	0.43
P.C.	†T 15	3.62	1.05	2	2	¼	5/16	¼	0.37	0.26	0.59	0.59	0.18	0.18	0.42

UNEQUAL TEES

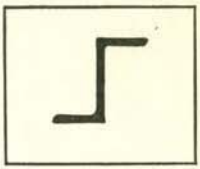
P.	T 50	13.6	4.00	5	3⅛	* ½, 13/32	* 9/16, 5/8	3/8	2.7	1.1	0.82	0.76	5.2	2.1	1.14
		11.5	3.37	5	3	3/8, 13/32	7/16, 5/8	3/8	2.4	1.1	0.84	0.76	3.9	1.6	1.10
P.	T 60	11.2	3.29	4	4½	3/8	7/16	½	6.3	2.0	1.39	1.31	2.1	1.1	0.80
P.C.	T 61	9.2	2.68	4	3	3/8	7/16	3/8	2.0	0.90	0.86	0.78	2.1	1.1	0.89
P.	T 62	8.5	2.48	4	2½	3/8	7/16	3/8	1.2	0.62	0.69	0.62	2.1	1.0	0.92
P.C.	T 79	6.1	1.77	3	2½	5/16	3/8	5/16	0.94	0.52	0.73	0.68	0.75	0.50	0.65

†Bar Size.
*Where two dimensions are shown, the first is for the flange, the second for the stem.
For key to symbols in first column, refer to page 3.



ZEES

PROPERTIES AND DIMENSIONS OF SECTIONS



District Rolled	Section Index	Weight per Foot	Area of Section	Size			Axis 1-1			Axis 2-2			Axis 3-3
				Depth	Flange	Thickness	I	S	r	I	S	r	r min.
		Lbs.	In.²	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.	In.
P.C.	Z 1	21.1	6.19	6 1/8	3 5/8	1/2	34.4	11.2	2.36	12.9	3.8	1.44	0.84
	R = 5/16	15.7	4.59	6	3 1/2	3/8	25.3	8.4	2.35	9.1	2.8	1.41	0.83
P.C.	Z 5 R = 5/16	17.9	5.25	5	3 1/4	1/2	19.2	7.7	1.91	9.1	3.0	1.31	0.74
P.C.	Z 4	16.4	4.81	5 1/8	3 3/8	7/16	19.1	7.4	1.99	9.2	2.9	1.38	0.77
	R = 5/16	14.0	4.10	5 1/16	3 5/16	3/8	16.2	6.4	1.99	7.7	2.5	1.37	0.76
		11.6	3.40	5	3 1/4	5/16	13.4	5.3	1.98	6.2	2.0	1.35	0.75
P.C.	Z 8 R = 5/16	15.9	4.66	4 1/16	3 1/8	1/2	11.2	5.5	1.55	8.0	2.8	1.31	0.67
P.C.B.	Z 7	12.5	3.66	4 1/8	3 3/16	3/8	9.6	4.7	1.62	6.8	2.3	1.36	0.69
	R = 5/16	10.3	3.03	4 1/16	3 1/8	5/16	7.9	3.9	1.62	5.5	1.8	1.34	0.68
		8.2	2.41	4	3 1/16	1/4	6.3	3.1	1.62	4.2	1.4	1.33	0.67
P.C.	Z 12 R = 5/16	12.6	3.69	3	2 11/16	1/2	4.6	3.1	1.12	4.9	2.0	1.15	0.53
P.C.B.	Z 11 R = 5/16	9.8	2.86	3	2 11/16	3/8	3.9	2.6	1.16	3.9	1.6	1.17	0.54
P.C.B.	Z 10 R = 5/16	6.7	1.97	3	2 11/16	1/4	2.9	1.9	1.21	2.8	1.1	1.19	0.55

For key to symbols in first column, refer to page 3.

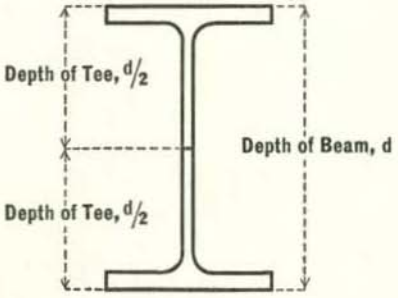
STRUCTURAL TEES

CUT FROM

CB SECTIONS AND STANDARD BEAMS

In addition to sections of rolled tees the following series include sections produced by shearing or gas cutting either standard beams or CB sections.

Generally, any beam or channel section from 3″ to 36″ in depth can be split to form tees or angles.



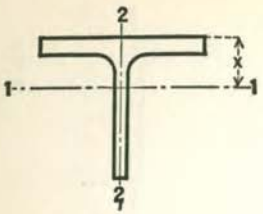
The following tolerances, over or under, apply to the depth d/2 of the tee or angle which is one-half of the beam or channel depth:

Beams or Channels under 6″	1/8″
Beams or Channels 6″ to 15″ incl.	3/16″
Beams or Channels over 15″ to 20″	1/4″
Beams over 20″ to 24″	5/16″
Beams over 24″	3/8″

The above tolerances for depth of tees or angles include the allowable tolerances in depth for the beams or channels before splitting. Tolerances both for dimensions and straightness, as set up for the beams or channels from which these tees or angles are cut, will apply.

These sections should be ordered either in pairs or so as to utilize all of the beam or channel from which they are produced.

All structural tees or angles are produced in Pittsburgh District only.



STRUCTURAL TEES

CUT FROM

CB SECTIONS

PROPERTIES OF SECTIONS

District Produced	Section Index	Weight per Foot	Area of Section	Depth of Tee	Flange		Stem Thickness	Axis 1-1				Axis 2-2		
					Width	Thickness		I	S	r	x	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.	In.⁴	In.³	In.
P.	T18 WF (CB 362)	150	44.09	18.36	16.655	1.680	.945	1222.7	85.9	5.27	4.13	612.6	73.6	3.73
		140	41.16	18.25	16.595	1.570	.885	1133.3	79.9	5.25	4.07	563.7	67.9	3.70
		130	38.28	18.12	16.555	1.440	.845	1059.2	75.4	5.26	4.07	510.3	61.6	3.65
	TCB 18	122.5	36.01	18.03	16.512	1.350	.802	994.3	71.1	5.25	4.04	472.3	57.2	3.62
		115	33.86	17.94	16.475	1.260	.765	935.8	67.2	5.26	4.02	435.5	52.9	3.59
P.	T18 WF (CB 361)	97	28.56	18.24	12.117	1.260	.770	904.0	67.3	5.63	4.81	177.7	29.3	2.49
		91	26.77	18.16	12.072	1.180	.725	844.0	63.0	5.61	4.77	163.9	27.1	2.47
		85	24.99	18.08	12.027	1.100	.680	784.7	58.8	5.60	4.74	150.3	25.0	2.45
	TCB 18	80	23.54	18.00	12.000	1.020	.653	741.0	56.0	5.61	4.76	137.7	22.9	2.42
		75	22.08	17.92	11.972	.940	.625	696.7	53.0	5.62	4.79	125.2	20.9	2.38
P.	T16 WF (CB 332)	120	35.26	16.75	15.865	1.400	.830	822.5	63.2	4.83	3.73	437.2	55.1	3.52
		110	32.36	16.63	15.810	1.275	.775	754.1	58.4	4.83	3.71	391.2	49.5	3.48
	TCB16.5	100	29.40	16.50	15.750	1.150	.715	683.6	53.3	4.82	3.67	345.8	43.9	3.43
P.	T16 WF (CB 331)	76	22.35	16.75	11.565	1.055	.635	591.9	47.4	5.15	4.26	128.1	22.1	2.39
		70.5	20.76	16.66	11.535	.960	.605	551.8	44.7	5.16	4.30	114.9	19.9	2.35
	TCB16.5	65	19.13	16.55	11.510	.855	.580	513.0	42.1	5.18	4.37	100.7	17.5	2.29
P.	T15 WF (CB 302)	105	30.89	15.19	15.105	1.315	.775	578.0	48.7	4.33	3.31	354.0	46.9	3.38
		95	27.95	15.06	15.040	1.185	.710	520.4	44.1	4.31	3.26	312.3	41.5	3.34
	TCB 15	86	25.32	14.94	14.985	1.065	.655	471.0	40.2	4.31	3.23	275.1	36.7	3.30
P.	T15 WF (CB 301)	66	19.41	15.15	10.551	1.000	.615	420.7	37.4	4.66	3.90	92.5	17.5	2.18
		62	18.22	15.08	10.521	.930	.585	394.8	35.3	4.65	3.90	84.8	16.1	2.16
	TCB 15	58	17.07	15.00	10.500	.850	.564	371.8	33.6	4.67	3.94	76.6	14.6	2.12
		54	15.88	14.91	10.484	.760	.548	349.5	32.1	4.69	4.03	67.6	12.9	2.06
P.	T13 WF (CB 272)	88.5	26.05	13.655	14.090	1.190	.725	391.8	36.7	3.88	2.97	259.4	36.8	3.16
	TCB13.5	80	23.52	13.54	14.023	1.075	.658	351.4	33.1	3.87	2.91	229.0	32.7	3.12
		72.5	21.34	13.44	13.965	.975	.600	316.3	29.9	3.85	2.85	203.5	29.1	3.09
P.	T13 WF (CB 271)	57	16.77	13.64	10.070	.932	.570	288.9	28.3	4.15	3.42	74.8	14.9	2.11
	TCB13.5	51	15.01	13.535	10.018	.827	.518	257.7	25.4	4.14	3.39	64.8	12.9	2.08
		47	13.83	13.455	9.990	.747	.490	238.5	23.7	4.15	3.41	57.5	11.2	2.04
P.	T12 WF (CB 243)	80	23.54	12.36	14.091	1.135	.656	271.6	27.6	3.40	2.51	246.3	35.0	3.23
	TCB 12	72.5	21.31	12.245	14.043	1.020	.608	246.2	25.2	3.40	2.48	217.1	30.9	3.19
		65	19.13	12.13	14.000	.900	.565	222.6	23.1	3.41	2.47	187.6	26.8	3.13

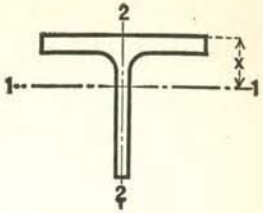
Section Index in parentheses refers to beam from which tee is cut.
For key to symbols in first column, refer to page 3.

STRUCTURAL TEES

CUT FROM

CB SECTIONS

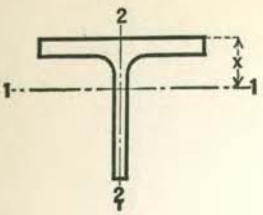
PROPERTIES OF SECTIONS



District Produced	Section Index	Weight per Foot	Area of Section	Depth of Tee	Flange		Stem Thickness	Axis 1-1				Axis 2-2		
					Width	Thickness		I	S	r	x	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.	In.⁴	In.³	In.
P.	T12 WF	60	17.64	12.155	12.088	.930	.556	213.6	22.4	3.48	2.62	127.0	21.0	2.68
	TCB 12	55	16.18	12.08	12.042	.855	.510	195.2	20.5	3.47	2.57	114.5	19.0	2.66
	(CB 242)	50	14.71	12.00	12.000	.775	.468	176.7	18.7	3.46	2.54	101.8	17.0	2.63
P.	T12 WF	47	13.81	12.145	9.061	.872	.516	185.9	20.3	3.67	2.99	51.1	11.3	1.92
	TCB 12	42	12.35	12.045	9.015	.772	.470	165.9	18.3	3.66	2.97	44.2	9.80	1.89
	(CB 241)	38	11.18	11.955	8.985	.682	.440	151.1	16.9	3.68	3.00	38.3	8.51	1.85
P.	T10 WF	71	20.89	10.73	13.132	1.095	.659	177.3	20.8	2.91	2.18	193.0	29.4	3.04
	TCB10.5	63.5	18.67	10.62	13.061	.985	.588	155.8	18.3	2.89	2.11	169.3	25.9	3.01
	(CB 213)	56	16.48	10.50	13.000	.865	.527	136.4	16.2	2.88	2.06	144.8	22.3	2.96
P.	T10 WF	48	14.11	10.57	9.038	.935	.575	137.1	17.1	3.11	2.55	54.7	12.1	1.97
	TCB10.5	41	12.05	10.43	8.962	.795	.499	115.4	14.5	3.09	2.48	44.8	10.0	1.93
	(CB 212)													
P.	T10 WF	36.5	10.73	10.62	8.295	.740	.455	110.2	13.7	3.21	2.60	33.1	7.98	1.76
	TCB10.5	34	10.01	10.57	8.270	.685	.430	102.8	12.9	3.20	2.59	30.2	7.30	1.74
	(CB 211)	31	9.12	10.495	8.240	.615	.400	93.7	11.9	3.21	2.59	26.6	6.45	1.71
P.	T9 WF	57	16.77	9.24	11.833	.991	.595	102.6	13.9	2.47	1.85	127.8	21.6	2.76
	TCB 9	52.5	15.45	9.16	11.792	.911	.554	93.9	12.8	2.47	1.82	115.5	19.6	2.73
	(CB 183)	48	14.13	9.08	11.750	.831	.512	85.3	11.7	2.46	1.78	103.4	17.6	2.71
P.	T9 WF	42.5	12.49	9.16	8.838	.911	.526	84.4	11.9	2.60	2.05	49.7	11.3	2.00
	TCB 9	38.5	11.32	9.08	8.787	.831	.475	75.3	10.6	2.58	1.99	44.3	10.1	1.98
	(CB 182)	35	10.28	9.00	8.750	.751	.438	68.1	9.67	2.57	1.96	39.2	8.97	1.95
		32	9.40	8.935	8.715	.686	.403	61.8	8.82	2.56	1.93	35.2	8.07	1.93
P.	T9 WF	30	8.82	9.125	7.558	.695	.416	64.8	9.32	2.71	2.17	23.5	6.23	1.63
	TCB 9	27.5	8.09	9.06	7.532	.630	.390	59.6	8.63	2.71	2.16	21.0	5.57	1.61
	(CB 181)	25	7.35	9.00	7.500	.570	.358	53.9	7.85	2.71	2.14	18.6	4.96	1.59
P.	T8 WF	48	14.13	8.16	11.533	.875	.535	64.7	9.82	2.14	1.57	103.6	18.0	2.71
	TCB 8	44	12.95	8.08	11.502	.795	.504	59.5	9.11	2.14	1.55	92.6	16.1	2.67
	(CB 163)													
P.	T8 WF	39	11.46	8.16	8.586	.875	.529	60.0	9.45	2.28	1.81	43.8	10.2	1.95
	TCB 8	35.5	10.43	8.08	8.543	.795	.486	54.0	8.57	2.28	1.77	38.9	9.11	1.93
	(CB 162)	32	9.40	8.00	8.500	.715	.443	48.3	7.71	2.27	1.73	34.2	8.05	1.91
		29	8.52	7.93	8.464	.645	.407	43.6	7.00	2.26	1.70	30.2	7.14	1.88
P.	T8 WF	25	7.35	8.125	7.073	.628	.380	42.2	6.77	2.40	1.89	17.4	4.92	1.54
	TCB 8	22.5	6.62	8.06	7.039	.563	.346	37.8	6.10	2.39	1.87	15.2	4.33	1.52
	(CB 161)	20	5.88	8.00	7.000	.503	.307	33.2	5.37	2.37	1.82	13.3	3.79	1.50
		18	5.30	7.93	6.992	.428	.299	30.7	5.10	2.41	1.90	11.1	3.17	1.45

Section index in parentheses refers to beam from which tee is cut.

For key to symbols in first column, refer to page 3.



STRUCTURAL TEES

CUT FROM

CB SECTIONS

PROPERTIES OF SECTIONS

District Produced	Section Index	Weight per Foot	Area of Section	Depth of Tee	Flange		Stem Thickness	Axis 1-1				Axis 2-2		
					Width	Thickness		I	S	r	x	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.	In.⁴	In.³	In.
P.	T 7 WF TCB 7 (CB 146)	105.5	31.04	7.875	15.800	1.563	.980	102.2	16.2	1.81	1.57	514.3	65.1	4.07
		101	29.70	7.815	15.750	1.503	.930	95.7	15.2	1.80	1.53	489.8	62.2	4.06
		96.5	28.36	7.75	15.710	1.438	.890	90.1	14.4	1.78	1.49	465.1	59.2	4.05
		92	27.04	7.69	15.660	1.378	.840	83.9	13.4	1.76	1.45	441.4	56.4	4.04
		88	25.87	7.625	15.640	1.313	.820	80.2	12.9	1.76	1.42	418.9	53.6	4.02
		83.5	24.55	7.56	15.600	1.248	.780	75.0	12.1	1.75	1.39	395.1	50.7	4.01
		79	23.24	7.50	15.550	1.188	.730	69.3	11.3	1.73	1.34	372.5	47.9	4.00
		75	22.04	7.44	15.515	1.128	.695	64.9	10.6	1.72	1.31	351.3	45.3	3.99
		71	20.92	7.375	15.500	1.063	.680	62.1	10.2	1.72	1.29	330.1	42.6	3.97
P.	T 7 WF TCB 7 (CB 145)	68	19.99	7.375	14.740	1.063	.660	60.0	9.89	1.73	1.31	283.9	38.5	3.77
		63.5	18.67	7.31	14.690	.998	.610	54.7	9.04	1.71	1.26	263.8	35.9	3.76
		59.5	17.49	7.25	14.650	.938	.570	50.4	8.36	1.70	1.22	245.9	33.6	3.75
		55.5	16.33	7.185	14.620	.873	.540	46.7	7.80	1.69	1.19	227.4	31.1	3.73
		51.5	15.13	7.125	14.575	.813	.495	42.4	7.10	1.67	1.15	209.9	28.8	3.72
		47.5	13.97	7.06	14.545	.748	.465	39.1	6.58	1.67	1.12	191.9	26.4	3.71
		43.5	12.78	7.00	14.500	.688	.420	34.9	5.88	1.65	1.08	174.8	24.1	3.70
P.	T 7 WF TCB 7 (CB 144)	42	12.36	7.09	12.023	.778	.451	37.4	6.36	1.74	1.21	112.7	18.8	3.02
		39	11.47	7.03	12.000	.718	.428	34.8	5.96	1.74	1.19	103.5	17.2	3.00
P.	T 7 WF TCB 7 (CB 143)	37	10.88	7.095	10.072	.783	.450	36.1	6.26	1.82	1.32	66.7	13.3	2.48
		34	10.00	7.03	10.040	.718	.418	33.0	5.74	1.81	1.29	60.6	12.1	2.46
		30.5	8.97	6.955	10.000	.643	.378	29.2	5.13	1.80	1.25	53.6	10.7	2.45
P.	T 7 WF TCB 7 (CB 142)	26.5	7.79	6.97	8.062	.658	.370	27.7	4.95	1.88	1.38	28.8	7.14	1.92
		24	7.06	6.905	8.031	.593	.339	24.9	4.49	1.88	1.35	25.6	6.38	1.91
		21.5	6.32	6.84	8.000	.528	.308	22.2	4.02	1.87	1.33	22.6	5.64	1.89
P.	T 7 WF TCB 7 (CB 141)	19	5.59	7.06	6.776	.513	.313	23.5	4.27	2.05	1.56	12.3	3.64	1.49
		17	5.00	7.00	6.750	.453	.287	21.1	3.86	2.05	1.55	10.6	3.15	1.46
		15	4.41	6.93	6.733	.383	.270	19.0	3.55	2.08	1.59	8.77	2.61	1.41
P.	T 6 WF TCB 6 (CB 124)	80.5	23.69	6.94	12.515	1.486	.905	62.6	11.5	1.63	1.47	243.1	38.9	3.20
		66.5	19.56	6.69	12.365	1.236	.755	48.4	9.03	1.57	1.33	195.0	31.5	3.16
		60	17.65	6.56	12.320	1.106	.710	43.4	8.22	1.57	1.28	172.5	28.0	3.13
		53	15.59	6.44	12.230	.986	.620	36.7	7.01	1.53	1.20	150.4	24.6	3.11
		49.5	14.54	6.375	12.190	.921	.580	33.7	6.46	1.52	1.16	139.1	22.8	3.09
		46	13.53	6.31	12.155	.856	.545	31.0	5.98	1.51	1.13	128.2	21.1	3.08
		42.5	12.49	6.25	12.105	.796	.495	27.8	5.38	1.49	1.08	117.7	19.5	3.07
		39.5	11.61	6.19	12.080	.736	.470	25.8	5.02	1.48	1.06	108.2	17.9	3.05
		36	10.58	6.125	12.040	.671	.430	23.1	4.53	1.48	1.02	97.6	16.2	3.04
		32.5	9.55	6.06	12.000	.606	.390	20.6	4.06	1.47	.98	87.3	14.6	3.02

Section Index in parentheses refers to beam from which tee is cut.

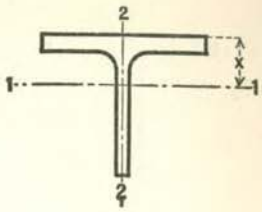
For key to symbols in first column, refer to page 3.

STRUCTURAL TEES

CUT FROM

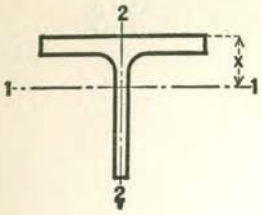
CB SECTIONS

PROPERTIES OF SECTIONS



District Produced	Section Index	Weight per Foot	Area of Section	Depth of Tee	Flange		Stem Thickness	Axis 1-1				Axis 2-2		
					Width	Thickness		I	S	r	x	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.	In.⁴	In.³	In.
P.	T 6 WF	29	8.53	6.095	10.014	.641	.359	19.0	3.75	1.49	1.03	53.7	10.7	2.51
	TCB 6	26.5	7.80	6.03	10.000	.576	.345	17.7	3.54	1.51	1.02	48.0	9.60	2.48
	(CB 123)													
P.	T 6 WF	25	7.36	6.095	8.077	.641	.371	18.7	3.80	1.60	1.17	28.2	6.98	1.96
	TCB 6	22.5	6.62	6.03	8.042	.576	.336	16.6	3.40	1.59	1.13	25.0	6.20	1.94
	(CB 122)	20	5.89	5.97	8.000	.516	.294	14.4	2.94	1.56	1.08	22.0	5.50	1.94
P.	T 6 WF	18	5.29	6.12	6.565	.540	.305	15.3	3.14	1.70	1.26	11.9	3.62	1.50
	TCB 6	15.5	4.56	6.045	6.525	.465	.265	13.0	2.69	1.69	1.22	9.91	3.04	1.47
	(CB 121)	13.5	3.99	5.980	6.500	.400	.240	11.4	2.39	1.69	1.21	8.30	2.55	1.44
P.	T 6 WF	11	3.24	6.16	4.030	.424	.260	11.7	2.58	1.90	1.63	2.27	1.13	.84
	TCBL 6	9.5	2.81	6.08	4.010	.349	.240	10.2	2.32	1.91	1.67	1.84	.92	.81
	(CBL 12)	8.25	2.43	6.00	4.000	.269	.230	9.02	2.13	1.93	1.76	1.39	.70	.76
P.	T 6 WF													
	TCBJ 6	7.00	2.07	5.96	3.970	.224	.200	7.66	1.83	1.92	1.76	1.13	.57	.74
	(CBJ 12)													
P.	T 5 WF	56	16.46	5.69	10.415	1.248	.755	28.8	6.42	1.32	1.21	117.7	22.6	2.67
		50	14.72	5.56	10.345	1.118	.685	24.8	5.62	1.30	1.14	103.3	20.0	2.65
		44.5	13.09	5.44	10.275	.998	.615	21.3	4.88	1.28	1.07	90.3	17.6	2.63
		38.5	11.33	5.31	10.195	.868	.535	17.7	4.10	1.25	1.00	76.7	15.1	2.60
	TCB 5	36	10.59	5.25	10.170	.808	.510	16.4	3.83	1.24	.97	70.9	13.9	2.59
	(CB 103)	33	9.70	5.19	10.117	.748	.457	14.5	3.39	1.22	.92	64.6	12.8	2.58
		30	8.83	5.125	10.075	.683	.415	12.8	3.02	1.21	.88	58.2	11.6	2.57
		27	7.94	5.06	10.028	.618	.368	11.2	2.64	1.18	.84	51.95	10.4	2.56
		24.5	7.20	5.00	10.000	.558	.340	10.1	2.40	1.18	.81	46.5	9.30	2.54
P.	T 5 WF	22.5	6.62	5.06	8.022	.618	.350	10.3	2.48	1.25	.91	26.6	6.63	2.00
	TCB 5	19.5	5.74	4.97	7.990	.528	.318	8.96	2.19	1.25	.88	22.5	5.62	1.98
	(CB 102)	16.5	4.85	4.875	7.964	.433	.292	7.80	1.95	1.27	.88	18.2	4.58	1.94
P.	T 5 WF	14.5	4.27	5.11	5.799	.500	.289	8.38	2.07	1.40	1.05	7.61	2.62	1.34
	TCB 5	12.5	3.67	5.04	5.762	.430	.252	7.12	1.77	1.39	1.02	6.34	2.20	1.31
	(CB 101)	10.5	3.10	4.95	5.750	.340	.240	6.31	1.62	1.43	1.06	4.87	1.69	1.25
P.	TCBL 5	9.50	2.80	5.13	4.020	.394	.250	6.70	1.74	1.55	1.28	2.09	1.04	.86
	(CBL 10)	8.50	2.49	5.06	4.010	.329	.240	6.07	1.62	1.56	1.32	1.73	.86	.83
		7.50	2.20	5.00	4.000	.269	.230	5.46	1.50	1.57	1.37	1.39	.70	.80
P.	TCBJ 5	5.75	1.69	4.94	3.950	.204	.180	4.15	1.16	1.57	1.35	1.00	.51	.77
	(CBJ 10)													

Section Index in parentheses refers to beam from which tee is cut.
For key to symbols in first column, refer to page 3.



STRUCTURAL TEES

CUT FROM

CB SECTIONS AND STANDARD BEAMS

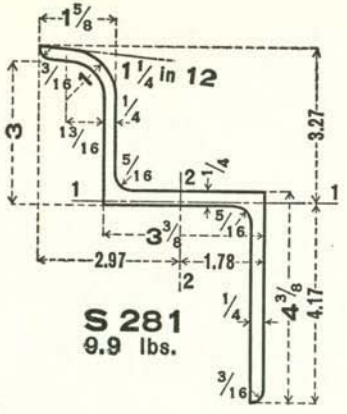
PROPERTIES OF SECTIONS

District Produced	Section Index	Weight per Foot	Area of Section	Depth of Tee	Flange		Stem Thickness	Axis 1-1				Axis 2-2		
					Width	Thickness		I	S	r	x	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.	In.⁴	In.³	In.
P.	T 4 WF TCB 4 (CB 83)	33.5	9.85	4.50	8.287	.933	.575	10.94	3.07	1.05	.94	44.3	10.7	2.12
		29	8.53	4.375	8.222	.808	.510	9.11	2.60	1.03	.87	37.50	9.10	2.10
		24	7.06	4.25	8.117	.683	.405	6.92	2.00	.99	.78	30.45	7.50	2.08
		20	5.88	4.125	8.077	.558	.365	5.80	1.71	.99	.74	24.50	6.05	2.04
		17.5	5.15	4.06	8.027	.493	.315	4.88	1.45	.97	.69	21.25	5.30	2.03
		15.5	4.56	4.00	8.000	.433	.288	4.31	1.30	.97	.67	18.50	4.60	2.01
P.	T 4 WF TCB 4 (CB 82)	14	4.11	4.03	6.540	.463	.285	4.22	1.28	1.01	.73	10.8	3.30	1.62
		12	3.53	3.965	6.500	.398	.245	3.53	1.08	1.00	.70	9.10	2.80	1.61
P.	T 4 WF TCB 4 (CB 81)	10	2.94	4.07	5.268	.378	.248	3.66	1.13	1.12	.83	4.25	1.61	1.20
		8.5	2.50	4.00	5.250	.308	.230	3.21	1.01	1.13	.84	3.36	1.28	1.16
P.	TCBL 4 (CBL 8)	7.50	2.22	4.06	4.015	.314	.245	3.29	1.07	1.22	1.00	1.65	.82	.86
		6.50	1.91	4.00	4.000	.254	.230	2.90	.98	1.23	1.03	1.31	.66	.83
P.	TCBJ 4 (CBJ 8)	5.00	1.48	3.95	3.940	.204	.170	2.15	.72	1.21	.96	1.00	.51	.82
P.	TCBL 3 (CBL 6)	8.00	2.36	3.13	4.030	.404	.260	1.66	.68	.84	.67	2.16	1.07	.96
		6.00	1.77	3.00	4.000	.279	.230	1.30	.56	.86	.67	1.44	.72	.90
P.	TCBJ 3 (CBJ 6)	4.25	1.25	2.92	3.940	.194	.170	.90	.40	.85	.64	.94	.48	.87
P.	TB 6 (B 8)	25	7.35	6.00	5.477	.660	.687	25.2	6.05	1.85	1.84	7.85	2.87	1.03
		20.4	5.99	6.00	5.250	.660	.460	18.8	4.26	1.77	1.57	6.77	2.58	1.06
P.	TB 6 (B 9)	17.5	5.14	6.00	5.078	.544	.428	17.2	3.95	1.83	1.65	4.93	1.94	.98
		15.9	4.67	6.00	5.000	.544	.350	14.9	3.31	1.78	1.51	4.68	1.87	1.00
P.	TB 5 (B 10)	17.5	5.15	5.00	4.944	.491	.594	12.5	3.63	1.56	1.56	4.18	1.69	.90
		12.7	3.73	5.00	4.660	.491	.310	7.81	2.05	1.45	1.20	3.39	1.46	.95
P.	TB 4 (B 12)	11.5	3.38	4.00	4.171	.425	.441	3.50	1.77	1.22	1.15	2.15	1.03	.80
		9.2	2.70	4.00	4.000	.425	.270	3.50	1.14	1.14	.94	1.86	.93	.83
P.	TB 3.5 (B 13)	10	2.94	3.50	3.860	.392	.450	3.36	1.36	1.07	1.04	1.58	.82	.73
		7.65	2.24	3.50	3.660	.392	.250	2.18	.81	.99	.81	1.32	.72	.77
P.	TB 3 (B 14)	8.625	2.53	3.00	3.565	.359	.465	2.13	1.02	.92	.91	1.15	.65	.67
		6.25	1.83	3.00	3.330	.359	.230	1.27	.55	.83	.69	.93	.56	.71

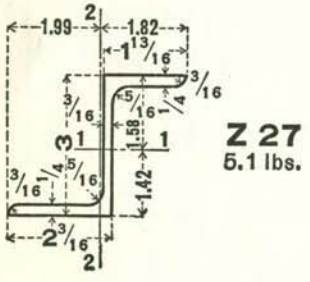
Section Index in parentheses refers to beam from which tee is cut.
For key to symbols in first column, refer to page 3.

MISCELLANEOUS CAR BUILDING SECTIONS

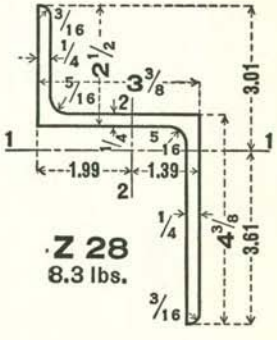
W SIDE PLATE SECTION



SIDE POST SECTION



SIDE PLATE SECTION

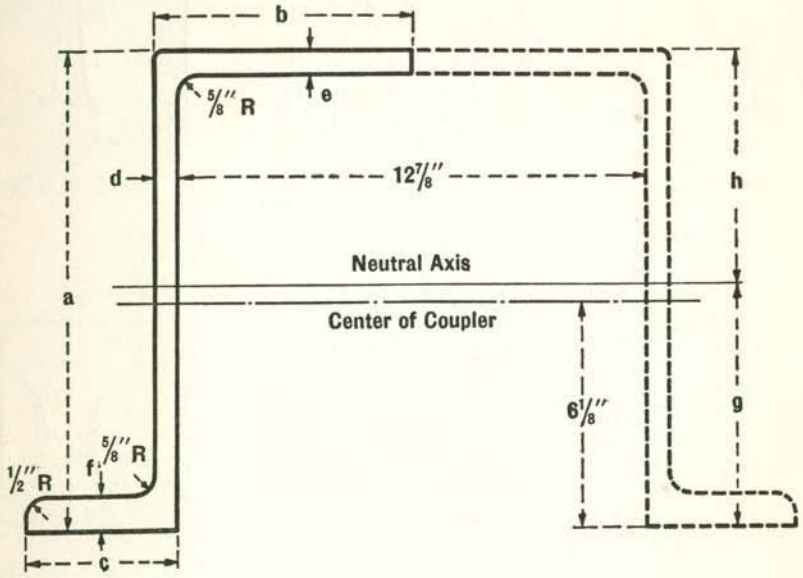


District Rolled	Section Index	Depth	Weight per Foot	Area	Axis 1-1		Axis 2-2	
					I	S	I	S
		In.	Lbs.	In.²	In.⁴	In.³	In.⁴	In.³
P.C.	S 281	7 7/16	9.9	2.89	11.26	2.70	6.94	2.34
P.C.B.	Z 27	3	5.10	1.50	2.13	1.34	1.16	0.58
P.C.	Z 28	3 3/8	8.30	2.44	6.53	1.81	4.48	2.25

For key to symbols in first column, refer to page 3.

MISCELLANEOUS CAR BUILDING SECTIONS

CENTER SILL SECTION Z26



SECTION AS ROLLED

District Rolled	Section Index	Weight per Foot	Area of Section	a	b	c	d	e	f
		Lbs.	In.²	In.	In.	In.	In.	In.	In.
P.C.G.	Z-26	51.2	15.06	13 1/16	7 1/32	4 3/16	1 9/32	1 9/32	15/16
P.C.G.	Z-26	41.2	12.12	12 15/16	6 29/32	4 1/16	1 5/32	1 5/32	13/16
P.C.G.	Z-26	36.2	10.65	12 7/8	6 27/32	4	1 3/32	1 3/32	3/4
P.C.	Z-26	31.3	9.20	12 13/16	6 25/32	3 15/16	1 1/32	1 1/32	11/16

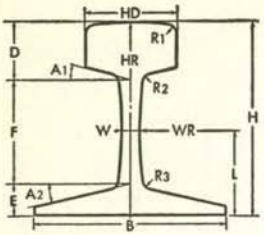
For Key to symbols in first column, refer to page 3.

DATA FOR COMPLETE SILL

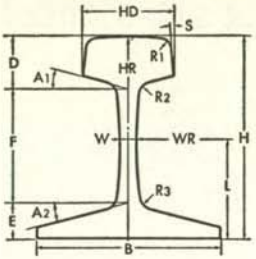
(TWO Z-26 SECTIONS)

Weight per Foot	Area	Moment of Inertia	Section Modulus		End Ratio		g	h
			Top	Bottom	Top	Bottom		
Lbs.	In.²	In.⁴	In.³	In.³			In.	In.
102.4	30.12	771.4	122.8	113.8	.0279	.0390	6.780	6.283
82.4	24.24	626.0	98.6	95.0	.0366	.0461	6.588	6.349
72.4	21.30	552.2	86.1	85.5	.0431	.0509	6.458	6.417
62.6	18.40	481.7	74.1	76.3	.0517	.0568	6.315	6.498

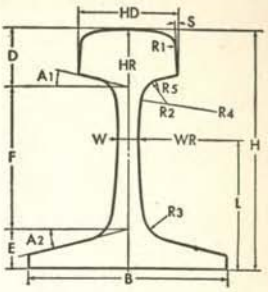
CRANE RAILS



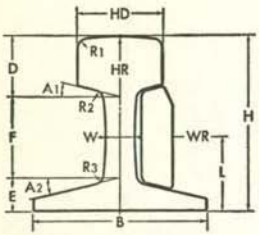
A.S.C.E.-A.R.E.A. 100 LB.



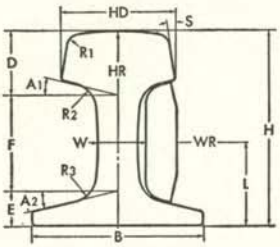
A.R.A. SERIES A & B 100 LB.



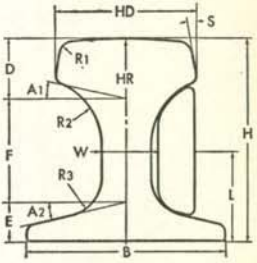
A.R.E.A. 115 & 132 LB.



C.I.S.-105 LB. with Splice Bar



C.I.S.-135 LB. with Splice Bar

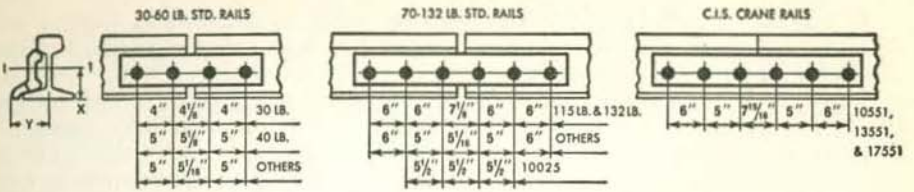


C.I.S.-175 LB. with Splice Bar

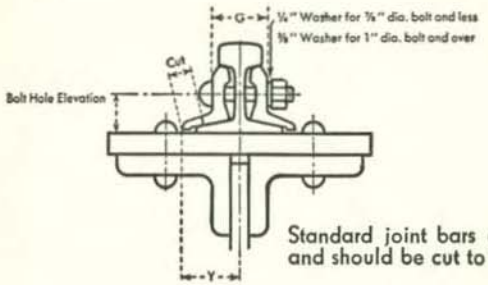
District Rolled	Weight per Yd. and Type	Section Index	Dimensions, Inches																
			Depth	Base Width	Head Width	Web (min.)	Head Depth	Fishing (Web Depth)	Base Thickness	Head Angle Base Angle	Slope of Head	℄ of Web Radius	Head Radius	Web Radius	Head Fillet Radius	Web Fillet Rad. Top	Web Fillet Rad. Bottom		
			H	B	HD	W	D	F	E	A_1=A_2	S	L	HR	WR	R_1	R_2	R_3	R_4	R_5
PCB	30 lb. A.S.C.E.	3040	3 1/8	3 1/8	1 11/16	21/64	7/8	1 23/32	17/32	13°	str.	1 25/64	12	12	5/16	1/4	1/4		
B	40 lb. A.R.A.-B	4030	3 35/64	3 3/16	1 53/64	3/8	1 1/64	1 55/64	43/64	13°	4°	1 77/128	12	12	5/16	1/4	1/4		
PC	40 lb. A.S.C.E.	4040	3 1/2	3 1/2	1 7/8	25/64	1 1/64	1 55/64	5/8	13°	str.	1 71/128	12	12	5/16	1/4	1/4		
PCB	60 lb. A.S.C.E.	6040	4 1/4	4 1/4	2 3/8	31/64	1 7/32	2 17/64	49/64	13°	str.	1 115/128	12	12	5/16	1/4	1/4		
PC	70 lb. A.S.C.E.	7040	4 5/8	4 5/8	2 7/16	33/64	1 11/32	2 15/32	13/16	13°	str.	2 3/64	12	12	5/16	1/4	1/4		
PCB	80 lb. A.S.C.E.	8040	5	5	2 1/2	35/64	1 1/2	2 5/8	7/8	13°	str.	2 3/16	12	12	5/16	1/4	1/4		
PCB	85 lb. A.S.C.E.	8540	5 3/16	5 3/16	2 9/16	9/16	1 35/64	2 3/4	57/64	13°	str.	2 17/64	12	12	5/16	1/4	1/4		
PCB	90 lb. A.R.A.-A	9020	5 5/8	5 1/8	2 9/16	9/16	1 15/32	3 5/32	1	1:4	1:16	2 29/32	14	14	3/8	3/8	3/8		
PC	90 lb. A.S.C.E.	9040	5 3/8	5 3/8	2 5/8	9/16	1 19/32	2 55/64	59/64	13°	str.	2 45/128	12	12	5/16	1/4	1/4		
PC	100 lb. A.R.A.-A	10020	6	5 1/2	2 3/4	9/16	1 9/16	3 3/8	1 1/16	1:4	1:16	2 15/16	14	14	3/8	3/8	3/8		
CB	100 lb. A.R.E.A.	10025	6	5 3/8	2 11/16	9/16	1 21/32	3 9/32	1 1/16	1:4	1:16	2 31/32	14	14	3/8	3/8	5/8		
PCB	100 lb. A.R.A.-B	10030	5 41/64	5 9/64	2 21/32	9/16	1 45/64	2 55/64	1 5/64	13°	3°	2 65/128	12	12	3/8	5/16	5/16		
PC	100 lb. A.S.C.E.	10040	5 3/4	5 3/4	2 3/4	9/16	1 45/64	3 5/64	31/32	13°	str.	2 65/128	12	12	5/16	1/4	1/4		
PC	105 lb. C.I.S.	10551	5 3/16	5 3/16	2 9/16	15/16	1 25/32	2 13/32	1	13°	str.	2 13/64	12	12	5/16	1/4	1/4		
PCB	115 lb. A.R.E.A.	11525	6 5/8	5 1/2	2 23/32	5/8	1 11/16	3 13/16	1 1/8	1:4	1:40	3 1/4	10 & 1	14	3/8	3/4	3/4	3	
PCB	132 lb. A.R.E.A.	13225	7 1/8	6	3	21/32	1 3/4	4 3/16	1 3/16	1:4	1:40	3 7/8	10 & 1 1/2	8 & 16	3/8	3/4	7/8		5/16
C	135 lb. C.I.S.	13551	5 3/4	5 3/16	3 1/16	1 1/4	1 7/8	2 13/16	1 1/16	13°	10°	2 15/32	14	12	7/16	3/4	3/4		
C	175 lb. C.I.S.	17551	6	6	4 1/4	1 1/2	1 3/4	3 7/64	1 9/64	12°	10°	. . .	18	∝	7/16	2	1 1/8		

For key to symbols in first column refer to page 3.

CRANE RAIL SPLICES



Detailed drawings covering punching and drilling will be furnished on request.



Standard joint bars are used for crane rails and should be cut to clear rivets, if necessary.

For New Work and Major Repairs the following Rail Sections are recommended—
Pittsburgh District—4040, 6040, 8540, 10551, 13551 and 17551.
Chicago District—4040, 6040, 8540, 10551, 13551 and 17551.
Birmingham District—3040, 4030, 6040, 8540, 9020, 10025, 10551, 13551 and 17551.

RAIL						JOINT BAR					BOLTS		
		Properties					Dimensions, Inches				Dimensions, In.		
Section Index	Bolt Hole Elevation	Gross Area	Axis 1-1 Parallel to Base			Section Index	Length	Size of Hole	To Toe of Joint Bar	Cut From Joint Bar	Diameter	Bolt Grip	Length
			I	S	N.A. from base x				Y			G	
		In.²	In.⁴	In.³	In.								
3040	1 25/64	3.00	4.1	2.5	1.52	S 3040	16 1/8	11/16 x 31/32	2	9/16	5/8	1 11/16	2 3/4
4030	1 73/128	3.92	7.1	3.4	1.67	S 4040	20	13/16 x 1 1/8	2 3/16	3/4	3/4	1 15/16	3 1/4
4040	1 73/128	3.94	6.6	3.6	1.68	S 4040	20	13/16 x 1 1/8	2 3/16	9/16	3/4	1 15/16	3 1/4
6040	1 115/128	5.93	14.6	6.6	2.05	S 6040	24	13/16 x 1 1/8	2 11/16	11/16	3/4	2 19/32	3 7/8
7040	2 3/64	6.81	19.7	8.2	2.22	S 7040	34	7/8 x 1 1/8	2 15/16	3/4	3/4	2 27/32	4 1/8
8040	2 3/16	7.86	26.4	10.1	2.38	Confer	..	.....	...*	...	...	...	...
8540	2 17/64	8.33	30.1	11.1	2.47	*S 8540	34	1 x 1 1/4	3 11/32	7/8	7/8	3 5/32	4 1/2
9020	2 37/64	8.82	38.7	12.6	2.54	*S 9020	34	1 1/8 x 1 3/8	3 13/16	1 3/8	1	3 5/16	4 7/8
9040	2 45/128	8.83	34.4	12.2	2.55	S 9040	34	1 1/8 x 1 3/8	3 7/16	7/8	1	3 1/4	4 3/4
10020	2 3/4	9.84	48.9	15.0	2.75	S 10020	34	1 1/8 x 1 3/8	4 1/16	1 1/16	1	3 7/16	4 7/8
10025	2 45/64	9.95	49.0	15.1	2.75	Confer	..	.....	...	...	...	...	...
10030	2 65/128	9.85	41.3	13.7	2.63	Confer	..	.....	...	...	...	...	...
10040	2 65/128	9.84	44.0	14.6	2.73	S 10040	34	1 1/8 x 1 3/8	3 5/8	7/8	1	3 7/16	4 7/8
10551	2 13/64	10.30	34.4	12.4	2.41	S 10551	34	15/16 Round	...	...	7/8	3 3/8	4 3/4
11525	2 7/8	11.25	65.6	18.0	2.98	Confer	..	.....	...	...	...	...	...
13225	3 3/32	12.95	88.2	22.5	3.20	Confer	..	.....	...	...	...	...	...
13551	2 15/32	13.32	50.6	17.2	2.81	S 13551	34	1 3/16 Round	...	...	1 1/8	3 5/8	5 1/2
17551	2 31/32	17.12	70.2	23.3	3.02	S 17551	34	1 3/16 Round	...	...	1 1/8	4 1/8	6

*Not produced in Birmingham District.

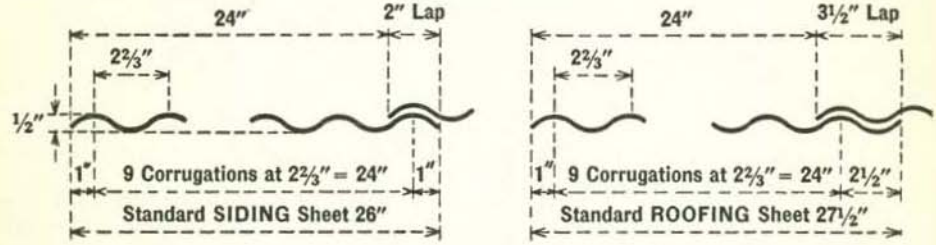
CORRUGATED SHEET CONSTRUCTION

Corrugated sheets, in addition to their extensive application as roofing and siding for buildings, are adaptable to other uses such as lining of shafts, supports and forms for floor arches, partitions, enclosures and culverts.

Corrugated sheets are available in steel of regular analysis or in rust-resisting alloys, usually copper bearing steel, either black (unpainted mill finish), painted or galvanized. Although the mills offer a wide choice in types and widths of corrugations, the curved type is generally used. General practice is to furnish in even foot lengths ranging from 60″ to 144″.

DOMESTIC WORK

Domestic Standard



Nominal 2½″ widths of corrugation (actual 2⅔″) are preferred for domestic work.

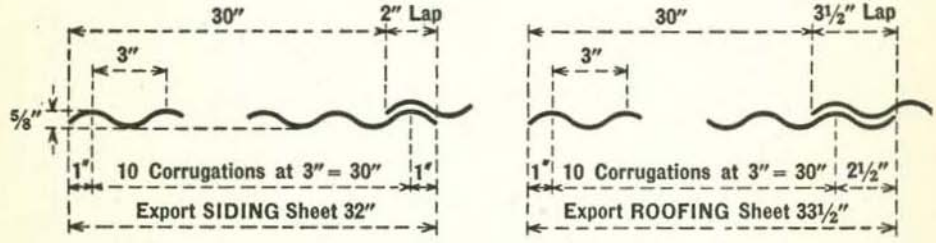
Siding sheets are 26″ wide after corrugating, with both edges turned the same way. They are laid with one corrugation side lap as shown in sketch and minimum end lap of 4″.

Roofing sheets are 27½″ wide after corrugating with one edge turned up and the other down. They are laid with 1½ corrugations side lap as shown in sketch. A minimum end lap of 6″ should be used for roof pitch of 4 in 12 or over and 8″ for roof of less pitch. Corrugated steel roofing is seldom used for roof pitch under 3 in 12.

Both siding and roofing sheets cover approximately 24″ net width.

EXPORT WORK

Export Style



Nominal 3″ widths of corrugation are generally used for export work.

Siding sheets are 32″ wide after corrugating, with both edges turned the same way.

Roofing sheets are 33½″ wide after corrugating, with 1 edge turned up and the other turned down.

Both siding and roofing cover approximately 30″ net width.

Sheet steel flashing must be provided at roof ridge, eaves, windows and wherever necessary to insure watertight results.

CORRUGATED SHEET CONSTRUCTION

STANDARD 2½" CORRUGATED

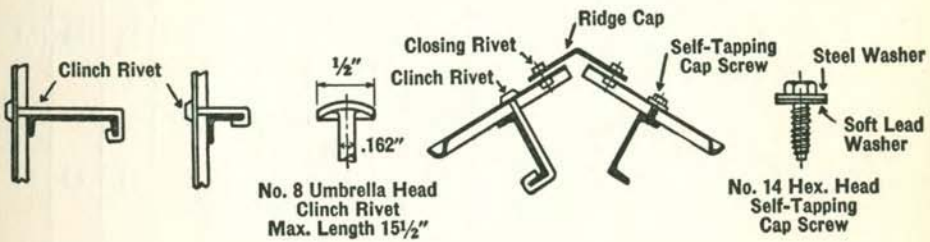
Black					Galvanized					Maximum Span Between Supports	
Manufacturers Standard Gage			Corrugated Pounds per Sq. Ft.		Galvanized Sheet Gage			Corrugated Pounds per Sq. Ft.			
Gage No.	Pounds per Sq. Ft.	Approx. Thick. Inches	26" Wide	27½" Wide	Gage No.	Pounds per Sq. Ft.	Approx. Thick. Inches	26" Wide	27½" Wide	Roofing	Siding
12	4.38	.105	4.71	4.77	12	4.53	.109	4.88	4.94	5′ 9″	5′ 10″
14	3.13	.075	3.37	3.41	14	3.28	.079	3.53	3.58	5′ 9″	5′ 10″
16	2.50	.060	2.69	2.73	16	2.66	.064	2.86	2.90	5′ 9″	5′ 10″
18	2.00	.048	2.15	2.18	18	2.16	.052	2.32	2.35	5′ 9″	5′ 10″
20	1.50	.036	1.62	1.64	20	1.66	.040	1.78	1.81	5′ 9″	5′ 10″
22	1.25	.030	1.35	1.36	22	1.41	.034	1.51	1.53	4′ 9″	5′ 10″
24	1.00	.024	1.08	1.09	24	1.16	.028	1.25	1.26	3′ 9″	4′ 10″
26	.75	.018	.81	.82	26	.91	.022	.98	.99	2′ 9″	3′ 10″
28	.63	.015	.67	.68	28	.78	.019	.84	.85	2′ 9″	3′ 10″

To obtain weights of Painted Sheets add 0.010 pounds per square foot to weights of Black Sheets.

EXPORT 3" CORRUGATED

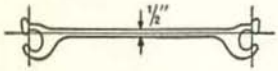
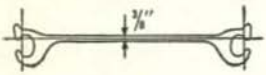
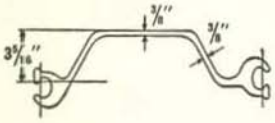
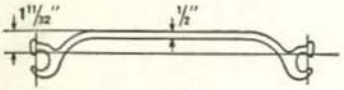
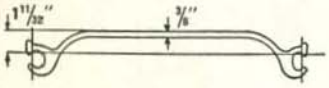
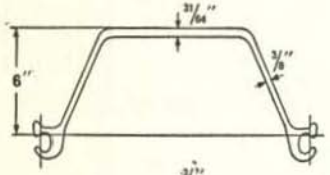
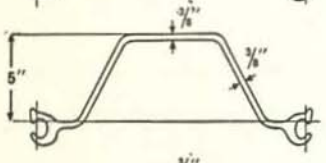
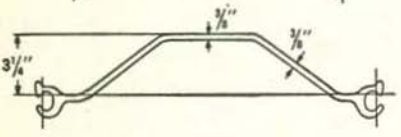
Black				Galvanized				Maximum Span Between Supports	
Manufacturers Standard Gage			Corrugated Pounds per Sq. Ft.	Galvanized Sheet Gage			Corrugated Pounds per Sq. Ft.		
Gage No.	Pounds per Sq. Ft.	Approx. Thick. Inches	32" & 33½" Wide	Gage No.	Pounds per Sq. Ft.	Approx. Thick. Inches	32" & 33½" Wide	Roofing	Siding
12	4.38	.105	4.86	12	4.53	.109	5.03	5′ 9″	5′ 10″
14	3.13	.075	3.47	14	3.28	.079	3.64	5′ 9″	5′ 10″
16	2.50	.060	2.78	16	2.66	.064	2.95	5′ 9″	5′ 10″
18	2.00	.048	2.22	18	2.16	.052	2.40	5′ 9″	5′ 10″
20	1.50	.036	1.67	20	1.66	.040	1.84	5′ 9″	5′ 10″
22	1.25	.030	1.39	22	1.41	.034	1.57	4′ 9″	5′ 10″
24	1.00	.024	1.11	24	1.16	.028	1.29	3′ 9″	4′ 10″

To obtain weights of Painted Sheets add 0.010 pounds per square foot to weights of Black Sheets.
Method of obtaining approximate gross area required:
Roofing=net area+end laps+15% for side laps of 1½ corrugations.
Siding=net area+end laps+10% for side laps of 1 corrugation.



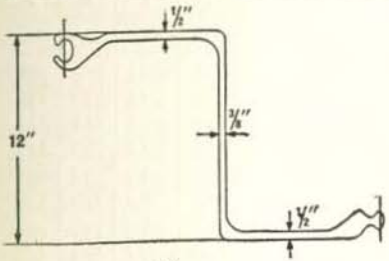
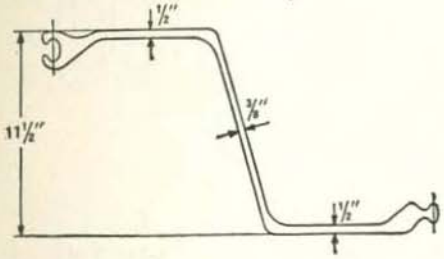
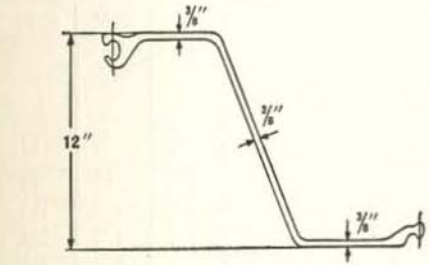
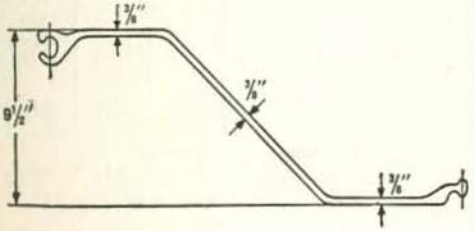
Fastenings for Corrugated Steel

STEEL SHEET PILING SECTIONS

Profile	District Rolled	Section Index		Driving Distance per Pile	Weight Per Foot	Weight Per Square Foot of Wall	Web Thickness	Section Modulus Per Pile	Section Modulus Per Foot of Wall
				In.	Lbs.	Lbs.	In.	In.³	In.³
	C.	INTERLOCK WITH EACH OTHER	MP 102	15	40.0	32.0	1/2		
	C.		MP 101	15	35.0	28.0	3/8		
	C.		MP 117	15	38.8	31.0	3/8	8.9	7.1
	P.	INTERLOCK WITH EACH OTHER	MP 113	16	37.3	28.0	1/2	3.3	2.5
	P.C.		MP 112	16	30.7	23.0	3/8	3.2	2.4
	P.		MP 110	16	42.7	32.0	31/64	20.4	15.3
	P.C.		MP 116	16	36.0	27.0	3/8	14.3	10.7
	P.C.		MP 115	19 5/8	36.0	22.0	3/8	8.8	5.4

For key to symbols in first column, refer to page 3.

STEEL SHEET PILING SECTIONS—Z PILES

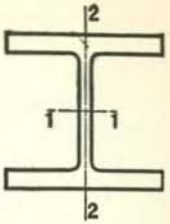
Profile	District Rolled	Section Index		Driving Distance per Pile	Weight Per Foot	Weight Per Square Foot of Wall	Web Thickness	Section Modulus Per Pile	Section Modulus Per Foot of Wall
				In.	Lbs.	Lbs.	In.	In.³	In.³
	P.	INTERLOCK WITH EACH OTHER	MZ 38	18	57.0	38.0	3/8	70.2	46.8
	P.	INTERLOCK WITH EACH OTHER	MZ 32	21	56.0	32.0	3/8	67.0	38.3
	P.	INTERLOCK WITH EACH OTHER	MZ 27	18	40.5	27.0	3/8	45.3	30.2
	P.	INTERLOCK WITH EACH OTHER	MZ 22	22	40.3	22.0	3/8	34.8	19.0

Complete data regarding these sections will be found in a separate publication entitled "Steel Sheet Piling."
For key to symbols in first column, refer to page 3.

BEARING PILES

WIDE FLANGE CBP SECTIONS

PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Weight per Foot	Area of Section	Depth of Section	FLANGE		Web Thickness	Axis 1-1			Axis 2-2		
					Width	Thickness		I	S	r	I	S	r
		Lbs.	In.²	In.	In.	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
P.C.	CBP 145 14 x 14½	117	34.44	14.234	14.885	.805	.805	1228.5	172.6	5.97	443.1	59.5	3.59
		102	30.01	14.032	14.784	.704	.704	1055.1	150.4	5.93	379.6	51.3	3.56
		89	26.19	13.856	14.696	.616	.616	909.1	131.2	5.89	326.2	44.4	3.53
		73	21.46	13.636	14.586	.506	.506	733.1	107.5	5.85	261.9	35.9	3.49
P.C.	CBP 124 12 x 12	74	21.76	12.122	12.217	.607	.607	566.5	93.5	5.10	184.7	30.2	2.91
		53	15.58	11.780	12.046	.436	.436	394.8	67.0	5.03	127.3	21.2	2.86
P.C.	CBP 103 10 x 10	57	16.76	10.012	10.224	.564	.564	294.7	58.9	4.19	100.6	19.7	2.45
		42	12.35	9.720	10.078	.418	.418	210.8	43.4	4.13	71.4	14.2	2.40
P.C.	CBP 83 8 x 8	36	10.60	8.026	8.158	.446	.446	119.8	29.9	3.36	40.4	9.9	1.95

Complete data regarding these sections will be found in a separate publication entitled "Steel Bearing Piles." For key to symbols in first column, refer to page 3.

FLOOR PLATES

ALLOWABLE UNIFORM LOAD IN LB. PER SQ. FT.

Weight of Plate Included - Simply Supported Along Two Opposite Edges - Bending Stress, 16,000 psi

Plate Thickness Inches	SPAN—Feet and Inches										
	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
⅛	333	148	83	53	37						
3/16	750	333	188	120	83	61	47				
¼	1333	593	333	213	148	109	83	65	53		
5/16	2083	926	521	333	231	170	130	103	83	69	58
⅜	3000	1333	750	480	333	245	188	148	120	99	83
7/16	4083	1815	1021	653	454	333	255	202	163	135	113
½	5333	2370	1333	853	593	435	333	263	213	176	148
⅝	8333	3704	2083	1333	926	680	521	412	333	275	231
¾	12000	5333	3000	1920	1333	980	750	593	480	397	333
1	21333	9481	5333	3413	2370	1741	1333	1053	853	705	593
Deflection Coefficient	.0166	.0372	.0662	.1034	.1490	.2027	.2648	.3351	.4138	.5006	.5958

Deflections for loadings above stepped line will exceed 1/100th of the span.

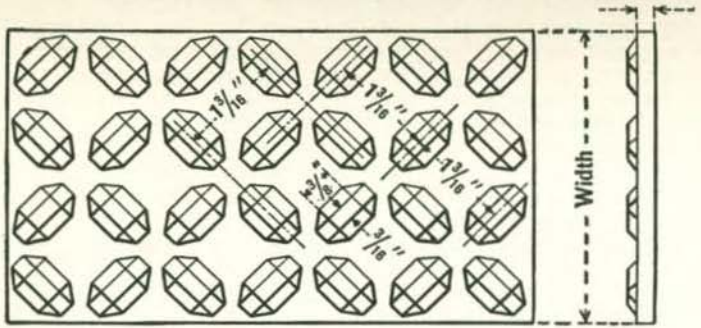
The deflection coefficient at the bottom of each span column is a constant, which, when divided by the ***plate thickness*** under consideration, in inches, gives the deflection in inches at the center of the span for the tabular loading shown.

To find the deflection in inches for any uniform load less than tabulated above, find the deflection for the tabular load for a given span and plate thickness; multiply this deflection by the load per sq. ft. desired; and divide by the tabular allowable safe load above.

Plate Thickness in inches is the body or base thickness, and does not include the depth of the projections.

EXTREME SIZES OF RECTANGULAR AND CIRCULAR FLOOR PLATES

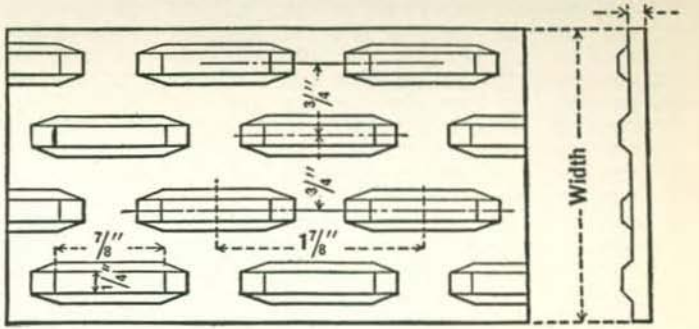
CARBON STEEL—SECTION S-300



Thickness Inches	Weight—Lbs., per Sq. Ft.	WIDTHS IN INCHES: Over 6 to 12 Incl.	Over 12 to 18 Incl.	Over 18 to 24 Incl.	Over 24 to 30 Incl.	Over 30 to 48 Incl.	Over 48 to 60 Incl.	Over 60 to 72 Incl.	Over 72 to 84 Incl.	Circles Maximum Diameter, Inches	Thickness Inches
		LENGTHS IN INCHES									
1/8	6.15	144	180	240	240	240	*240	...	...	60	1/8
3/16	8.70	144	180	300	360	600	600	600	600	84	3/16
1/4	11.25	144	180	300	360	600	600	600	600	84	1/4
5/16	13.80	144	180	300	360	600	600	600	600	84	5/16
3/8	16.35	120	180	300	360	600	600	600	600	84	3/8
7/16	18.90	120	180	300	360	600	600	600	...	72	7/16
1/2	21.45	120	180	300	360	600	600	600	...	72	1/2

Chicago and Pittsburgh Districts.
Weights are approximate and may vary.
*Not rolled in Chicago District.

CARBON STEEL—SECTION M-41



Thickness Inches	Weight—Lbs., per Sq. Ft.	WIDTHS IN INCHES: Over 6 to 12 Incl.	Over 12 to 18 Incl.	Over 18 to 24 Incl.	Over 24 to 30 Incl.	Over 30 to 60 Incl.	Over 60 to 72 Incl.	Over 72 to 84 Incl.	Over 84 to 90 Incl.	Circles Maximum Diameter, Inches	Thickness Inches
		LENGTHS IN INCHES									
1/8	6.50	144	180	240	360	480	...	...	...	60	1/8
3/16	8.70	144	180	300	360	600	600	600	480	90	3/16
1/4	11.25	144	180	300	360	600	600	600	480	90	1/4
5/16	13.80	144	180	300	360	600	600	600	480	90	5/16
3/8	16.35	120	180	300	360	600	600	600	480	90	3/8
7/16	18.90	120	180	300	360	600	600	600	480	90	7/16
1/2	21.45	120	180	300	360	600	600	600	480	90	1/2
5/8	26.55	120	180	300	360	600	600	600	...	84	5/8
3/4	31.65	120	180	300	360	480	480	480	...	84	3/4
1	41.85	...	...	300	360	480	360	...	...	72	1

Pittsburgh District only.
Weights are approximate and may vary.

PLATES ROLLED IN PITTSBURGH DISTRICT

EXTREME SIZES OF RECTANGULAR UNIVERSAL MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

2 INCHES THICK AND UNDER

Thickness Inches	Weight Lbs., per Sq. Ft.	WIDTHS IN INCHES: Over 6 to 7 Incl.	Over 7 to 8 Incl.	Over 8 to 9 Incl.	Over 9 to 9⅞ Incl.	10 to 11 Incl.	Over 11 to 13 Incl.	Over 13 to 15 Incl.	Over 15 to 17 Incl.	Over 17 to 19 Incl.	Over 19 to 21 Incl.	Over 21 to 23 Incl.	Over 23 to 25 Incl.	Over 25 to 27 Incl.	Over 27 to 29 Incl.	Over 29 to 31 Incl.	Over 31 to 33 Incl.	Over 33 to 36 Incl.	Over 36 to 37 Incl.	Over 37 to 39 Incl.	Over 39 to 41 Incl.	Over 41 to 43 Incl.	Over 43 to 45 Incl.	Over 45 to 47 Incl.	Over 47 to 48 Incl.	Thickness Inches
		LENGTHS IN INCHES																								
¼	10.20	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	1080	720	600	....	...	...	...	...	....	....	¼
5/16	12.75	1080	1080	1080	1080	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1080	1080	1080	960	840	720	600	....	....	5/16
⅜	15.30	1080	1080	1080	1080	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1080	1080	....	....	⅜
7/16	17.85	1068	1056	1032	1020	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1080	1080	7/16
½	20.40	1056	1020	1008	960	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1080	½
9/16	22.95	1008	948	900	852	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	9/16
⅝	25.50	924	852	768	744	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	⅝
¾	30.60	792	732	672	636	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	¾
⅞	35.70	684	636	588	564	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1193	1169	⅞
1	40.80	588	552	516	492	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1197	1142	1091	1044	1023	1
1⅛	45.90	564	480	444	420	1200	1200	1168	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1180	1119	1064	1014	970	927	910	1⅛
1¼	51.00	504	432	396	372	1200	1200	1052	1200	1200	1200	1200	1200	1200	1200	1200	1190	1091	1061	1006	957	913	873	835	819	1¼
1⅜	56.10	444	384	360	348	1200	1104	956	1200	1200	1200	1200	1200	1200	1200	1200	1151	1082	991	965	915	870	830	794	759	744	1⅜
1½	61.20	408	360	336	312	1195	1012	876	1152	1139	1129	1120	1114	1107	1102	1056	991	908	884	838	797	761	726	696	692	1½
1⅝	66.30	384	336	300	288	1103	934	803	1063	1051	1042	1034	1028	1022	1018	974	915	838	816	775	736	702	671	643	629	1⅝
1¾	71.40	360	300	276	264	1025	867	751	987	976	968	961	954	949	945	904	850	779	758	719	684	652	623	597	584	1¾
1⅞	76.50	336	276	264	240	856	809	701	921	912	904	896	891	886	882	844	793	726	707	671	638	608	581	556	545	1⅞
2	81.60	300	264	264	228	897	759	657	863	854	847	840	835	830	826	791	744	681	663	629	598	571	545	522	511	2

Plate requirements in excess of dimensions shown may be submitted for special consideration.

EXTREME SIZES OF RECTANGULAR UNIVERSAL MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T.S.

OVER 2 INCHES THICK

Thickness Inches	WIDTH IN INCHES																							Thickness Inches
	Over 6 to 7 Incl.	Over 7 to 8 Incl.	Over 8 to 9 Incl.	Over 9 to 9⅞ Incl.	10 to 11 Incl.	Over 11 to 13 Incl.	Over 13 to 15 Incl.	Over 15 to 17 Incl.	Over 17 to 19 Incl.	Over 19 to 21 Incl.	Over 21 to 23 Incl.	Over 23 to 25 Incl.	Over 25 to 27 Incl.	Over 27 to 29 Incl.	Over 29 to 31 Incl.	Over 31 to 33 Incl.	Over 33 to 35 Incl.	Over 35 to 37 Incl.	Over 37 to 39 Incl.	Over 39 to 41 Incl.	Over 41 to 43 Incl.	Over 43 to 45 Incl.	Over 45 to 46 Incl.	
	LENGTH IN INCHES																							
2¼	276	252	252	216	764	646	561	736	729	722	716	711	708	704	675	632	596	564	535	508	485	463	444	2¼
2½	252	216	204	192	688	582	505	662	656	649	644	640	637	634	606	568	536	507	481	458	437	417	400	2½
3	204	180	...	...	573	485	420	552	546	541	537	533	531	528	506	474	447	423	401	381	364	347	333	3
3½	...	...	...	...	491	415	360	473	468	464	460	457	455	453	433	406	383	362	344	327	312	298	286	3½
4	...	...	...	...	430	363	315	414	410	406	403	400	398	396	379	355	335	317	300	286	273	260	250	4
4½	...	...	...	...	382	323	280	368	364	361	358	355	354	352	337	316	298	282	267	254	243	231	222	4½
5	...	...	...	...	345	291	252	331	328	325	322	320	318	317	303	284	268	253	240	229	218	208	200	5
5½	...	...	...	...	...	264	229	301	298	295	293	291	289	288	278	260	245	232	220	209	200	190	183	5½
6	...	...	...	...	...	...	210	276	273	270	268	266	265	264	253	237	223	211	200	190	182	173	166	6
6½	...	...	...	...	...	...	194	254	252	250	248	246	245	244	234	220	207	196	186	176	169	161	154	6½
7	...	...	...	...	...	...	...	236	234	232	230	226	227	226	216	203	191	181	172	163	156	149	143	7
7½	...	...	...	...	...	...	...	220	218	216	215	213	212	211	202	188	178	168	160	152	144	138	132	7½
8	...	...	...	...	...	...	...	...	205	203	201	200	199	198	189	177	167	158	150	143	136	130	125	8
8½	...	...	...	...	...	...	...	...	192	191	189	188	187	186	178	167	157	149	141	134	128	122	117	8½
9	...	...	...	...	...	...	...	...	...	180	179	178	177	176	168	158	149	141	133	127	121	115	111	9
9½	...	...	...	...	...	...	...	...	...	...	161	160	167	167	159	149	141	133	126	120	115	110	105	9½
10	...	...	...	...	...	...	...	...	...	...	153	152	159	158	152	142	134	127	120	114	109	104	100	10
10½	...	...	...	...	...	...	...	...	...	...	...	145	151	151	144	135	127	120	114	109	104	99	95	10½
11	...	...	...	...	...	...	...	...	...	...	...	139	144	144	138	129	122	115	109	104	100	95	91	11
11½	...	...	...	...	...	...	...	...	...	...	...	...	138	137	132	123	116	110	104	99	95	90	87	11½
12	...	...	...	...	...	...	...	...	...	...	...	...	132	132	126	118	111	105	100	95	91	86	83	12
12½	...	...	...	...	...	...	...	...	...	...	...	...	127	126	121	114	107	101	96	91	87	83	80	12½
13	...	...	...	...	...	...	...	...	...	...	...	...	...	122	117	110	103	98	93	88	84	80	77	13
13½	...	...	...	...	...	...	...	...	...	...	...	...	...	117	112	105	99	94	89	84	81	77	74	13½
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	108	101	95	90	86	81	78	74	71	14
14½	...	...	...	...	...	...	...	...	...	...	...	...	...	...	104	98	92	87	83	79	75	72	69	14½
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	94	89	84	80	76	72	69	66	15

All Sizes must be gas cut to width and length. Plate requirements in excess of dimensions shown may be submitted for special consideration.
In general circles can be furnished in diameters equal to widths of plates shown.

PLATES ROLLED IN PITTSBURGH DISTRICT

EXTREME SIZES OF RECTANGULAR AND CIRCULAR SHEARED MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

2 INCHES THICK AND UNDER

Thickness Inches	Weight Lbs., per Sq. Ft.	WIDTHS IN INCHES																								Circles Maximum Diameter, Inches	Thickness Inches
		24	30	36	42	48	48⅛	54	60	66	72	78	84	90	90⅛	96	102	108	114	120	126	132	138	144	150		
		LENGTHS IN INCHES																									
3/16	7.65	...	...	...	...	...	900	900	900	900	840	720	600	480	480	390	380	370	360	330	320	300	...	...	...	134	3/16
1/4	10.20	720	720	900	900	900	900	900	900	900	840	720	600	500	500	480	480	480	480	480	480	450	450	450	...	146	1/4
5/16	12.75	900	900	900	900	900	900	900	900	900	900	900	840	720	520	520	480	480	480	480	480	480	450	450	450	152	5/16
3/8	15.30	900	900	900	900	900	900	900	900	900	900	900	840	720	720	720	720	660	600	480	480	480	480	480	480	152	3/8
7/16	17.85	900	900	900	900	900	900	900	900	900	900	900	840	720	720	720	720	720	660	600	520	480	480	480	480	152	7/16
1/2	20.40	900	900	900	900	900	900	900	900	900	900	900	840	720	720	720	720	720	660	600	560	520	480	480	480	152	1/2
9/16	22.95	900	900	900	900	900	900	900	900	900	900	900	840	720	720	720	720	720	720	720	660	600	540	480	480	152	9/16
5/8	25.50	900	900	900	900	900	900	900	900	900	900	900	840	720	720	720	720	720	720	720	660	600	540	520	500	152	5/8
11/16	28.05	900	900	900	900	900	900	900	864	864	864	840	780	720	720	720	720	720	720	720	720	660	600	560	540	152	11/16
3/4	30.60	900	900	900	900	900	900	900	900	792	792	780	720	720	720	720	720	720	720	720	720	660	600	560	540	152	3/4
13/16	33.15	495	515	520	520	600	600	660	720	720	720	720	720	720	720	720	720	720	720	720	720	660	600	560	540	152	13/16
7/8	35.70	495	495	520	520	600	600	660	720	720	720	720	720	720	720	720	720	720	720	720	720	660	600	560	540	152	7/8
1	40.80	450	465	520	520	600	600	660	720	720	720	720	720	720	720	720	720	720	720	720	720	660	600	560	540	152	1
1⅛	45.90	450	465	520	520	600	600	660	720	720	720	720	720	720	720	720	720	720	720	720	720	660	600	560	540	152	1⅛
1¼	51.00	400	450	500	520	600	600	660	720	720	720	720	720	720	720	720	720	720	720	720	720	660	600	560	540	152	1¼
1⅜	61.20	400	420	500	520	600	600	660	720	720	720	720	720	720	720	720	720	720	720	720	720	660	600	560	540	152	1⅜
1¾	71.40	400	420	500	520	600	600	660	720	720	720	720	720	720	720	720	720	720	720	660	620	600	580	560	540	152	1¾
2	81.60	400	420	500	520	600	600	660	720	720	720	720	720	720	720	720	690	660	620	590	560	540	520	500	480	152	2

Plate requirements in excess of dimensions shown may be submitted for special consideration.

EXTREME SIZES OF RECTANGULAR SHEARED MILL PLATES

OVER 2 INCHES THICK

Thickness Inches	WIDTHS IN INCHES																			Thickness Inches
	Over 46 to 47 Incl.	Over 47 to 48 Incl.	Over 48 to 54 Incl.	Over 54 to 60 Incl.	Over 60 to 66 Incl.	Over 66 to 72 Incl.	Over 72 to 78 Incl.	Over 78 to 84 Incl.	Over 84 to 90 Incl.	Over 90 to 96 Incl.	Over 96 to 102 Incl.	Over 102 to 108 Incl.	Over 108 to 114 Incl.	Over 114 to 120 Incl.	Over 120 to 126 Incl.	Over 126 to 128 Incl.	Over 128 to 132 Incl.	Over 132 to 138 Incl.	Over 138 to 144 Incl.	
	LENGTHS IN INCHES																			
2¼	600	600	600	600	600	600	600	574	535	503	473	445	425	401	382	376	365	349	334	2¼
2½	600	600	600	600	600	598	552	512	478	448	422	399	378	358	342	336	325	311	299	2½
3	600	600	600	595	541	495	457	424	396	371	349	330	313	297	282	279	269	258	247	3
3½	600	600	561	504	459	421	388	360	336	315	298	280	266	253	239	236	229	220	210	3½
4	559	457	487	438	399	366	337	315	292	273	258	244	231	208	209	205	199	190	182	4
4½	494	483	430	377	352	322	298	276	258	240	227	214	204	183	184	181	176	168	161	4½
5	440	430	383	346	314	288	266	247	229	215	203	182	182	162	165	161	157	151	145	5
5½	398	389	346	312	283	259	239	223	207	194	183	163	163	156	148	146	143	138	...	5½
6	364	357	317	287	260	238	220	204	190	178	168	150	150	143	136	134	...	...	...	6
6½	337	330	293	264	239	220	203	188	176	165	155	138	138	132	126	...	...	...	...	6½
7	311	305	271	245	222	204	188	174	163	152	144	127	127	...	...	...	...	...	...	7
7½	292	286	254	228	207	190	176	162	151	143	126	...	...	...	...	...	...	...	...	7½
8	279	273	243	218	199	182	168	156	145	136	...	...	...	...	...	...	...	...	...	8
8½	257	252	224	201	183	168	155	144	134	126	...	...	...	...	...	...	...	...	...	8½
9	244	238	212	190	173	159	146	136	127	...	...	...	...	...	...	...	...	...	...	9
9½	229	225	200	180	163	150	138	128	...	...	...	...	...	...	...	...	...	...	...	9½
10	218	214	190	171	156	143	132	...	...	...	...	...	...	...	...	...	...	...	...	10
10½	205	201	179	161	147	134	...	...	...	...	...	...	...	...	...	...	...	...	...	10½
11	198	194	172	156	141	129	...	...	...	...	...	...	...	...	...	...	...	...	...	11
11½	190	187	166	148	135	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11½
12	181	179	158	143	129	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
12½	177	173	154	138	126	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12½
13	168	164	146	132	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
13½	161	158	140	126	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13½
14	156	153	136	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14
14½	150	147	130	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14½
15	145	142	126	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15

All Sizes must be gas cut to width and length. Plate requirements in excess of dimensions shown may be submitted for special consideration. In general circles can be furnished in diameters equal to widths of plates shown.

PLATES ROLLED IN CHICAGO DISTRICT

EXTREME SIZES OF RECTANGULAR UNIVERSAL MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

2 INCHES THICK AND UNDER

Thickness Inches	Weight Lbs., per Sq. Ft.	WIDTHS IN INCHES																		Thickness Inches
		6⅛	6½	7	7½	8	8½	9	9½	10	12	14	16	18	20	22	24	26	28	30	
		LENGTHS IN INCHES																			
¼	10.20	1080	1080	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1200	1200	1140	1080	1020	960	¼
5/16	12.75	1200	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1200	1200	1140	1080	5/16
⅜	15.30	1200	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1260	1200	⅜
7/16	17.85	1200	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	7/16
½	20.40	1200	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	½
9/16	22.95	1200	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	9/16
⅝	25.50	1200	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	⅝
¾	30.60	1200	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	¾
⅞	35.70	1200	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	1320	⅞
1	40.80	1200	1272	1320	1320	1320	1320	1320	1320	1320	1320	1308	1296	1290	1284	1278	1272	1266	1266	1182	1
1⅛	45.90	1080	1128	1164	1212	1200	1200	1200	1188	1188	1164	1152	1140	1128	1128	1128	1116	1116	1116	1032	1⅛
1¼	51.00	972	1002	1044	1092	1080	1080	1068	1068	1068	1044	1032	1032	1020	1020	1008	1008	1008	996	936	1¼
1⅜	56.10	888	924	948	984	984	972	972	972	960	948	936	936	924	924	912	912	912	912	846	1⅜
1½	61.20	804	840	864	900	900	900	888	888	888	864	864	852	840	840	840	828	828	828	792	1½
1⅝	66.30	744	756	792	828	828	816	816	816	816	804	792	780	780	780	768	768	768	768	714	1⅝
1¾	71.40	684	708	732	768	768	756	756	756	756	744	732	732	726	720	720	714	714	708	660	1¾
1⅞	76.50	636	660	684	714	714	708	708	702	702	696	684	684	678	672	672	666	666	660	624	1⅞
2	81.60	600	612	636	672	666	660	660	660	648	648	648	636	630	630	624	624	624	624	576	2

Plate requirements in excess of dimensions shown may be submitted for special consideration.

EXTREME SIZES OF RECTANGULAR UNIVERSAL MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

OVER 2 INCHES THICK

Thickness Inches	WIDTHS IN INCHES																			Thickness Inches
	6⅛	6½	7	7½	8	8½	9	9½	10	12	14	16	18	20	22	24	26	28	30	
	LENGTHS IN INCHES																			
2¼	528	552	570	594	588	588	588	582	582	576	570	564	558	558	552	552	552	546	510	2¼
2½	468	486	510	528	528	528	528	522	522	516	510	504	504	498	498	492	492	492	456	2½
2¾	420	444	462	480	480	474	474	474	474	468	462	456	456	450	450	450	450	444	414	2¾
3	...	...	...	438	438	432	432	432	432	426	420	420	414	414	408	408	408	408	378	3
3½	...	...	...	372	372	372	366	366	366	366	360	354	354	348	348	348	348	348	324	3½
4	...	...	...	324	324	324	324	318	318	318	312	312	306	306	306	300	300	300	282	4
4½	...	...	...	282	282	282	282	282	282	276	276	270	270	270	270	270	264	264	246	4½
5	...	...	...	...	252	252	252	252	252	252	246	246	240	240	240	240	240	234	222	5
5½	...	...	...	...	228	228	228	228	228	228	222	222	216	216	216	216	216	216	198	5½
6	...	...	...	...	210	204	204	204	204	204	204	198	198	198	198	198	192	192	180	6

All sizes must be gas cut to length. Plate requirements in excess of dimensions shown may be submitted for special consideration.

PLATES ROLLED IN CHICAGO DISTRICT

EXTREME SIZES OF RECTANGULAR AND CIRCULAR SHEARED MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

2 INCHES THICK AND UNDER

Thickness Inches	Weight Lbs., per Sq. Ft.	WIDTHS IN INCHES																	Circles Maximum Diameter, Inches	Thickness Inches
		24 to 30	30 to 48	48 to 54	Over 54 to 78	84	88 to 88¼	90	96	102	108	114	120	126	132	138	144	146	148	
		LENGTHS IN INCHES																		
3/16	7.65	...	...	720	720	720	720	...	...	...	...	...	...	...	...	...	...	...	...	84	3/16
1/4	10.20	720	720	720	720	720	720	500	480	450	420	400	360	320	300	...	...	...	...	134	1/4
5/16	12.75	720	720	720	720	720	720	520	500	480	470	440	390	350	320	300	...	...	...	140	5/16
3/8	15.30	720	720	720	720	720	720	720	720	720	660	600	520	480	400	330	300	...	...	146	3/8
7/16	17.85	720	720	720	720	720	720	720	720	720	660	600	520	480	440	400	360	...	...	146	7/16
1/2	20.40	720	720	720	720	720	720	720	720	720	720	660	580	520	480	440	400	360	...	148	1/2
9/16	22.95	720	720	720	720	720	720	720	720	720	720	660	580	520	480	440	420	360	...	148	9/16
5/8	25.50	720	720	720	720	720	720	720	720	720	720	660	600	540	500	480	420	360	360	150	5/8
11/16	28.05	720	720	720	720	720	720	720	720	720	720	660	600	540	500	480	420	360	360	150	11/16
3/4	30.60	720	720	720	720	720	720	720	720	720	720	660	600	540	500	480	420	400	360	150	3/4
13/16	33.15	...	...	720	720	720	720	720	720	720	720	660	600	540	520	480	420	400	360	150	13/16
7/8	35.70	...	...	720	720	720	720	720	720	720	720	660	600	540	520	480	420	400	360	150	7/8
1	40.80	...	...	720	720	720	720	720	720	720	720	660	600	540	520	480	420	400	360	150	1
1 1/8	45.90	...	...	720	720	720	720	720	720	720	720	660	600	540	520	480	420	400	360	150	1 1/8
1 1/4	51.00	...	...	720	720	720	720	720	720	720	720	660	600	540	520	480	420	400	360	150	1 1/4
1 1/2	61.20	...	...	720	720	720	720	720	720	720	660	630	600	540	500	460	420	400	320	150	1 1/2
1 3/4	71.40	...	...	720	720	720	720	720	680	640	600	575	520	480	440	420	400	360	280	150	1 3/4
2	81.60	...	...	720	720	680	640	640	600	560	530	500	480	420	400	380	360	360	240	150	2

Plate requirements in excess of dimensions shown may be submitted for special consideration.

EXTREME SIZES OF RECTANGULAR SHEARED MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

OVER 2 INCHES THICK

Thickness Inches	WIDTHS IN INCHES																		Thickness Inches
	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	146	
	LENGTHS IN INCHES																		
2½	720	720	720	680	680	600	560	520	490	465	435	410	395	380	360	335	300	300	2½
3	720	680	630	580	530	490	460	430	405	385	360	340	325	310	300	280	260	260	3
3½	635	590	540	500	460	430	400	370	350	330	310	290	275	260	250	235	220	220	3½
4	550	505	465	430	395	365	340	315	300	285	265	245	235	225	215	200	180	180	4
4½	490	450	415	380	350	325	300	275	260	245	230	215	205	195	185	175	160	160	4½
5	445	405	370	345	320	295	270	245	235	220	205	195	185	175	165	155	145	145	5
5½	400	365	335	305	280	255	240	225	210	200	185	170	165	160	150	140	...	...	5½
6	365	335	305	280	255	235	220	205	190	180	170	155	150	145	135	...	...	...	6
6½	340	310	280	255	235	215	200	185	175	165	155	145	135	130	...	...	...	...	6½
7	315	285	260	240	225	205	190	175	160	150	140	130	125	...	...	...	...	...	7
7½	295	270	245	225	210	190	175	160	150	140	130	120	...	...	...	...	...	...	7½
8	275	250	230	210	195	180	165	150	140	130	125	...	...	...	...	...	...	...	8
8½	255	235	215	200	185	170	155	140	130	120	...	...	...	...	...	...	...	...	8½
9	245	220	200	185	170	160	145	130	125	...	...	...	...	...	...	...	...	...	9
9½	230	210	190	175	160	145	135	125	...	...	...	...	...	...	...	...	...	...	9½
10	215	200	180	165	150	135	125	...	...	...	...	...	...	...	...	...	...	...	10
10½	205	185	170	155	140	130	120	...	...	...	...	...	...	...	...	...	...	...	10½
11	195	175	160	145	130	120	...	...	...	...	...	...	...	...	...	...	...	...	11
11½	185	165	150	135	125	...	...	...	...	...	...	...	...	...	...	...	...	...	11½
12	175	160	145	130	120	...	...	...	...	...	...	...	...	...	...	...	...	...	12
12½	170	155	140	125	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12½
13	160	145	130	120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
13½	155	140	125	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13½
14	140	130	120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14
14½	140	120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14½
15	140	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	15

All sizes must be gas cut to width and length. Plate requirements in excess of dimensions shown may be submitted for special consideration.
In general circles can be furnished in diameters equal to widths of plates shown.

PLATES ROLLED IN BIRMINGHAM DISTRICT

EXTREME SIZES OF RECTANGULAR UNIVERSAL MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

Thickness Inches	Weight Lbs., per Sq. Ft.	WIDTHS IN INCHES													Thickness Inches
		10 Thru 12	Over 12 Thru 16	Over 16 Thru 20	Over 20 Thru 24	Over 24 Thru 28	Over 28 Thru 30	Over 30 Thru 32	Over 32 Thru 34	Over 34 Thru 36	Over 36 Thru 38	Over 38 Thru 40	Over 40 Thru 42	Over 42 Thru 44	
		MAXIMUM LENGTHS IN INCHES													
1/4	10.20	865	865	865	865	865	865	865	865	865	865	600	600	...	1/4
5/16	12.75	865	865	865	865	865	865	865	865	865	865	600	600	...	5/16
3/8	15.30	865	865	865	865	865	865	865	865	865	865	865	865	...	3/8
7/16	17.85	865	865	865	865	865	865	865	865	865	865	865	865	...	7/16
1/2	20.40	865	865	865	865	865	865	865	865	865	865	865	865	865	1/2
9/16	22.95	865	865	865	865	865	865	865	865	865	865	865	865	865	9/16
5/8	25.50	865	865	865	865	865	865	865	865	865	865	865	865	865	5/8
11/16	28.05	865	865	865	865	865	865	865	865	865	865	865	865	865	11/16
3/4	30.60	865	865	865	865	865	865	865	865	865	865	865	865	865	3/4
13/16	33.15	865	865	865	865	865	865	865	865	865	865	865	865	865	13/16
7/8	35.70	865	865	865	865	865	865	865	865	865	865	865	865	865	7/8
1	40.80	865	865	865	865	865	865	865	865	865	865	865	865	865	1
1 1/8	45.90	865	865	865	865	865	865	865	865	865	865	865	865	865	1 1/8
1 1/4	51.00	865	865	865	865	865	865	865	865	865	865	865	865	865	1 1/4
1 3/8	56.10	865	865	865	865	865	865	865	865	865	865	865	850	803	1 3/8
1 1/2	61.20	865	865	865	865	865	865	865	865	865	860	815	770	735	1 1/2
1 5/8	66.30	865	865	865	865	865	865	...	...	...	...	...	...	...	1 5/8
1 3/4	71.40	865	865	865	865	865	865	...	...	...	...	...	...	...	1 3/4
1 7/8	76.50	865	865	865	865	865	865	...	...	...	...	...	...	...	1 7/8
2	81.60	800	800	800	800	800	800	...	...	...	...	...	...	...	2

Minimum sheared length—42". Minimum gas cut length—48".
Plates up to 1 1/8" inclusive are sheared to length; over 1 1/8" are gas cut.

EXTREME SIZES OF RECTANGULAR AND CIRCULAR SHEARED MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

1⅛ INCHES THICK AND UNDER

Thickness Inches	Weight Lbs., per Sq. Ft.	WIDTHS IN INCHES																						Circles Maximum Diameter, Inches	Thickness Inches
		Over 36 Thru 66	Over 66 Thru 72	Over 72 Thru 78	Over 78 Thru 84	Over 84 Thru 90	Over 90 Thru 96	Over 96 Thru 98	Over 98 Thru 100	Over 100 Thru 102	Over 102 Thru 104	Over 104 Thru 106	Over 106 Thru 108	Over 108 Thru 110	Over 110 Thru 112	Over 112 Thru 114	Over 114 Thru 116	Over 116 Thru 118	Over 118 Thru 120	Over 120 Thru 122	Over 122 Thru 124	Over 124 Thru 126	Over 126 Thru 128		
		MAXIMUM LENGTHS IN INCHES																							
3/16	7.65	600	540	500	460	430	400	400	400	400	370	370	370	340	340	340	320	320	320	...	...	...	...	120	3/16
1/4	10.20	600	600	600	560	560	510	510	510	480	480	480	440	440	440	440	400	400	400	400	400	...	...	124	1/4
5/16	12.75	600	600	600	600	600	600	550	550	550	550	550	530	530	530	500	500	500	500	500	480	420	360	128	5/16
3/8	15.30	720	720	720	720	660	660	660	660	600	600	600	550	550	550	520	520	520	480	480	480	400	400	128	3/8
7/16	17.85	720	720	720	720	660	660	660	660	600	600	600	550	550	550	520	520	520	480	480	480	400	400	128	7/16
1/2	20.40	720	720	720	720	680	680	680	680	640	640	640	640	600	600	600	600	560	560	540	500	440	400	128	1/2
9/16	22.95	720	720	720	720	680	680	680	680	640	640	640	640	600	600	600	600	560	560	540	500	440	400	128	9/16
5/8	25.50	720	720	720	720	680	680	680	680	640	640	640	640	600	600	600	600	560	560	540	500	440	400	128	5/8
11/16	28.05	720	720	720	720	680	680	680	680	640	640	640	640	600	600	600	600	560	560	540	500	440	400	128	11/16
3/4	30.60	720	720	720	720	680	680	680	680	640	640	640	640	600	600	600	600	560	560	540	500	440	400	128	3/4
13/16	33.15	720	720	720	720	680	680	680	680	640	640	640	640	600	600	600	600	560	560	540	500	440	400	128	13/16
7/8	35.70	720	720	720	720	680	680	680	640	640	600	600	600	600	560	560	560	540	540	540	500	440	400	128	7/8
1	40.80	720	720	720	670	620	600	560	560	560	540	540	500	500	500	480	480	480	460	460	460	400	380	128	1
1⅛	45.90	720	720	650	600	540	540	510	510	500	500	480	480	460	460	440	440	430	430	400	400	400	360	128	*1⅛

Minimum sheared length—60"
Widths over 36" to 120" incl.: Rotary side sheared.
Widths over 120": Sides sheared on straight shear.
*Circles 1⅛" thick are gas cut to size.

Widths 36" and Under: Sheared within the following size limitations:

Thickness		Width		Length
¼" thru ½"	—	12" thru 36"	—	60" thru 240"
⅝" thru 1⅛"	—	24" thru 36"	—	60" thru 240"

PLATES
Birmingham District

PLATES ROLLED IN BIRMINGHAM DISTRICT

EXTREME SIZES OF RECTANGULAR SHEARED MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

OVER 1⅛ INCHES THICK (Gas Cut)

Thickness Inches	WIDTHS IN INCHES																						Thickness Inches
	27	Over 27 Thru 28	Over 28 Thru 30	Over 30 Thru 32	Over 32 Thru 34	Over 34 Thru 36	Over 36 Thru 38	38	Over 38 Thru 40	Over 40 Thru 42	Over 42 Thru 44	Over 44 Thru 46	Over 46 Thru 48	Over 48 Thru 50	Over 50 Thru 52	Over 52 Thru 54	Over 54 Thru 56	Over 56 Thru 58	Over 58 Thru 60	Over 60 Thru 62	Over 62 Thru 64	Over 64 Thru 66	
	MAXIMUM LENGTHS IN INCHES																						
1¼	270	290	310	330	350	380	410	720	720	720	720	720	720	720	720	720	720	717	694	673	652	633	1¼
1⅜	270	290	310	330	350	380	370	720	720	720	720	720	720	720	720	695	671	648	628	608	589	572	1⅜
1½	270	290	310	330	350	360	340	720	720	720	720	720	704	682	656	633	612	591	572	554	537	521	1½
1⅝	270	290	310	330	350	330	310	720	720	720	710	681	655	630	607	586	565	546	529	512	497	482	1⅝
1¾	270	290	310	330	320	305	290	720	717	685	656	630	605	582	561	541	523	505	489	473	458	445	1¾
1⅞	270	290	310	315	300	280	270	698	666	637	610	585	563	541	521	503	485	469	454	439	426	413	1⅞
2	270	290	310	295	275	260	250	653	623	595	570	547	525	505	486	469	453	437	423	409	397	385	2
2¼	270	240	240	240	240	230	220	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	2¼
2½	265	240	240	230	220	205	190	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	2½
2¾	240	235	220	205	195	185	170	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	2¾
3	215	210	195	185	175	165	155	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	3
3½	185	175	165	155	145	135	130	240	240	240	240	240	240	240	240	240	240	240	240	235	227	220	3½
4	156	150	140	130	125	115	110	240	240	240	240	240	240	240	240	233	224	217	210	203	196	190	4
4½	...	...	...	...	...	...	...	240	240	240	240	239	229	221	212	204	197	190	184	178	172	167	4½
5	...	...	...	...	...	...	...	240	240	237	227	218	209	201	195	187	182	176	169	164	159	153	5
5½	...	...	...	...	...	...	...	235	224	215	205	197	189	182	175	169	163	157	152	147	142	138	5½
6	...	...	...	...	...	...	...	214	204	195	187	179	172	165	159	153	148	143	138	133	129	125	6
6½	...	...	...	...	...	...	..	197	188	179	171	164	157	152	146	140	135	131	126	122	118	114	6½
7	...	...	...	...	...	...	...	182	173	163	158	151	145	140	134	129	125	120	116	112	109	105	7
7½	...	...	...	...	...	...	...	169	161	153	147	140	135	129	124	120	115	111	107	104	100	97	7½
8	...	...	...	...	...	...	...	157	150	143	136	131	125	120	115	111	107	103	100	96	93	90	8

For maximum circle diameters, see table on page 63.

EXTREME SIZES OF RECTANGULAR AND CIRCULAR SHEARED MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

OVER 1⅛ INCHES THICK (Gas Cut)

Thickness Inches	WIDTHS IN INCHES																					Circles Maximum Diameter, Inches	Thickness Inches
	Over 66 Thru 68	Over 68 Thru 70	Over 70 Thru 72	Over 72 Thru 74	Over 74 Thru 76	Over 76 Thru 78	Over 78 Thru 80	Over 80 Thru 82	Over 82 Thru 84	Over 84 Thru 86	Over 86 Thru 88	Over 88 Thru 92	Over 92 Thru 96	Over 96 Thru 100	Over 100 Thru 104	Over 104 Thru 108	Over 108 Thru 112	Over 112 Thru 116	Over 116 Thru 120	Over 120 Thru 124	Over 124 Thru 128		
	MAXIMUM LENGTHS IN INCHES																						
1¼	615	598	581	566	551	537	524	511	498	487	476	465	445	426	409	393	378	364	351	339	327	128	1¼
1⅜	555	540	525	511	497	484	473	461	450	439	429	419	401	384	368	354	340	327	315	304	294	128	1⅜
1½	506	492	478	465	453	441	430	419	409	399	390	381	364	348	334	321	308	297	286	276	266	128	1½
1⅝	468	455	442	430	419	408	398	388	378	369	361	353	337	322	309	297	285	275	265	255	247	128	1⅝
1¾	432	420	408	397	386	376	367	357	349	340	332	325	310	297	285	273	263	253	243	234	226	128	1¾
1⅞	401	389	378	368	358	349	340	331	323	315	308	301	287	275	263	253	243	233	225	217	209	128	1⅞
2	373	362	352	343	333	324	316	308	301	293	286	280	267	255	245	235	225	216	208	201	194	128	2
2¼	240	240	240	240	240	240	240	240	240	240	240	240	233	223	213	204	196	188	181	174	168	128	2¼
2½	240	240	240	240	240	240	240	239	233	227	222	216	206	197	188	180	173	166	160	153	148	128	2½
2¾	240	240	240	239	233	226	220	214	209	204	198	194	184	176	168	161	154	148	142	136	131	128	2¾
3	240	236	229	222	216	210	205	199	194	190	185	180	172	164	157	150	144	138	133	128	...	124	3
3½	214	208	202	196	191	186	181	177	172	168	164	160	153	147	140	135	129	124	120	...	...	120	3½
4	185	179	174	169	165	160	156	152	148	145	141	138	131	126	120	115	...	...	...	...	...	108	4
4½	162	157	153	148	144	140	137	133	130	126	123	120	115	109	105	...	...	...	...	...	...	104	4½
5	151	146	140	137	133	129	127	124	119	118	115	111	107	101	...	...	...	...	...	...	...	100	5
5½	134	130	126	123	119	116	113	110	109	105	102	100	...	...	...	...	...	...	...	...	...	92	5½
6	121	118	114	111	108	105	102	100	97	95	92	...	...	...	...	...	...	...	...	...	...	88	6
6½	111	108	105	102	99	96	93	91	89	...	...	...	...	...	...	...	...	...	...	...	...	78	6½
7	102	99	96	93	90	88	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	78	7
7½	94	91	89	86	83	81	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	78	7½
8	87	85	82	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	72	8

PLATES ROLLED IN GENEVA DISTRICT

EXTREME SIZES OF RECTANGULAR AND CIRCULAR SHEARED MILL PLATES

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

1½ INCHES THICK AND UNDER

Thickness, Inches	Weight, Lbs. per Sq. Ft.	WIDTHS IN INCHES																Circles Maximum Diameter, Inches	Thickness, Inches
		36	42	48⅛	54	60	66	72	78	84	90	96	102	108	114	120	121		
		LENGTHS IN INCHES																	
3/16	7.65			480	480	480	480	480	420	384	384	384						96	3/16
¼	10.20	600	600	600	600	600	600	600	600	480	480	420	384	384	384	384		120	¼
5/16	12.75	600	600	600	600	600	600	600	600	480	480	420	384	384	384	384	384	120	5/16
3/8	15.30	600	600	600	600	600	600	600	600	600	600	480	420	384	384	384	384	120	3/8
7/16	17.85	600	600	600	600	600	600	600	600	600	600	480	420	384	384	384	384	120	7/16
½	20.40	600	600	600	600	600	600	600	600	600	600	600	480	480	420	384	384	120	½
9/16	22.95	600	600	600	600	600	600	600	600	600	600	600	480	480	420	384	384	120	9/16
5/8	25.50	600	600	600	600	600	600	600	600	600	550	480	480	480	360	360	360	120	5/8
11/16	28.05	600	600	600	600	600	600	600	600	570	500	480	420	360	360	360	360	120	11/16
¾	30.60	600	600	600	600	600	600	600	600	550	450	400	360	360	360	360	340	120	¾
13/16	33.15	480	480	480	480	480	480	480	480	480	420	360	360	360	360	330		120	13/16
⅞	35.70	480	480	480	480	480	480	480	480	480	400	360	360	330	320	280		120	⅞
1	40.80	480	480	480	480	480	480	480	480	460	350	340	320	300	285	260		120	1
1⅛	45.90	480	480	480	480	480	480	480	460	390	320	300	285	270				120	1⅛
1¼	51.00	480	480	480	480	480	480	470	410	320	290	270	255	240				114	1¼
1½	61.20	480	480	430	480	480	450	390	340	250	210	210	200	200				108	1½

For items shown under heavy line, the minimum quantity of one size which the mill can accept is 200" either in one length or multiples adding up to a minimum of 200"

For flange, firebox and higher qualities where tests from both ends are required—reduce above maximum lengths by 20 inches.

Circles—minimum diameter 36 inches. Plate requirements in excess of dimensions shown may be submitted for special consideration.

EXTREME SIZES OF RECTANGULAR SHEARED MILL PLATE

CARBON STEEL—STRUCTURAL GRADE—72,000 PSI MAXIMUM T. S.

OVER 1½ INCHES THICK

Thickness, Inches	WIDTHS IN INCHES								
	49	54	60	66	72	78	84	90	96
	LENGTHS IN INCHES								
1⅝	370	445	425	390	360	330	240	215	200
1¾	345	410	385	360	335	305	220	200	
1⅞	320	380	360	335	310	285	200		
2	300	355	335	310	290	270			
2⅛	285	335	315	295	275	255			
2¼	270	315	300	280	260	240			
2⅜	255	300	285	265	245	225			
2½	240	285	270	250	230	215			
2⅝	230	270	255	235	220	205			
2¾	220	260	245	225	210				
2⅞	210	250	235	215	200				
3	200	240	225	210					

All sizes must be gas cut to width and length.

For all items shown on this page, the minimum quantity for one size which the mill can accept is 200' either in one length or multiples adding up to a minimum of 200'.

For flange, firebox and higher qualities where tests from both ends are required—reduce above maximum lengths by 20 inches.

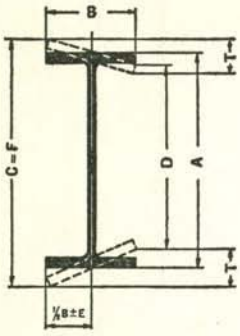
Plate requirements in excess of dimensions shown may be submitted for special consideration.

STANDARD MILL PRACTICES

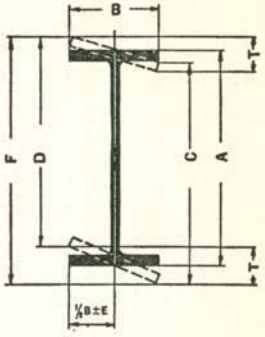
PERMISSIBLE VARIATIONS FOR DIMENSIONS AND WEIGHT

Rolling structural shapes involves factors such as roll wear, subsequent roll dressing, temperature variations, etc., which cause the finished shapes to vary from published profiles. Structural shapes are furnished to standard rolling tolerances published by the American Iron and Steel Institute in "Steel Products Manual: Carbon Steel Structural Sections," August, 1943.

The permissible variation from the theoretical or specified weight is 2.5 per cent.



WIDE FLANGE BEAMS



SECTION

Nominal Depth, In.	A Depth, In.		B Width of Flange, In.		T or T′ Out of Square, In.	C minus D Out of Parallel, In.	E Web off Center, In.	F Maximum Overall Depth at any Cross-Section. Measured Parallel with Web, In.
	Over	Under	Over	Under	Not Over	Not Over	Not Over	Over Nominal
To 12 incl.[a]	1/8	1/8	1/4	3/16	3/16	3/16	3/16	1/4
Over 12	1/8	1/8	1/4	3/16	1/4	1/4	3/16	1/4

[a]Includes all H-Beams rolled on mills having vertical rolls.

LENGTH

Nominal Depth, In.	Variations from Specified Length for Lengths Given, In.			
	To 30 ft., incl.		Over 30 ft.	
	Over	Under	Over	Under
Beams up to 24 incl.	3/8	3/8	3/8 plus 1/16 for each additional 5 ft. or fraction thereof.	3/8
Beams over 24 and all Columns	1/2	1/2	1/2 plus 1/16 for each additional 5 ft. or fraction thereof.	1/2

ENDS OUT-OF-SQUARE

1/64 in. per inch of depth, or of flange width if it is greater than depth.

CAMBER OR SWEEP

Beams: $1/8 \text{ in.} \times \frac{\text{number of feet of total length}}{10}$

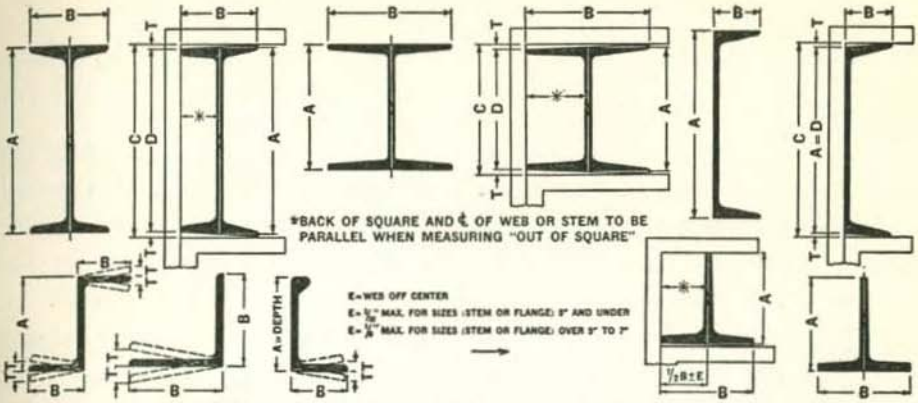
When Ordered As Columns:

Lengths to 45 ft., inclusive: $1/8'' \times \frac{\text{number of feet of total length}}{10}$, but not over $3/8''$.

Lengths over 45 ft.: $3/8'' + 1/8'' \times \frac{\text{number of feet of total length, minus 45}}{10}$

STANDARD MILL PRACTICES

PERMISSIBLE VARIATIONS FOR DIMENSIONS



STANDARD BEAMS, H-BEAMS, CHANNELS, ZEES—SECTION

Sections	Specified Size, In.	A Depth, In.		B Flange Width, In.		T or T′ Out of Square per Inch of B, In.	Out of Parallel per Inch of B, In. C Minus D
		Over	Under	Over	Under		
Beams	3, 4, 5, 6, 7	3/32	1/16	1/8	1/8	1/32	1/32
	8, 10, 12,	1/8	3/32	5/32	5/32	1/32	1/32
	15, 18, 20, 24	3/16	1/8	3/16	3/16	1/32	1/32
H-Beams[a]	4	3/32	1/16	1/8	1/8	1/32	1/32
	5	3/32	1/16	5/32	5/32	1/32	1/32
	6 and 8	1/8	3/32	3/16	3/16	1/32	1/32
Channels	3, 4, 5, 6, 7	3/32	1/16	1/8	1/8	1/32	1/32
	8, 9, 10, 12, 13	1/8	3/32	1/8	5/32	1/32	1/32
	15 and 18	3/16	1/8	1/8	3/16	1/32	1/32
Zees	3 and 4	1/8	1/16	1/8	3/32	3/128[b]	....
	5 and 8	1/8	1/16	1/8	1/8	3/128[b]	....

[a] These tolerances apply to H-Beams rolled on standard structural mills.

[b] 3/128″ per inch = 1½°.

ANGLES, BULB ANGLES, ROLLED TEES—SECTION

Sections	Specified Size, In.	A Depth, In.		B Flange Width, In. or Length of Leg, In.		T Out of Square per Inch of B, In.
		Over	Under	Over	Under	
Angles[a]	3, 3½, 4			1/8	3/32	3/128[b]
	5 and 6			1/8	1/8	3/128[b]
	7, 8, 9			3/16	1/8	3/128[b]
Bulb Angles	3 and 4	1/8	1/16	1/8	3/32	3/128[b]
	5 and 6	1/8	1/16	1/8	1/8	3/128[b]
	7, 8, 9, 10	1/8	1/16	3/16	1/8	3/128[b]
Rolled Tees	3, 4, 5	3/32	1/16	1/8	1/8	1/32

[a] For unequal leg angles, longer leg determines classification.

[b] 3/128″ per inch = 1½°.

ALL STANDARD SECTIONS—LENGTH

Sections	Variations from Specified Length for Lengths Given, In.							
	To 30 ft. incl.		Over 30 ft. to 40 ft. incl.		Over 40 ft. to 50 ft. incl.		Over 50 ft.	
	Over	Under	Over	Under	Over	Under	Over	Under
Beams, Standard Mill H-Beams, Channels	3/8	3/8	5/8	3/8	7/8	3/8	1	3/8
Angles, Bulb Angles, Tees, Zees	3/4	0	1	0	1¼	0	1¼	0

ENDS OUT-OF-SQUARE

Beams, Channels, Standard Mill H-Beams ..... 1/64 in. per inch of depth.
Angles[a] ..... 3/128 in. per inch of leg length or 1½°.
Bulb Angles ..... 3/128 in. per inch of depth or 1½°.
Rolled Tees[a] ..... 1/64 in. per inch of flange or stem.
Zees ..... 3/128 in. per inch of sum of both flange lengths.

[a] Tolerances for ends out-of-square are determined on the longer members of the section.

CAMBER

$$1/8 \text{ in.} \times \frac{\text{number of feet of total length}}{5}$$

STANDARD MILL PRACTICES

SURFACE FINISH AND CONDITIONING

Correcting minor imperfections at any location in structural sections by grinding or by chipping to sound metal and depositing weld metal by arc-fusion welding, in accordance with the limitations prescribed below, is regular practice.

Imperfections that do not affect the full utility of the piece shall not be considered as injurious defects. Such pieces may be processed by the following methods in order to give them a workmanlike finish.

(1) For material less than 3/8″ in thickness, when the imperfections are not more than 1/32″ in depth they may be removed by grinding or chipping.

(2) For material 3/8″ and over in thickness, when the imperfections are not more than 1/16″ in depth they may be removed by grinding or chipping.

(3) For material 3/8″ and over in thickness, when the imperfections are more than 1/16″ in depth, the pieces may be chipped and welded under limiting conditions, listed below under "Chipping and Welding."

After the imperfection has been completely removed, the maximum depth of depression shall not exceed the following:

THICKNESS OF MATERIAL INCHES	DEPTH OF DEPRESSION MAXIMUM, INCHES
Grinding or Chipping only	
To 3/8″ excl.	1/32
3/8 and over	1/16
Chipping and Welding	
3/8 to 3/4 excl.	3/32
3/4 to 1-1/4 excl.	3/16
1-1/4 to 2-1/4 excl.	1/4
2-1/4 and over	3/8

The cross-sectional area of any piece shall not be reduced by grinding or chipping more than 1.5 per cent at any cross-section, nor shall the total area of the ground or chipped surface of any piece exceed 2 per cent of the total surface area of that piece.

An experienced mill inspector shall inspect the work after the chipping operation to see that the defects have been completely removed and that the limitations specified above have not been exceeded. All welding shall be done by qualified welders using suitable coated welding rods. The welds must be sound; the weld metal being thoroughly fused on all surfaces and edges without under-cutting or overlap. Weld metal shall project at least 1/16 in. above the rolled surface after welding, and the projecting metal shall be removed by chipping or grinding to make it flush with the rolled surface and produce a workmanlike finish.

STANDARD MILL PRACTICES

CAMBERING OF ROLLED BEAMS

This refers to the cold cambering of large depth beams to produce a predetermined design. The maximum lengths that can be cambered depend on the length that can be rolled of a given section, to a maximum of 100 feet. The maximum cambers that can be furnished and the minimum lengths for given cambers are shown in the following table.

Sections	Maximum Camber, Inches								
	5	4½	4	3½	3	2½	2	1½	1
	Minimum Lengths for Given Camber, Feet								
Wide Flange 24″ and over	85	75	65	55	50	45	40	35	30
Wide Flange 21″; Standard 24″	80	70	60	50	45	40	35	30	25

Camber will approximate a simple regular curve nearly the full length of the beam, or between any two points as specified. Reverse or other compound curves can not be undertaken. Camber is to be specified by the ordinate at the mid-length of the portion of the beam to be curved; ordinates at other points are not to be specified. The camber ordinate is subject to a tolerance of nothing under to 1/2 in. over for lengths 50 ft. and less; and for lengths over 50 ft., 1/8 in. is to be added to the over tolerance for each additional 10 ft. or fraction thereof.

MINIMUM CAMBER, IN INCHES, LIKELY TO REMAIN PERMANENT

Wide Flange Sections	Lengths in Feet						
	85	75	65	55	50	45	40
CB 362, 361	3¾	3	2¼	1½	1¼	1	¾
332, 331	4	3¼	2½	1¾	1½	1¼	1
302, 301	4½	3½	2¾	2	1½	1¼	1
272, 271	5	4	3	2	1¾	1½	1¼
243, 242, 241	5	4½	3¼	2½	2	1½	1¼

Wide Flange Sections and Standard Beams	Lengths in Feet							
	80	70	60	50	45	40	35	30
CB 213, 212, 211	5	4½	3¼	2¼	1¾	1½	1	¾
24″ B18, B1	5	3¾	2¾	2	1½	1¼	1	¾

Cambers less than minimum shown above will not be furnished.

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