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**HOT ROLLED  
CARBON STEEL  
STRUCTURAL SHAPES**



**U N I T E D S T A T E S S T E E L**

B135

# HOT ROLLED CARBON STEEL STRUCTURAL SHAPES

APPROVED BY NATIONAL BUREAU OF STANDARDS  
R 216-46, 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

CARNEGIE-ILLINOIS STEEL CORPORATION . . . Pittsburgh and Chicago  
 COLUMBIA STEEL COMPANY . . . . . San Francisco  
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# UNITED STATES STEEL

CB SECTIONS  
 LIGHT BEAMS  
 STANDARD BEAMS  
 STANDARD CHANNELS  
 CAR & SHIP CHANNELS  
 EQUAL ANGLES  
 UNEQUAL ANGLES  
 BULB ANGLES  
 TEES & ZEEES

CARNEGIE-ILLINOIS STEEL CORPORATION  
Pittsburgh, Pa. — Chicago, Ill.

TENNESSEE COAL, IRON AND RAILROAD COMPANY  
Birmingham, Ala.

COLUMBIA STEEL COMPANY  
San Francisco, Cal.

## Foreword

IN COMPLIANCE with the recommendation of the U. S. Department of Commerce, National Bureau of Standards, this pamphlet 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.

Only those structural sections shown in this pamphlet will be available after July 1, 1946.

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

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

This edition is issued jointly by

CARNEGIE-ILLINOIS STEEL CORPORATION  
TENNESSEE COAL, IRON AND RAILROAD COMPANY  
COLUMBIA STEEL COMPANY

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

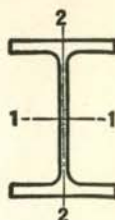
The following symbols used with the sections indicate in which district or districts they are produced.

- P. Produced in Pittsburgh district of Carnegie-Illinois Steel Corporation.
- C. Produced in Chicago district of Carnegie-Illinois Steel Corporation.
- B. Produced in Birmingham district by Tennessee Coal, Iron and Railroad Company.
- S. Produced in Pacific Coast district by Columbia Steel Company.



# WIDE FLANGE CB SECTIONS

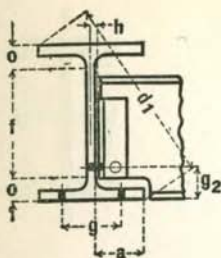
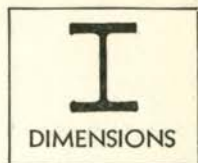
## PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Depth of Section In.	Wt. per Foot Lbs.	Area of Section In. <sup>2</sup>	Flange		Web Thickness In.	Axis 1-1			Axis 2-2		
					Width In.	Thick-ness In.		I In. <sup>4</sup>	S In. <sup>3</sup>	r In.	I In. <sup>4</sup>	S In. <sup>3</sup>	r In.
P. C.	36" WF CB 362 36 x 16½ R=1.02	36.72	300	88.17	16.655	1.680	.945	20290.2	1105.1	15.17	1225.2	147.1	3.73
		36.50	280	82.32	16.595	1.570	.885	18819.3	1031.2	15.12	1127.5	135.9	3.70
		36.24	260	76.56	16.555	1.440	.845	17233.8	951.1	15.00	1020.6	123.3	3.65
		36.06	245	72.03	16.512	1.350	.802	16092.2	892.5	14.95	944.7	114.4	3.62
		35.88	230	67.73	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	36.48	194	57.11	12.117	1.260	.770	12103.4	663.6	14.56	355.4	58.7	2.49
		36.32	182	53.54	12.072	1.180	.725	11281.5	621.2	14.52	327.7	54.3	2.47
		36.16	170	49.98	12.027	1.100	.680	10470.0	579.1	14.47	300.6	50.0	2.45
		36.00	160	47.09	12.000	1.020	.653	9738.8	541.0	14.38	275.4	45.9	2.42
		35.84	150	44.16	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	33.50	240	70.52	15.865	1.400	.830	13585.1	811.1	13.88	874.3	110.2	3.52
		33.25	220	64.73	15.810	1.275	.775	12312.1	740.6	13.79	782.4	99.0	3.48
		33.00	200	58.79	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	33.50	152	44.71	11.565	1.055	.635	8147.6	486.4	13.50	256.1	44.3	2.39
		33.31	141	41.51	11.535	.960	.605	7442.2	446.8	13.39	229.7	39.8	2.35
		33.10	130	38.26	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	30.38	210	61.78	15.105	1.315	.775	9872.4	649.9	12.64	707.9	93.7	3.38
		30.12	190	55.90	15.040	1.185	.710	8825.9	586.1	12.57	624.6	83.1	3.34
		29.88	172	50.65	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	30.30	132	38.83	10.551	1.000	.615	5753.1	379.7	12.17	185.0	35.1	2.18
		30.16	124	36.45	10.521	.930	.585	5347.1	354.6	12.11	169.7	32.3	2.16
		30.00	116	34.13	10.500	.850	.564	4919.1	327.9	12.00	153.2	29.2	2.12
		29.82	108	31.77	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	27.31	177	52.10	14.090	1.190	.725	6728.6	492.8	11.36	518.9	73.7	3.16
		27.08	160	47.04	14.023	1.075	.658	6018.6	444.5	11.31	458.0	65.3	3.12
		26.88	145	42.68	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	27.28	114	33.53	10.070	.932	.570	4080.5	299.2	11.03	149.6	29.7	2.11
		27.07	102	30.01	10.018	.827	.518	3604.1	266.3	10.96	129.5	25.9	2.08
		26.91	94	27.65	9.990	.747	.490	3266.7	242.8	10.87	115.1	23.0	2.04

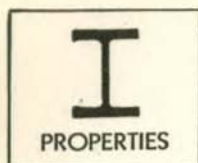
For key to symbols in first column, refer to page 3.

WIDE FLANGE  
CB SECTIONS  
DIMENSIONS OF SECTIONS



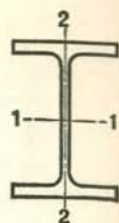
Section Index and Nominal Depth	Weight per Foot	Depth of Section	Flange		Web		Distance					Usual Gage $g$	
			Width	Thickness	Thickness	Half Thickness	$a$	$f$	$o$	$d_1$	Min. $g_2$		Clear. $h$
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
36" WF	300	36 $\frac{3}{4}$	16 $\frac{5}{8}$	1 $\frac{1}{16}$	1 $\frac{5}{16}$	1 $\frac{1}{2}$	7 $\frac{7}{8}$	31 $\frac{1}{8}$	2 $\frac{1}{16}$	40 $\frac{3}{8}$	4	9 $\frac{1}{16}$	5 $\frac{1}{2}$
CB 362	280	36 $\frac{1}{2}$	16 $\frac{5}{8}$	1 $\frac{1}{16}$	1 $\frac{5}{16}$	1 $\frac{1}{2}$	7 $\frac{7}{8}$	31 $\frac{1}{8}$	2 $\frac{1}{16}$	40 $\frac{3}{8}$	4	1 $\frac{1}{2}$	5 $\frac{1}{2}$
36 x 16 $\frac{1}{2}$	260	36 $\frac{1}{4}$	16 $\frac{1}{2}$	1 $\frac{1}{16}$	1 $\frac{7}{8}$	1 $\frac{1}{2}$	7 $\frac{7}{8}$	31 $\frac{1}{8}$	2 $\frac{1}{16}$	39 $\frac{7}{8}$	3 $\frac{3}{4}$	1 $\frac{1}{2}$	5 $\frac{1}{2}$
R=1.02	245	36	16 $\frac{1}{2}$	1 $\frac{3}{8}$	1 $\frac{3}{16}$	1 $\frac{3}{8}$	7 $\frac{7}{8}$	31 $\frac{1}{8}$	2 $\frac{1}{16}$	39 $\frac{3}{4}$	3 $\frac{3}{4}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
	230	35 $\frac{7}{8}$	16 $\frac{1}{2}$	1 $\frac{1}{4}$	1 $\frac{3}{4}$	1 $\frac{3}{8}$	7 $\frac{7}{8}$	31 $\frac{1}{8}$	2 $\frac{3}{8}$	39 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
36" WF	194	36 $\frac{1}{2}$	12 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{3}{16}$	1 $\frac{3}{8}$	5 $\frac{5}{8}$	32 $\frac{1}{4}$	2 $\frac{1}{8}$	38 $\frac{1}{2}$	3 $\frac{1}{4}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
CB 361	182	36 $\frac{3}{8}$	12 $\frac{1}{8}$	1 $\frac{1}{16}$	1 $\frac{3}{4}$	1 $\frac{3}{8}$	5 $\frac{5}{8}$	32 $\frac{1}{4}$	2 $\frac{1}{16}$	38 $\frac{3}{8}$	3 $\frac{1}{4}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
36 x 12	170	36 $\frac{3}{8}$	12	1 $\frac{3}{8}$	1 $\frac{1}{16}$	1 $\frac{3}{8}$	5 $\frac{5}{8}$	32 $\frac{1}{4}$	1 $\frac{1}{16}$	38 $\frac{3}{8}$	3 $\frac{1}{4}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
R=.80	160	36	12	1	1 $\frac{1}{16}$	1 $\frac{1}{2}$	5 $\frac{5}{8}$	32 $\frac{1}{4}$	1 $\frac{7}{8}$	38	3	1 $\frac{3}{8}$	5 $\frac{1}{2}$
	150	35 $\frac{7}{8}$	12	1 $\frac{1}{16}$	1 $\frac{5}{8}$	1 $\frac{1}{2}$	5 $\frac{5}{8}$	32 $\frac{1}{4}$	1 $\frac{1}{16}$	37 $\frac{7}{8}$	3	1 $\frac{3}{8}$	5 $\frac{1}{2}$
33" WF	240	33 $\frac{1}{2}$	15 $\frac{7}{8}$	1 $\frac{3}{8}$	1 $\frac{7}{8}$	1 $\frac{1}{2}$	7 $\frac{1}{2}$	28 $\frac{5}{8}$	2 $\frac{1}{16}$	37 $\frac{3}{8}$	3 $\frac{3}{4}$	1 $\frac{1}{2}$	5 $\frac{1}{2}$
CB 332	220	33 $\frac{1}{4}$	15 $\frac{3}{4}$	1 $\frac{1}{4}$	1 $\frac{3}{16}$	1 $\frac{3}{8}$	7 $\frac{1}{2}$	28 $\frac{5}{8}$	2 $\frac{1}{16}$	36 $\frac{7}{8}$	3 $\frac{1}{2}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
33 x 15 $\frac{3}{4}$	200	33	15 $\frac{3}{4}$	1 $\frac{3}{8}$	1 $\frac{3}{4}$	1 $\frac{3}{8}$	7 $\frac{1}{2}$	28 $\frac{5}{8}$	2 $\frac{1}{16}$	36 $\frac{3}{8}$	3 $\frac{1}{2}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
R=.96													
33" WF	152	33 $\frac{1}{2}$	11 $\frac{5}{8}$	1 $\frac{1}{16}$	1 $\frac{5}{8}$	1 $\frac{1}{2}$	5 $\frac{1}{2}$	29 $\frac{3}{4}$	1 $\frac{7}{8}$	35 $\frac{1}{2}$	3	1 $\frac{3}{8}$	5 $\frac{1}{2}$
CB 331	141	33 $\frac{1}{4}$	11 $\frac{1}{2}$	1 $\frac{1}{16}$	1 $\frac{5}{8}$	1 $\frac{1}{2}$	5 $\frac{1}{2}$	29 $\frac{3}{4}$	1 $\frac{3}{4}$	35 $\frac{1}{4}$	3	1 $\frac{3}{8}$	5 $\frac{1}{2}$
33 x 11 $\frac{1}{2}$	130	33 $\frac{3}{8}$	11 $\frac{1}{2}$	1 $\frac{7}{8}$	1 $\frac{9}{16}$	1 $\frac{1}{2}$	5 $\frac{1}{2}$	29 $\frac{3}{4}$	1 $\frac{1}{16}$	35 $\frac{3}{8}$	3	1 $\frac{3}{8}$	5 $\frac{1}{2}$
R=.75													
30" WF	210	30 $\frac{3}{8}$	15 $\frac{1}{8}$	1 $\frac{5}{16}$	1 $\frac{3}{16}$	1 $\frac{3}{8}$	7 $\frac{1}{8}$	25 $\frac{3}{4}$	2 $\frac{5}{16}$	34	3 $\frac{1}{2}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
CB 302	190	30 $\frac{3}{8}$	15	1 $\frac{3}{16}$	1 $\frac{3}{4}$	1 $\frac{3}{8}$	7 $\frac{1}{8}$	25 $\frac{3}{4}$	2 $\frac{3}{16}$	33 $\frac{3}{4}$	3 $\frac{1}{2}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
30 x 15	172	29 $\frac{7}{8}$	15	1 $\frac{1}{16}$	1 $\frac{1}{16}$	1 $\frac{5}{16}$	7 $\frac{1}{8}$	25 $\frac{3}{4}$	2 $\frac{1}{16}$	33 $\frac{1}{2}$	3 $\frac{1}{4}$	1 $\frac{3}{8}$	5 $\frac{1}{2}$
R=.91													
30" WF	132	30 $\frac{1}{4}$	10 $\frac{1}{2}$	1	1 $\frac{5}{8}$	1 $\frac{1}{2}$	5	26 $\frac{7}{8}$	1 $\frac{1}{16}$	32 $\frac{3}{8}$	3	1 $\frac{3}{8}$	5 $\frac{1}{2}$
CB 301	124	30 $\frac{3}{8}$	10 $\frac{1}{2}$	1 $\frac{1}{16}$	1 $\frac{5}{8}$	1 $\frac{1}{2}$	5	26 $\frac{7}{8}$	1 $\frac{5}{8}$	31 $\frac{7}{8}$	3	1 $\frac{3}{8}$	5 $\frac{1}{2}$
30 x 10 $\frac{1}{2}$	116	30	10 $\frac{1}{2}$	1 $\frac{7}{8}$	1 $\frac{9}{16}$	1 $\frac{1}{2}$	5	26 $\frac{7}{8}$	1 $\frac{1}{16}$	31 $\frac{3}{4}$	2 $\frac{3}{4}$	1 $\frac{3}{8}$	5 $\frac{1}{2}$
R=.70	108	29 $\frac{7}{8}$	10 $\frac{1}{2}$	1 $\frac{3}{4}$	1 $\frac{9}{16}$	1 $\frac{1}{2}$	5	26 $\frac{7}{8}$	1 $\frac{1}{2}$	31 $\frac{5}{8}$	2 $\frac{3}{4}$	1 $\frac{3}{8}$	5 $\frac{1}{2}$
27" WF	177	27 $\frac{1}{4}$	14 $\frac{1}{8}$	1 $\frac{3}{16}$	1 $\frac{3}{4}$	1 $\frac{3}{8}$	6 $\frac{3}{4}$	23	2 $\frac{1}{8}$	30 $\frac{3}{4}$	3 $\frac{1}{4}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$
CB 272	160	27 $\frac{3}{8}$	14	1 $\frac{1}{16}$	1 $\frac{1}{16}$	1 $\frac{5}{16}$	6 $\frac{3}{4}$	23	2 $\frac{1}{16}$	30 $\frac{1}{2}$	3 $\frac{1}{4}$	1 $\frac{3}{8}$	5 $\frac{1}{2}$
27 x 14	145	26 $\frac{7}{8}$	14	1	1 $\frac{5}{8}$	1 $\frac{1}{2}$	6 $\frac{3}{4}$	23	1 $\frac{1}{16}$	30 $\frac{3}{8}$	3 $\frac{1}{4}$	1 $\frac{3}{8}$	5 $\frac{1}{2}$
R=.86													
27" WF	114	27 $\frac{1}{4}$	10 $\frac{1}{8}$	1 $\frac{5}{16}$	1 $\frac{9}{16}$	1 $\frac{1}{2}$	4 $\frac{3}{4}$	24	1 $\frac{5}{8}$	29 $\frac{1}{8}$	2 $\frac{3}{4}$	1 $\frac{3}{8}$	5 $\frac{1}{2}$
CB 271	102	27 $\frac{3}{8}$	10	1 $\frac{3}{16}$	1 $\frac{1}{2}$	1 $\frac{1}{4}$	4 $\frac{3}{4}$	24	1 $\frac{1}{16}$	28 $\frac{3}{8}$	2 $\frac{3}{4}$	1 $\frac{5}{16}$	5 $\frac{1}{2}$
27 x 10	94	26 $\frac{7}{8}$	10	1 $\frac{3}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{4}$	4 $\frac{3}{4}$	24	1 $\frac{1}{16}$	28 $\frac{3}{4}$	2 $\frac{3}{4}$	1 $\frac{5}{16}$	5 $\frac{1}{2}$
R=.64													

Gages  $g_2$  are based on 1 $\frac{1}{4}$ " edge distance (7% maximum rivet).



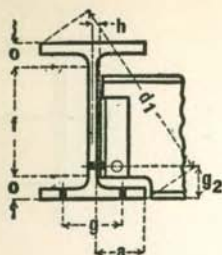
# WIDE FLANGE CB SECTIONS

## PROPERTIES OF SECTIONS

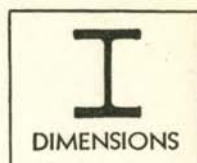


District Rolled	Section Index and Nominal Size	Depth of Section In.	Weight per Foot Lbs.	Area of Section In. <sup>2</sup>	Flange			Web Thickness In.	Axis 1-1			Axis 2-2		
					Width In.	Thick-ness In.	I		S	r	I	S	r	
														In. <sup>4</sup>
P. C.	24" WF	24.72	160	47.04	14.091	1.135	.656	5110.3	413.5	10.42	492.6	69.9	3.23	
	CB 243	24.49	145	42.62	14.043	1.020	.608	4561.0	372.5	10.34	434.3	61.8	3.19	
	24 x 14 R=.70	24.25	130	38.21	14.000	.900	.565	4009.5	330.7	10.24	375.2	53.6	3.13	
P. C.	24" WF	24.31	120	35.29	12.088	.930	.556	3635.3	299.1	10.15	254.0	42.0	2.68	
	CB 242	24.16	110	32.36	12.042	.855	.510	3315.0	274.4	10.12	229.1	38.0	2.66	
	24 x 12 R=.70	24.00	100	29.43	12.000	.775	.468	2987.3	248.9	10.08	203.5	33.9	2.63	
P. C.	24" WF	24.29	94	27.63	9.061	.872	.516	2683.0	220.9	9.85	102.2	22.6	1.92	
	CB 241	24.09	84	24.71	9.015	.772	.470	2364.3	196.3	9.78	88.3	19.6	1.89	
	24 x 9 R=.54	23.91	76	22.37	8.985	.682	.440	2096.4	175.4	9.68	76.5	17.0	1.85	
P. C.	21" WF	21.46	142	41.76	13.132	1.095	.659	3403.1	317.2	9.03	385.9	58.8	3.04	
	CB 213	21.24	127	37.34	13.061	.985	.588	3017.2	284.1	8.99	338.6	51.8	3.01	
	21 x 13 R=.65	21.00	112	32.93	13.000	.865	.527	2620.6	249.6	8.92	289.7	44.6	2.96	
P. C.	21" WF	21.14	96	28.21	9.038	.935	.575	2088.9	197.6	8.60	109.3	24.2	1.97	
	21 x 9 R=.65	20.86	82	24.10	8.962	.795	.499	1752.4	168.0	8.53	89.6	20.0	1.93	
P. C.	21" WF	21.24	73	21.46	8.295	.740	.455	1600.3	150.7	8.64	66.2	16.0	1.76	
	CB 211	21.13	68	20.02	8.270	.685	.430	1478.3	139.9	8.59	60.4	14.6	1.74	
	21 x 8 3/4 R=.54	20.99	62	18.23	8.240	.615	.400	1326.8	126.4	8.53	53.1	12.9	1.71	
P. C.	18" WF	18.48	114	33.51	11.833	.991	.595	2033.8	220.1	7.79	255.6	43.2	2.76	
	CB 183	18.32	105	30.86	11.792	.911	.554	1852.5	202.2	7.75	231.0	39.2	2.73	
	18 x 11 3/4 R=.60	18.16	96	28.22	11.750	.831	.512	1674.7	184.4	7.70	206.8	35.2	2.71	
P. C.	18" WF	18.32	85	24.97	8.838	.911	.526	1429.9	156.1	7.57	99.4	22.5	2.00	
	CB 182	18.16	77	22.63	8.787	.831	.475	1286.8	141.7	7.54	88.6	20.2	1.98	
	18 x 8 3/4 R=.60	18.00	70	20.56	8.750	.751	.438	1153.9	128.2	7.49	78.5	17.9	1.95	
	18 x 8 R=.60	17.87	64	18.80	8.715	.686	.403	1045.8	117.0	7.46	70.3	16.1	1.93	
P. C.	18" WF	18.25	60	17.64	7.558	.695	.416	984.0	107.8	7.47	47.1	12.5	1.63	
	CB 181	18.12	55	16.19	7.532	.630	.390	889.9	98.2	7.41	42.0	11.1	1.61	
	18 x 7 1/2 R=.43	18.00	50	14.71	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 $\alpha$	
			Width	Thickness	Thickness	Half Thickness	$\alpha$	f	o	d <sub>1</sub>	Min. g <sub>2</sub>		Clear. h
24" WF CB 243	160	24 <sup>3</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>4</sub>	2	28 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>4</sub>	3 <sup>8</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>
24 x 14 R=.70	145 130	24 <sup>1</sup> / <sub>2</sub> 24 <sup>1</sup> / <sub>4</sub>	14 14	1 7 <sup>8</sup> / <sub>8</sub>	5 <sup>8</sup> / <sub>8</sub> 9 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub> 5 <sup>1</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>4</sub> 6 <sup>3</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>4</sub> 20 <sup>3</sup> / <sub>4</sub>	17 <sup>8</sup> / <sub>8</sub> 13 <sup>4</sup> / <sub>4</sub>	28 <sup>1</sup> / <sub>4</sub> 28	3 <sup>1</sup> / <sub>4</sub> 3	3 <sup>8</sup> / <sub>8</sub> 3 <sup>8</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub>
24" WF CB 242	120	24 <sup>1</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>4</sub>	20 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	27 <sup>1</sup> / <sub>8</sub>	3	3 <sup>8</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>
24 x 12 R=.70	110 100	24 <sup>1</sup> / <sub>8</sub> 24	12 12	7 <sup>8</sup> / <sub>8</sub> 3 <sup>4</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub> 1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub> 1 <sup>1</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub> 5 <sup>3</sup> / <sub>4</sub>	20 <sup>7</sup> / <sub>8</sub> 20 <sup>7</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub> 1 <sup>9</sup> / <sub>16</sub>	27 26 <sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub> 2 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>16</sub> 5 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub>
24" WF CB 241	94	24 <sup>1</sup> / <sub>4</sub>	9	7 <sup>8</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>4</sub>	21 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	25 <sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>
24 x 9 R=.54	84 76	24 <sup>1</sup> / <sub>8</sub> 23 <sup>7</sup> / <sub>8</sub>	9 9	3 <sup>4</sup> / <sub>4</sub> 1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub> 7 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub> 1 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>4</sub> 4 <sup>1</sup> / <sub>4</sub>	21 <sup>3</sup> / <sub>8</sub> 21 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub> 1 <sup>1</sup> / <sub>4</sub>	25 <sup>3</sup> / <sub>4</sub> 25 <sup>5</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub> 2 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>16</sub> 5 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub>
21" WF CB 213	142	21 <sup>1</sup> / <sub>2</sub>	13 <sup>1</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	3 <sup>8</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	25 <sup>1</sup> / <sub>4</sub>	3	7 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>
21 x 13 R=.65	127 112	21 <sup>3</sup> / <sub>4</sub> 21	13 13	1 7 <sup>8</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>16</sub> 9 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub> 1 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>4</sub> 6 <sup>1</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub> 17 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub> 1 <sup>5</sup> / <sub>8</sub>	25 24 <sup>3</sup> / <sub>4</sub>	3 3	3 <sup>8</sup> / <sub>8</sub> 5 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub>
21" WF CB 212	96	21 <sup>1</sup> / <sub>8</sub>	9	1 <sup>5</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>4</sub>	18	1 <sup>9</sup> / <sub>16</sub>	23	2 <sup>3</sup> / <sub>4</sub>	3 <sup>8</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>
21 x 9 R=.65	82	20 <sup>7</sup> / <sub>8</sub>	9	1 <sup>3</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>4</sub>	18	1 <sup>1</sup> / <sub>16</sub>	22 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>
21" WF CB 211	73	21 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>4</sub>	3 <sup>4</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>	4	18 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	22 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>
21 x 8 <sup>3</sup> / <sub>4</sub> R=.54	68 62	21 <sup>3</sup> / <sub>8</sub> 21	8 <sup>1</sup> / <sub>4</sub> 8 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>16</sub> 5 <sup>8</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>16</sub> 3 <sup>8</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub> 3 <sup>1</sup> / <sub>16</sub>	4 4	18 <sup>5</sup> / <sub>8</sub> 18 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub> 1 <sup>9</sup> / <sub>16</sub>	22 <sup>3</sup> / <sub>4</sub> 22 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub> 2 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>16</sub> 1 <sup>4</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub>
18" WF CB 183	114	18 <sup>1</sup> / <sub>2</sub>	11 <sup>7</sup> / <sub>8</sub>	1	5 <sup>8</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>16</sub>	5 <sup>5</sup> / <sub>8</sub>	15 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	22	3	3 <sup>8</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>
18 x 11 <sup>3</sup> / <sub>4</sub> R=.60	105 96	18 <sup>3</sup> / <sub>8</sub> 18 <sup>3</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>4</sub> 11 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>16</sub> 1 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub> 1 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>16</sub> 1 <sup>1</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub> 5 <sup>5</sup> / <sub>8</sub>	15 <sup>1</sup> / <sub>8</sub> 15 <sup>1</sup> / <sub>8</sub>	1 <sup>9</sup> / <sub>16</sub> 1 <sup>1</sup> / <sub>2</sub>	21 <sup>7</sup> / <sub>8</sub> 21 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub> 2 <sup>3</sup> / <sub>4</sub>	3 <sup>8</sup> / <sub>8</sub> 5 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub>
18" WF CB 182	85	18 <sup>3</sup> / <sub>8</sub>	8 <sup>7</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	20 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>
18 x 8 <sup>3</sup> / <sub>4</sub> R=.60	77 70 64	18 <sup>1</sup> / <sub>8</sub> 18 17 <sup>7</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>4</sub> 8 <sup>3</sup> / <sub>4</sub> 8 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>16</sub> 3 <sup>4</sup> / <sub>4</sub> 1 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>2</sub> 7 <sup>1</sup> / <sub>16</sub> 7 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>4</sub> 1 <sup>1</sup> / <sub>4</sub> 3 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub> 4 <sup>1</sup> / <sub>8</sub> 4 <sup>1</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub> 15 <sup>3</sup> / <sub>8</sub> 15 <sup>3</sup> / <sub>8</sub>	1 <sup>9</sup> / <sub>16</sub> 1 <sup>5</sup> / <sub>16</sub> 1 <sup>1</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>8</sub> 20 20	2 <sup>3</sup> / <sub>4</sub> 2 <sup>3</sup> / <sub>4</sub> 2 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>16</sub> 5 <sup>1</sup> / <sub>16</sub> 1 <sup>4</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub>
18" WF CB 181	60	18 <sup>1</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>5</sup> / <sub>8</sub>	15 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>16</sub>	19 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	1 <sup>4</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>
18 x 7 <sup>1</sup> / <sub>2</sub> R=.43	55 50	18 <sup>3</sup> / <sub>8</sub> 18	7 <sup>1</sup> / <sub>2</sub> 7 <sup>1</sup> / <sub>2</sub>	5 <sup>8</sup> / <sub>8</sub> 9 <sup>1</sup> / <sub>16</sub>	3 <sup>8</sup> / <sub>8</sub> 3 <sup>8</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub> 3 <sup>1</sup> / <sub>16</sub>	3 <sup>5</sup> / <sub>8</sub> 3 <sup>5</sup> / <sub>8</sub>	15 <sup>7</sup> / <sub>8</sub> 15 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub> 1 <sup>1</sup> / <sub>16</sub>	19 <sup>5</sup> / <sub>8</sub> 19 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub> 2 <sup>3</sup> / <sub>4</sub>	1 <sup>4</sup> / <sub>4</sub> 1 <sup>4</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub> 3 <sup>1</sup> / <sub>2</sub>

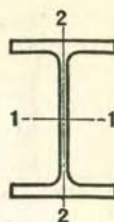
Gages g<sub>2</sub> are based on 1<sup>1</sup>/<sub>4</sub>" edge distance (7<sup>8</sup>/<sub>8</sub>" maximum rivet).

LIGHT BEAMS  
 STANDARD BEAMS  
 STANDARD CHANNELS  
 CAR & SHIP CHANNELS  
 EQUAL ANGLES  
 UNEQUAL ANGLES  
 BULB ANGLES  
 TEES & ZEES



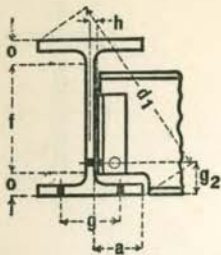


# WIDE FLANGE CB SECTIONS PROPERTIES OF SECTIONS

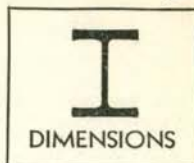


District Rolled	Section Index and Nominal Size	Depth of Section In.	Weight per Foot Lbs.	Area of Section In. <sup>2</sup>	Flange		Web Thickness In.	Axis 1-1			Axis 2-2		
					Width In.	Thickness In.		I In. <sup>4</sup>	S In. <sup>3</sup>	r In.	I In. <sup>4</sup>	S In. <sup>3</sup>	r In.
P. C.	16" WF CB 163	16.32	96	28.22	11.533	.875	.535	1355.1	166.1	6.93	207.2	35.9	2.71
	16 x 11½ R=.60	16.16	88	25.87	11.502	.795	.504	1222.6	151.3	6.87	185.2	32.2	2.67
P. C.	16" WF CB 162	16.32	78	22.92	8.586	.875	.529	1042.6	127.8	6.74	87.5	20.4	1.95
	16 x 8½ R=.60	16.16	71	20.86	8.543	.795	.486	936.9	115.9	6.70	77.9	18.2	1.93
		16.00	64	18.80	8.500	.715	.443	833.8	104.2	6.66	68.4	16.1	1.91
		15.86	58	17.04	8.464	.645	.407	746.4	94.1	6.62	60.5	14.3	1.88
P. C.	16" WF CB 161	16.25	50	14.70	7.073	.628	.380	655.4	80.7	6.68	34.8	9.8	1.54
	16 x 7 R=.43	16.12	45	13.24	7.039	.563	.346	583.3	72.4	6.64	30.5	8.7	1.52
		16.00	40	11.77	7.000	.503	.307	515.5	64.4	6.62	26.5	7.6	1.50
		15.85	36	10.59	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	18.69	426	125.25	16.695	3.033	1.875	6610.3	707.4	7.26	2359.5	282.7	4.34
		18.31	398	116.98	16.590	2.843	1.770	6013.7	656.9	7.17	2169.7	261.6	4.31
		17.94	370	108.78	16.475	2.658	1.655	5454.2	608.1	7.08	1986.0	241.1	4.27
		17.56	342	100.59	16.365	2.468	1.545	4911.5	559.4	6.99	1806.9	220.8	4.24
		17.19	314	92.30	16.235	2.283	1.415	4399.4	511.9	6.90	1631.4	201.0	4.20
		16.81	287	84.37	16.130	2.093	1.310	3912.1	465.5	6.81	1466.5	181.8	4.17
		16.50	264	77.63	16.025	1.938	1.205	3526.0	427.4	6.74	1331.2	166.1	4.14
		16.25	246	72.33	15.945	1.813	1.125	3228.9	397.4	6.68	1226.6	153.9	4.12
		16.12	237	69.69	15.910	1.748	1.090	3080.9	382.2	6.65	1174.8	147.7	4.11
		16.00	228	67.06	15.865	1.688	1.045	2942.4	367.8	6.62	1124.8	141.8	4.10
		15.87	219	64.36	15.825	1.623	1.005	2798.2	352.6	6.59	1073.2	135.6	4.08
		15.75	211	62.07	15.800	1.563	.980	2671.4	339.2	6.56	1028.6	130.2	4.07
		15.63	202	59.39	15.750	1.503	.930	2538.8	324.9	6.54	979.7	124.4	4.06
		15.50	193	56.73	15.710	1.438	.890	2402.4	310.0	6.51	930.1	118.4	4.05
		15.38	184	54.07	15.660	1.378	.840	2274.8	295.8	6.49	882.7	112.7	4.04
		15.25	176	51.73	15.640	1.313	.820	2149.6	281.9	6.45	837.9	107.1	4.02
		15.12	167	49.09	15.600	1.248	.780	2020.8	267.3	6.42	790.2	101.3	4.01
		15.00	158	46.47	15.550	1.188	.730	1900.6	253.4	6.40	745.0	95.8	4.00
		14.88	150	44.08	15.515	1.128	.695	1786.9	240.2	6.37	702.5	90.6	3.99
		14.75	142	41.85	15.500	1.063	.680	1672.2	226.7	6.32	660.1	85.2	3.97
14.61	*320	94.12	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	14.75	136	39.98	14.740	1.063	.660	1593.0	216.0	6.31	567.7	77.0	3.77
		14.62	127	37.33	14.690	.998	.610	1476.7	202.0	6.29	527.6	71.8	3.76
		14.50	119	34.99	14.650	.938	.570	1373.1	189.4	6.26	491.8	67.1	3.75
		14.37	111	32.65	14.620	.873	.540	1266.5	176.3	6.23	454.9	62.2	3.73
		14.25	103	30.26	14.575	.813	.495	1165.8	163.6	6.21	419.7	57.6	3.72
		14.12	95	27.94	14.545	.748	.465	1063.5	150.6	6.17	383.7	52.8	3.71
		14.00	87	25.56	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 $\sigma$	
			Width	Thick-ness	Thick-ness	Half Thick-ness	$a$	$f$	$o$	$d_1$	Min. $\sigma_2$		Clear. $h$
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
16" WF	96	16 $\frac{3}{8}$	11 $\frac{1}{2}$	$\frac{7}{8}$	$\frac{9}{16}$	$\frac{5}{16}$	5 $\frac{1}{2}$	13 $\frac{1}{8}$	1 $\frac{5}{8}$	20	2 $\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{1}{2}$
CB 163	88	16 $\frac{3}{8}$	11 $\frac{1}{2}$	1 $\frac{3}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$	13 $\frac{1}{8}$	1 $\frac{1}{2}$	19 $\frac{7}{8}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
16 x 11 $\frac{1}{2}$ R=.60													
16" WF	78	16 $\frac{3}{8}$	8 $\frac{5}{8}$	$\frac{7}{8}$	$\frac{9}{16}$	$\frac{1}{4}$	4	13 $\frac{3}{8}$	1 $\frac{1}{2}$	18 $\frac{1}{2}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
CB 162	71	16 $\frac{3}{8}$	8 $\frac{1}{2}$	1 $\frac{3}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	4	13 $\frac{3}{8}$	1 $\frac{5}{8}$	18 $\frac{1}{4}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
16 x 8 $\frac{1}{2}$	64	16	8 $\frac{1}{2}$	1 $\frac{1}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	4	13 $\frac{3}{8}$	1 $\frac{5}{8}$	18 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$
R=.60	58	15 $\frac{7}{8}$	8 $\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	4	13 $\frac{3}{8}$	1 $\frac{1}{4}$	18	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$
16" WF	50	16 $\frac{1}{4}$	7 $\frac{1}{8}$	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{3}{8}$	14	1 $\frac{1}{8}$	17 $\frac{3}{4}$	2 $\frac{1}{2}$	$\frac{1}{4}$	3 $\frac{1}{2}$
CB 161	45	16 $\frac{3}{8}$	7	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{3}{8}$	14	1 $\frac{1}{16}$	17 $\frac{5}{8}$	2 $\frac{1}{4}$	$\frac{1}{4}$	3 $\frac{1}{2}$
16 x 7	40	16	7	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{3}{8}$	14	1	17 $\frac{1}{2}$	2 $\frac{1}{4}$	$\frac{1}{4}$	3 $\frac{1}{2}$
R=.43	36	15 $\frac{7}{8}$	7	$\frac{3}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{3}{8}$	14	1 $\frac{5}{16}$	17 $\frac{3}{8}$	2 $\frac{1}{4}$	$\frac{1}{4}$	3 $\frac{1}{2}$
	426	18 $\frac{3}{4}$	16 $\frac{3}{4}$	3 $\frac{1}{16}$	1 $\frac{7}{8}$	1 $\frac{5}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	3 $\frac{5}{8}$	25 $\frac{1}{8}$	5	1	
	398	18 $\frac{1}{4}$	16 $\frac{5}{8}$	2 $\frac{13}{16}$	1 $\frac{13}{16}$	$\frac{7}{8}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	3 $\frac{7}{16}$	24 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{5}{16}$	
	370	18	16 $\frac{1}{2}$	2 $\frac{11}{16}$	1 $\frac{11}{16}$	1 $\frac{3}{4}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	3 $\frac{1}{4}$	24 $\frac{3}{8}$	4 $\frac{1}{2}$	$\frac{7}{8}$	
	342	17 $\frac{1}{2}$	16 $\frac{3}{8}$	2 $\frac{7}{16}$	1 $\frac{9}{16}$	1 $\frac{13}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	3 $\frac{1}{16}$	24	4 $\frac{1}{4}$	$\frac{7}{8}$	
	314	17 $\frac{1}{4}$	16 $\frac{1}{4}$	2 $\frac{9}{16}$	1 $\frac{7}{16}$	$\frac{3}{4}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{7}{8}$	23 $\frac{3}{4}$	4 $\frac{1}{4}$	1 $\frac{9}{16}$	
	287	16 $\frac{3}{4}$	16 $\frac{1}{8}$	2 $\frac{1}{16}$	1 $\frac{5}{16}$	1 $\frac{11}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{1}{16}$	23 $\frac{3}{8}$	4	$\frac{3}{4}$	
	264	16 $\frac{1}{2}$	16	1 $\frac{13}{16}$	1 $\frac{1}{4}$	$\frac{5}{8}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{9}{16}$	23	3 $\frac{3}{4}$	1 $\frac{1}{16}$	
	246	16 $\frac{1}{4}$	16	1 $\frac{13}{16}$	1 $\frac{1}{8}$	$\frac{9}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{7}{16}$	22 $\frac{7}{8}$	3 $\frac{3}{4}$	$\frac{5}{8}$	
	237	16 $\frac{1}{8}$	15 $\frac{7}{8}$	1 $\frac{3}{4}$	1 $\frac{1}{8}$	$\frac{9}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{3}{8}$	22 $\frac{3}{4}$	3 $\frac{3}{4}$	$\frac{5}{8}$	
14" WF	228	16	15 $\frac{7}{8}$	1 $\frac{13}{16}$	1 $\frac{1}{16}$	$\frac{9}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{5}{16}$	22 $\frac{5}{8}$	3 $\frac{1}{2}$	$\frac{5}{8}$	
CB 146	219	15 $\frac{7}{8}$	15 $\frac{3}{8}$	1 $\frac{9}{8}$	1	$\frac{1}{2}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{1}{4}$	22 $\frac{1}{2}$	3 $\frac{1}{2}$	$\frac{9}{16}$	
14 x 16	211	15 $\frac{3}{4}$	15 $\frac{3}{4}$	1 $\frac{9}{16}$	1	$\frac{1}{2}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{3}{16}$	22 $\frac{3}{8}$	3 $\frac{1}{2}$	$\frac{9}{16}$	
R=.60	202	15 $\frac{5}{8}$	15 $\frac{3}{4}$	1 $\frac{1}{2}$	1 $\frac{5}{16}$	$\frac{1}{2}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{1}{8}$	22 $\frac{1}{4}$	3 $\frac{1}{2}$	$\frac{9}{16}$	
	193	15 $\frac{1}{2}$	15 $\frac{3}{4}$	1 $\frac{7}{16}$	$\frac{7}{8}$	$\frac{3}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{1}{16}$	22 $\frac{1}{8}$	3 $\frac{3}{4}$	$\frac{1}{2}$	
	184	15 $\frac{3}{8}$	15 $\frac{5}{8}$	1 $\frac{3}{8}$	$\frac{7}{8}$	$\frac{3}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2	22	3 $\frac{1}{4}$	$\frac{1}{2}$	
	176	15 $\frac{1}{4}$	15 $\frac{5}{8}$	1 $\frac{1}{16}$	1 $\frac{13}{16}$	$\frac{3}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	1 $\frac{15}{16}$	21 $\frac{7}{8}$	3 $\frac{1}{4}$	$\frac{1}{2}$	
	167	15 $\frac{1}{8}$	15 $\frac{5}{8}$	1 $\frac{1}{4}$	1 $\frac{13}{16}$	$\frac{3}{8}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	1 $\frac{7}{8}$	21 $\frac{3}{4}$	3 $\frac{1}{4}$	$\frac{7}{16}$	
	158	15	15 $\frac{1}{2}$	1 $\frac{1}{16}$	$\frac{3}{4}$	$\frac{3}{8}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	1 $\frac{13}{16}$	21 $\frac{5}{8}$	3	$\frac{7}{16}$	
	150	14 $\frac{7}{8}$	15 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{11}{16}$	$\frac{3}{8}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	1 $\frac{3}{4}$	21 $\frac{1}{2}$	3	$\frac{7}{16}$	
	142	14 $\frac{3}{4}$	15 $\frac{1}{2}$	1 $\frac{1}{16}$	1 $\frac{1}{16}$	$\frac{3}{8}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	1 $\frac{1}{16}$	21 $\frac{1}{2}$	3	$\frac{7}{16}$	
	*320	16 $\frac{3}{4}$	16 $\frac{3}{4}$	2 $\frac{1}{16}$	1 $\frac{7}{8}$	1 $\frac{5}{16}$	7 $\frac{3}{8}$	11 $\frac{3}{8}$	2 $\frac{1}{16}$	23 $\frac{3}{4}$	4	1	
	136	14 $\frac{3}{4}$	14 $\frac{3}{4}$	1 $\frac{1}{16}$	1 $\frac{1}{16}$	$\frac{3}{8}$	7	11 $\frac{3}{8}$	1 $\frac{1}{16}$	20 $\frac{7}{8}$	3	$\frac{7}{16}$	5 $\frac{1}{2}$
	127	14 $\frac{5}{8}$	14 $\frac{3}{4}$	1	$\frac{5}{8}$	$\frac{3}{16}$	7	11 $\frac{3}{8}$	1 $\frac{1}{8}$	20 $\frac{3}{4}$	3	$\frac{3}{8}$	5 $\frac{1}{2}$
14" WF	119	14 $\frac{1}{2}$	14 $\frac{5}{8}$	1 $\frac{5}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	7	11 $\frac{3}{8}$	1 $\frac{1}{16}$	20 $\frac{5}{8}$	2 $\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{1}{2}$
CB 145	111	14 $\frac{3}{8}$	14 $\frac{5}{8}$	$\frac{7}{8}$	$\frac{9}{16}$	$\frac{5}{16}$	7	11 $\frac{3}{8}$	1 $\frac{1}{2}$	20 $\frac{1}{2}$	2 $\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{1}{2}$
14 x 14 $\frac{1}{2}$	103	14 $\frac{1}{4}$	14 $\frac{5}{8}$	1 $\frac{1}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	7	11 $\frac{3}{8}$	1 $\frac{7}{16}$	20 $\frac{1}{2}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
R=.60	95	14 $\frac{1}{8}$	14 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	7	11 $\frac{3}{8}$	1 $\frac{3}{8}$	20 $\frac{1}{4}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	87	14	14 $\frac{1}{2}$	1 $\frac{1}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	7	11 $\frac{3}{8}$	1 $\frac{1}{16}$	20 $\frac{1}{4}$	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$

\*Column Core Section.  
Gages  $g_2$  are based on  $\frac{1}{4}$ " edge distance ( $\frac{7}{8}$ " maximum rivet).

LIGHT BEAMS

STANDARD BEAMS

STANDARD CHANNELS

CAR & SHIP CHANNELS

EQUAL ANGLES

UNEQUAL ANGLES

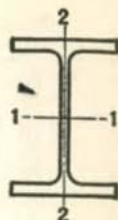
BULB ANGLES

TEES & ZEES



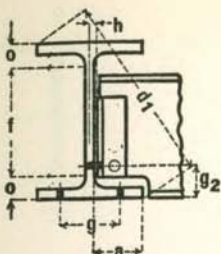
# WIDE FLANGE CB SECTIONS

## PROPERTIES OF SECTIONS

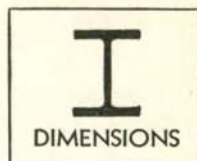


District Rolled	Section Index and Nominal Size	Depth of Section in.	Weight per Foot Lbs.	Area of Section in. <sup>2</sup>	Flange		Web Thickness in.	Axis 1-1			Axis 2-2		
					Width in.	Thick-ness in.		I in. <sup>4</sup>	S in. <sup>3</sup>	r in.	I in. <sup>4</sup>	S in. <sup>3</sup>	r in.
P. C.	14" WF CB 144 14 x 12 R = .60	14.18	84	24.71	12.023	.778	.451	928.4	130.9	6.13	225.5	37.5	3.02
		14.06	78	22.94	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	14.19	74	21.76	10.072	.783	.450	796.8	112.3	6.05	133.5	26.5	2.48
		14.06	68	20.00	10.040	.718	.418	724.1	103.0	6.02	121.2	24.1	2.46
P. C.	14" WF CB 142 14 x 8 R = .60	13.94	53	15.59	8.062	.658	.370	542.1	77.8	5.90	57.5	14.3	1.92
		13.81	48	14.11	8.031	.593	.339	484.9	70.2	5.86	51.3	12.8	1.91
P. C.	14" WF CB 141 14 x 6 3/4 R = .43	13.68	43	12.65	8.000	.528	.308	429.0	62.7	5.82	45.1	11.3	1.89
		14.12	38	11.17	6.776	.513	.313	385.3	54.6	5.87	24.6	7.3	1.49
P. C.	12" WF CB 124 12 x 12 R = .60	14.00	34	10.00	6.750	.453	.287	339.2	48.5	5.83	21.3	6.3	1.46
		13.86	30	8.81	6.733	.383	.270	289.6	41.8	5.73	17.5	5.2	1.41
P. C.	12" WF CB 123 12 x 10 R = .60	14.38	190	55.86	12.670	1.736	1.060	1892.5	263.2	5.82	589.7	93.1	3.25
		13.88	161	47.38	12.515	1.486	.905	1541.8	222.2	5.70	486.2	77.7	3.20
		13.38	133	39.11	12.365	1.236	.755	1221.2	182.5	5.59	389.9	63.1	3.16
		13.12	120	35.31	12.320	1.106	.710	1071.7	163.4	5.51	345.1	56.0	3.13
		12.88	106	31.19	12.230	.986	.620	930.7	144.5	5.46	300.9	49.2	3.11
		12.75	99	29.09	12.190	.921	.580	858.5	134.7	5.43	278.2	45.7	3.09
		12.62	92	27.06	12.155	.856	.545	788.9	125.0	5.40	256.4	42.2	3.08
		12.50	85	24.98	12.105	.796	.495	723.3	115.7	5.38	235.5	38.9	3.07
		12.38	79	23.22	12.080	.736	.470	663.0	107.1	5.34	216.4	35.8	3.05
		12.25	72	21.16	12.040	.671	.430	597.4	97.5	5.31	195.3	32.4	3.04
12.12	65	19.11	12.000	.606	.390	533.4	88.0	5.28	174.6	29.1	3.02		
P. C.	12" WF CB 122 12 x 8 R = .60	12.19	58	17.06	10.014	.641	.359	476.1	78.1	5.28	107.4	21.4	2.51
		12.06	53	15.59	10.000	.576	.345	426.2	70.7	5.23	96.1	19.2	2.48
P. C.	12" WF CB 121 12 x 6 1/2 R = .37	12.19	50	14.71	8.077	.641	.371	394.5	64.7	5.18	56.4	14.0	1.96
		12.06	45	13.24	8.042	.576	.336	350.8	58.2	5.15	50.0	12.4	1.94
P. C.	12" WF CB 121 12 x 6 1/2 R = .37	11.94	40	11.77	8.000	.516	.294	310.1	51.9	5.13	44.1	11.0	1.94
		12.24	36	10.59	6.565	.540	.305	280.8	45.9	5.15	23.7	7.2	1.50
P. C.	12" WF CB 121 12 x 6 1/2 R = .37	12.09	31	9.12	6.525	.465	.265	238.4	39.4	5.11	19.8	6.1	1.47
		11.96	27	7.97	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 $\sigma$	
			Width	Thick-ness	Thick-ness	Half Thick-ness	$a$	$f$	$o$	$d_1$	Min. $g_2$		Clear. $h$
14" WF CB 144	84	14 $\frac{1}{8}$	12	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	5 $\frac{3}{4}$	11 $\frac{3}{8}$	1 $\frac{3}{8}$	18 $\frac{5}{8}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
14 x 12 R = .60	78	14	12	1 $\frac{1}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	5 $\frac{3}{4}$	11 $\frac{3}{8}$	1 $\frac{5}{16}$	18 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$
14" WF CB 143	74	14 $\frac{1}{4}$	10 $\frac{1}{8}$	$\frac{13}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	4 $\frac{3}{4}$	11 $\frac{3}{8}$	1 $\frac{3}{8}$	17 $\frac{1}{2}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
14 x 10 R = .60	68	14	10	1 $\frac{1}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	4 $\frac{3}{4}$	11 $\frac{3}{8}$	1 $\frac{5}{16}$	17 $\frac{3}{4}$	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	61	13 $\frac{7}{8}$	10	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	4 $\frac{3}{4}$	11 $\frac{3}{8}$	1 $\frac{1}{4}$	17 $\frac{1}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
14" WF CB 142	53	14	8	1 $\frac{1}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{7}{8}$	11 $\frac{3}{8}$	1 $\frac{1}{4}$	16 $\frac{1}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
14 x 8 R = .60	48	13 $\frac{3}{4}$	8	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{7}{8}$	11 $\frac{3}{8}$	1 $\frac{3}{16}$	16	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
	43	13 $\frac{5}{8}$	8	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	11 $\frac{3}{8}$	1 $\frac{1}{8}$	15 $\frac{7}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
14" WF CB 141	38	14 $\frac{1}{8}$	6 $\frac{3}{4}$	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{1}{4}$	12 $\frac{1}{8}$	1	15 $\frac{3}{4}$	2 $\frac{1}{4}$	$\frac{1}{4}$	3 $\frac{1}{2}$
14 x 6 $\frac{3}{4}$ R = .43	34	14	6 $\frac{3}{4}$	$\frac{7}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{1}{4}$	12 $\frac{1}{8}$	1 $\frac{9}{16}$	15 $\frac{5}{8}$	2 $\frac{1}{4}$	$\frac{1}{4}$	3 $\frac{1}{2}$
	30	13 $\frac{7}{8}$	6 $\frac{3}{4}$	$\frac{3}{8}$	$\frac{5}{16}$	$\frac{1}{8}$	3 $\frac{1}{4}$	12 $\frac{1}{8}$	$\frac{7}{8}$	15 $\frac{1}{2}$	2 $\frac{1}{4}$	$\frac{3}{16}$	3 $\frac{1}{2}$
	190	14 $\frac{3}{8}$	12 $\frac{5}{8}$	1 $\frac{3}{4}$	1 $\frac{1}{16}$	$\frac{9}{16}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	2 $\frac{5}{16}$	19 $\frac{1}{4}$	3 $\frac{3}{4}$	$\frac{5}{8}$	5 $\frac{1}{2}$
	161	13 $\frac{7}{8}$	12 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{9}{16}$	$\frac{7}{16}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	2 $\frac{1}{16}$	18 $\frac{3}{4}$	3 $\frac{1}{2}$	$\frac{1}{2}$	5 $\frac{1}{2}$
	133	13 $\frac{3}{8}$	12 $\frac{3}{8}$	1 $\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{13}{16}$	18 $\frac{1}{4}$	3 $\frac{1}{4}$	$\frac{7}{16}$	5 $\frac{1}{2}$
	120	13 $\frac{1}{8}$	12 $\frac{3}{8}$	1 $\frac{1}{8}$	$\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{11}{16}$	18	3	$\frac{7}{16}$	5 $\frac{1}{2}$
12" WF CB 124	106	12 $\frac{7}{8}$	12 $\frac{1}{4}$	1	$\frac{5}{8}$	$\frac{5}{16}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{9}{16}$	17 $\frac{7}{8}$	3	$\frac{3}{8}$	5 $\frac{1}{2}$
12 x 12 R = .60	99	12 $\frac{3}{4}$	12 $\frac{1}{4}$	1 $\frac{5}{16}$	$\frac{5}{8}$	$\frac{5}{16}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{1}{2}$	17 $\frac{3}{4}$	2 $\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{1}{2}$
	92	12 $\frac{5}{8}$	12 $\frac{1}{8}$	$\frac{7}{8}$	$\frac{9}{16}$	$\frac{5}{16}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{7}{16}$	17 $\frac{1}{2}$	2 $\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{1}{2}$
	85	12 $\frac{1}{2}$	12 $\frac{1}{8}$	1 $\frac{13}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{3}{8}$	17 $\frac{1}{8}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	79	12 $\frac{3}{8}$	12 $\frac{1}{8}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{5}{16}$	17 $\frac{3}{8}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	72	12 $\frac{1}{4}$	12	1 $\frac{11}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{1}{4}$	17 $\frac{1}{4}$	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	65	12 $\frac{1}{8}$	12	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	5 $\frac{3}{4}$	9 $\frac{3}{4}$	1 $\frac{3}{16}$	17 $\frac{1}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
12" WF CB 123	58	12 $\frac{1}{4}$	10	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	4 $\frac{7}{8}$	9 $\frac{3}{4}$	1 $\frac{1}{4}$	15 $\frac{7}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
12 x 10 R = .60	53	12	10	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	4 $\frac{7}{8}$	9 $\frac{3}{4}$	1 $\frac{3}{16}$	15 $\frac{5}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
12" WF CB 122	50	12 $\frac{1}{4}$	8 $\frac{1}{8}$	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{7}{8}$	9 $\frac{3}{4}$	1 $\frac{1}{4}$	14 $\frac{5}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
12 x 8 R = .60	45	12	8	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{7}{8}$	9 $\frac{3}{4}$	1 $\frac{3}{16}$	14 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
	40	12	8	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	9 $\frac{3}{4}$	1 $\frac{1}{8}$	14 $\frac{3}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
12" WF CB 121	36	12 $\frac{1}{4}$	6 $\frac{5}{8}$	$\frac{9}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{1}{8}$	10 $\frac{3}{8}$	1 $\frac{5}{16}$	14	2 $\frac{1}{4}$	$\frac{1}{4}$	3 $\frac{1}{2}$
12 x 6 $\frac{1}{2}$ R = .37	31	12 $\frac{1}{8}$	6 $\frac{1}{2}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	3 $\frac{1}{8}$	10 $\frac{3}{8}$	$\frac{7}{8}$	13 $\frac{3}{4}$	2 $\frac{1}{4}$	$\frac{3}{16}$	3 $\frac{1}{2}$
	27	12	6 $\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	3 $\frac{1}{8}$	10 $\frac{3}{8}$	1 $\frac{3}{16}$	13 $\frac{5}{8}$	2 $\frac{1}{4}$	$\frac{3}{16}$	3 $\frac{1}{2}$

Gages  $g_2$  are based on  $\frac{1}{4}$ " edge distance ( $\frac{1}{8}$ " maximum rivet).

LIGHT BEAMS

STANDARD BEAMS

STANDARD CHANNELS

CAR & SHIP CHANNELS

EQUAL ANGLES

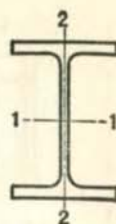
UNEQUAL ANGLES

BULB ANGLES

TEES & ZEES

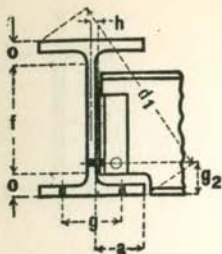


WIDE FLANGE  
CB SECTIONS  
PROPERTIES OF SECTIONS

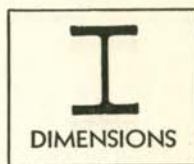


District Rolled	Section Index and Nominal Size	Depth of Section In.	Weight per Foot Lbs.	Area of Section In. <sup>2</sup>	Flange		Web Thickness In.	Axis 1-1			Axis 2-2		
					Width In.	Thickness In.		I In. <sup>4</sup>	S In. <sup>3</sup>	r In.	I In. <sup>4</sup>	S In. <sup>3</sup>	r In.
P.C.	10" WF CB 103 10 x 10 R = .50	11.38	112	32.92	10.415	1.248	.755	718.7	126.3	4.67	235.4	45.2	2.67
		11.12	100	29.43	10.345	1.118	.685	625.0	112.4	4.61	206.6	39.9	2.65
		10.88	89	26.19	10.275	.998	.615	542.4	99.7	4.55	180.6	35.2	2.63
		10.62	77	22.67	10.195	.868	.535	457.2	86.1	4.49	153.4	30.1	2.60
		10.50	72	21.18	10.170	.808	.510	420.7	80.1	4.46	141.8	27.9	2.59
		10.38	66	19.41	10.117	.748	.457	382.5	73.7	4.44	129.2	25.5	2.58
		10.25	60	17.66	10.075	.683	.415	343.7	67.1	4.41	116.5	23.1	2.57
		10.12	54	15.88	10.028	.618	.368	305.7	60.4	4.39	103.9	20.7	2.56
	10.00	49	14.40	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	10.12	45	13.24	8.022	.618	.350	248.6	49.1	4.33	53.2	13.3	2.00
		9.94	39	11.48	7.990	.528	.318	209.7	42.2	4.27	44.9	11.2	1.98
		9.75	33	9.71	7.964	.433	.292	170.9	35.0	4.20	36.5	9.2	1.94
P.C.	10" WF CB 101 10 x 5 3/4 R = .32	10.22	29	8.53	5.799	.500	.289	157.3	30.8	4.29	15.2	5.2	1.34
		10.08	25	7.35	5.762	.430	.252	133.2	26.4	4.26	12.7	4.4	1.31
		9.90	21	6.19	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	9.00	67	19.70	8.287	.933	.575	271.8	60.4	3.71	88.6	21.4	2.12
		8.75	58	17.06	8.222	.808	.510	227.3	52.0	3.65	74.9	18.2	2.10
		8.50	48	14.11	8.117	.683	.405	183.7	43.2	3.61	60.9	15.0	2.08
		8.25	40	11.76	8.077	.558	.365	146.3	35.5	3.53	49.0	12.1	2.04
		8.12	35	10.30	8.027	.493	.315	126.5	31.1	3.50	42.5	10.6	2.03
	8.00	31	9.12	8.000	.433	.288	109.7	27.4	3.47	37.0	9.2	2.01	
P.C.	8" WF CB 82 8 x 6 1/2 R = .40	8.06	28	8.23	6.540	.463	.285	97.8	24.3	3.45	21.6	6.6	1.62
		7.93	24	7.06	6.500	.398	.245	82.5	20.8	3.42	18.2	5.6	1.61
P.C.	8" WF CB 81 8 x 5 1/4 R = .32	8.14	20	5.88	5.268	.378	.248	69.2	17.0	3.43	8.50	3.2	1.20
		8.00	17	5.00	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 $\alpha$	
			Width	Thickness	Thickness	Half Thickness	$\alpha$	f	o	$d_1$	Min. $g_2$		Clear. h
10" WF CB 103 10 x 10 R = .50	112	11 $\frac{3}{8}$	10 $\frac{3}{8}$	1 $\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{8}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{3}{4}$	15 $\frac{1}{2}$	3	$\frac{7}{16}$	5 $\frac{1}{2}$
	100	11 $\frac{1}{8}$	10 $\frac{3}{8}$	1 $\frac{1}{8}$	$\frac{11}{16}$	$\frac{3}{8}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{5}{8}$	15 $\frac{1}{4}$	3	$\frac{7}{16}$	5 $\frac{1}{2}$
	89	10 $\frac{7}{8}$	10 $\frac{3}{4}$	1	$\frac{5}{8}$	$\frac{5}{8}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{1}{2}$	15	2 $\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{1}{2}$
	77	10 $\frac{5}{8}$	10 $\frac{3}{4}$	$\frac{7}{8}$	$\frac{9}{16}$	$\frac{5}{16}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{3}{8}$	14 $\frac{3}{4}$	2 $\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{1}{2}$
	72	10 $\frac{1}{2}$	10 $\frac{3}{8}$	$\frac{13}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{5}{16}$	14 $\frac{3}{8}$	2 $\frac{3}{4}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	66	10 $\frac{3}{8}$	10 $\frac{3}{8}$	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{1}{4}$	14 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	60	10 $\frac{1}{4}$	10 $\frac{3}{8}$	$\frac{11}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{3}{16}$	14 $\frac{3}{8}$	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	54	10 $\frac{1}{8}$	10	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{1}{8}$	14 $\frac{1}{4}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
49	10	10	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	4 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{1}{16}$	14 $\frac{3}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$	
10" WF CB 102 10 x 8 R = .50	45	10 $\frac{1}{8}$	8	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{1}{8}$	13	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
	39	10	8	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{1}{16}$	12 $\frac{7}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
	33	9 $\frac{3}{4}$	8	$\frac{7}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	7 $\frac{7}{8}$	1 $\frac{5}{16}$	12 $\frac{3}{8}$	2 $\frac{1}{4}$	$\frac{1}{4}$	5 $\frac{1}{2}$
10" WF CB 101 10 x 5 $\frac{3}{4}$ R = .32	29	10 $\frac{1}{4}$	5 $\frac{3}{4}$	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	2 $\frac{3}{4}$	8 $\frac{1}{2}$	$\frac{7}{8}$	11 $\frac{3}{4}$	2 $\frac{1}{4}$	$\frac{1}{4}$	2 $\frac{3}{4}$
	25	10 $\frac{1}{8}$	5 $\frac{3}{4}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	2 $\frac{3}{4}$	8 $\frac{1}{2}$	1 $\frac{9}{16}$	11 $\frac{5}{8}$	2 $\frac{1}{4}$	$\frac{3}{16}$	2 $\frac{3}{4}$
	21	9 $\frac{7}{8}$	5 $\frac{3}{4}$	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	2 $\frac{3}{4}$	8 $\frac{1}{2}$	1 $\frac{1}{16}$	11 $\frac{1}{2}$	2	$\frac{3}{16}$	2 $\frac{3}{4}$
8" WF CB 83 8 x 8 R = .40	67	9	8 $\frac{1}{4}$	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{5}{16}$	3 $\frac{7}{8}$	6 $\frac{3}{8}$	1 $\frac{5}{16}$	12 $\frac{1}{4}$	2 $\frac{3}{4}$	$\frac{3}{8}$	5 $\frac{1}{2}$
	58	8 $\frac{3}{4}$	8 $\frac{1}{4}$	$\frac{13}{16}$	$\frac{1}{2}$	$\frac{1}{4}$	3 $\frac{7}{8}$	6 $\frac{3}{8}$	1 $\frac{3}{16}$	12	2 $\frac{1}{2}$	$\frac{5}{16}$	5 $\frac{1}{2}$
	48	8 $\frac{1}{2}$	8 $\frac{1}{8}$	$\frac{11}{16}$	$\frac{7}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	6 $\frac{3}{8}$	1 $\frac{1}{16}$	11 $\frac{7}{8}$	2 $\frac{1}{2}$	$\frac{1}{4}$	5 $\frac{1}{2}$
	40	8 $\frac{1}{4}$	8 $\frac{1}{8}$	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	3 $\frac{7}{8}$	6 $\frac{3}{8}$	1 $\frac{5}{16}$	11 $\frac{5}{8}$	2 $\frac{1}{4}$	$\frac{1}{4}$	5 $\frac{1}{2}$
	35	8 $\frac{1}{8}$	8	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	6 $\frac{3}{8}$	$\frac{7}{8}$	11 $\frac{1}{2}$	2 $\frac{1}{4}$	$\frac{1}{4}$	5 $\frac{1}{2}$
31	8	8	$\frac{7}{16}$	$\frac{5}{16}$	$\frac{3}{16}$	3 $\frac{7}{8}$	6 $\frac{3}{8}$	1 $\frac{3}{16}$	11 $\frac{3}{8}$	2 $\frac{1}{4}$	$\frac{1}{4}$	5 $\frac{1}{2}$	
8" WF CB 82 8 x 6 $\frac{1}{2}$ R = .40	28	8	6 $\frac{1}{2}$	$\frac{7}{16}$	$\frac{5}{16}$	$\frac{1}{8}$	3 $\frac{1}{8}$	6 $\frac{3}{8}$	1 $\frac{9}{16}$	10 $\frac{1}{2}$	2 $\frac{1}{4}$	$\frac{3}{16}$	3 $\frac{1}{2}$
	24	7 $\frac{7}{8}$	6 $\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{4}$	$\frac{1}{8}$	3 $\frac{1}{8}$	6 $\frac{3}{8}$	1 $\frac{9}{16}$	10 $\frac{1}{4}$	2 $\frac{1}{4}$	$\frac{3}{16}$	3 $\frac{1}{2}$
8" WF CB 81 8 x 5 $\frac{1}{4}$ R = .32	20	8 $\frac{1}{8}$	5 $\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	2 $\frac{1}{2}$	6 $\frac{3}{4}$	1 $\frac{1}{16}$	9 $\frac{3}{4}$	2 $\frac{1}{4}$	$\frac{3}{16}$	2 $\frac{3}{4}$
	17	8	5 $\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	2 $\frac{1}{2}$	6 $\frac{3}{4}$	$\frac{5}{8}$	9 $\frac{3}{8}$	2 $\frac{1}{4}$	$\frac{3}{16}$	2 $\frac{3}{4}$

Gages  $g_2$  are based on  $\frac{1}{4}$ " edge distance ( $\frac{7}{8}$ " maximum rivet).

LIGHT BEAMS

STANDARD BEAMS

STANDARD CHANNELS

CAR & SHIP CHANNELS

EQUAL ANGLES

UNEQUAL ANGLES

BULB ANGLES

TEES & ZEES



# WIDE FLANGE LIGHT BEAMS, STANCHIONS AND JOISTS



## PROPERTIES OF SECTIONS

District Rolled	Section Index and Nominal Size	Depth of Section In.	Weight per Foot Lbs.	Area of Section In. <sup>2</sup>	Flange		Web Thickness In.	Axis 1-1			Axis 2-2		
					Width In.	Thick-ness In.		I In. <sup>4</sup>	S In. <sup>3</sup>	r In.	I In. <sup>4</sup>	S In. <sup>3</sup>	r In.
<b>LIGHT BEAMS</b>													
P.C.	CBL 12	12.31	22.0	6.47	4.030	.424	.260	155.7	25.3	4.91	4.55	2.26	0.84
	12 x 4	12.16	19.0	5.62	4.010	.349	.240	130.1	21.4	4.81	3.67	1.83	0.81
	R = .30	12.00	16.5	4.86	4.000	.269	.230	105.3	17.5	4.65	2.79	1.39	0.76
P.C.	CBL 10	10.25	19.0	5.61	4.020	.394	.250	96.2	18.8	4.14	4.19	2.08	0.86
	10 x 4	10.12	17.0	4.98	4.010	.329	.240	81.8	16.2	4.05	3.45	1.72	0.83
	R = .38	10.00	15.0	4.40	4.000	.269	.230	68.8	13.8	3.95	2.79	1.39	0.80
P.C.	CBL 8	8.12	15.0	4.43	4.015	.314	.245	48.0	11.8	3.29	3.30	1.65	0.86
	8 x 4 R = .30	8.00	13.0	3.83	4.000	.254	.230	39.5	9.88	3.21	2.62	1.31	0.83
P.C.	CBL 6	6.25	16.0	4.72	4.030	.404	.260	31.7	10.1	2.59	4.32	2.14	0.96
	6 x 4 R = .25	6.00	12.0	3.53	4.000	.279	.230	21.7	7.24	2.48	2.89	1.44	0.90

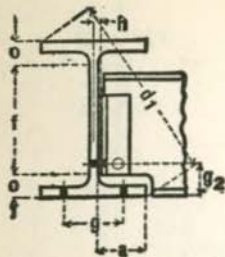
<b>STANCHIONS</b>													
P.C.	CBS 6	6.37	25.0	7.35	6.080	.456	.320	53.5	16.8	2.69	17.1	5.6	1.52
	6 x 6	6.20	20.0	5.88	6.018	.367	.258	41.7	13.4	2.66	13.3	4.4	1.50
	R = .25	6.00	15.5	4.59	6.000	.269	.240	30.3	10.1	2.56	9.69	3.2	1.45
P.	CB 51	5.12	18.5	5.45	5.025	.420	.265	25.4	9.94	2.16	8.89	3.54	1.28
	5 x 5 R = .3	5.00	16.0	4.70	5.000	.360	.240	21.3	8.53	2.13	7.51	3.00	1.26
P.	*CB 41	4.00	10.0	2.93	4.000	.265	.220	8.31	4.16	1.68	2.74	1.37	0.97
	4 x 4 R = .25												

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

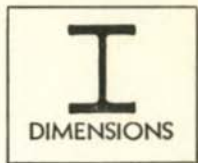
<b>JOISTS</b>													
P.C.	CBJ 12	11.91	14.0	4.14	3.970	.224	.200	88.2	14.8	4.61	2.25	1.13	0.74
	12 x 4 R = .30												
P.C.	CBJ 10	9.87	11.5	3.39	3.950	.204	.180	51.9	10.5	3.92	2.01	1.02	0.77
	10 x 4 R = .30												
P.C.	CBJ 8	7.90	10.0	2.95	3.940	.204	.170	30.8	7.79	3.23	1.99	1.01	0.82
	8 x 4 R = .30												
P.C.	CBJ 6	5.83	8.5	2.50	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.

\*For 13 # weight per foot see page 18. Section H.-1



WIDE FLANGE  
 LIGHT BEAMS, STANCHIONS  
 AND JOISTS  
 DIMENSIONS OF SECTIONS



LIGHT BEAMS

STANDARD BEAMS

STANDARD CHANNELS

CAR & SHIP CHANNELS

EQUAL ANGLES

UNEQUAL ANGLES

BULB ANGLES

TEES & ZEES

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 <sub>1</sub>		Min. g <sub>2</sub>	Clear. h

LIGHT BEAMS

CBL 12	22.0	12 3/4	4	3/16	3/4	3/8	1 7/8	10 3/4	3/4	13	2	3/16	2 1/4
12 x 4	19.0	12 3/8	4	3/8	1/4	3/8	1 7/8	10 3/4	13/16	12 3/4	2	1/4	2 1/4
R-30	16.5	12	4	1/4	3/4	3/8	1 7/8	10 3/4	5/8	12 5/8	1 3/4	3/16	2 1/4
CBL 10	19.0	10 1/4	4	3/8	3/4	3/8	1 7/8	8 7/8	11/16	11	2	1/4	2 1/4
10 x 4	17.0	10 3/8	4	5/16	1/4	3/8	1 7/8	8 7/8	5/8	10 7/8	2	1/4	2 1/4
R-38	15.0	10	4	1/4	3/4	3/8	1 7/8	8 7/8	9/16	10 3/4	1 3/4	3/16	2 1/4
CBL 8	15.0	8 1/8	4	5/16	3/4	3/8	1 7/8	6 7/8	5/8	9	2	1/4	2 1/4
8 x 4	13.0	8	4	1/4	3/4	3/8	1 7/8	6 7/8	9/16	9	1 3/4	3/16	2 1/4
CBL 6	16.0	6 1/4	4	3/8	1/4	3/8	1 7/8	4 7/8	11/16	7 5/8	2	1/4	2 1/4
6 x 4	12.0	6	4	1/4	3/4	3/8	1 7/8	4 7/8	9/16	7 1/4	1 3/4	3/16	2 1/4

STANCHIONS

CBS 6	25.0	6 3/8	6	1/2	5/16	3/16	2 7/8	4 7/8	3/4	8 7/8	2 1/4	1/4	3 1/2
6 x 6	20.0	6 1/4	6	3/8	1/4	3/16	2 7/8	4 7/8	11/16	8 5/8	2	3/16	3 1/2
R-25	15.5	6	6	1/4	1/4	3/8	2 7/8	4 7/8	9/16	8 1/2	2	3/16	3 1/2
CB 51	18.5	5 1/8	5	3/16	1/4	3/8	2 3/8	3 11/16	11/16	7 3/8	2 3/4	3/16	3
5 x 5	16.0	5	5	3/8	1/4	3/8	2 3/8	3 11/16	5/8	7	2 3/4	3/16	3
R-3													
CB 41	10.0	4	4	1/4	1/4	3/8	1 7/8	2 7/8	9/16	5 5/8	2	3/16	2 1/4
4 x 4													
R-25													

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

JOISTS

CBJ 12	14.0	11 7/8	4	1/4	3/16	3/8	1 7/8	10 3/4	9/16	12 1/2	1 3/4	3/16	2 1/4
12 x 4													
R-30													
CBJ 10	11.5	9 7/8	4	3/16	3/16	3/8	1 7/8	8 7/8	1/2	10 5/8	1 3/4	3/16	2 1/4
10 x 4													
R-30													
CBJ 8	10.0	7 7/8	4	3/16	3/16	3/8	1 7/8	6 7/8	1/2	8 7/8	1 3/4	3/16	2 1/4
8 x 4													
R-30													
CBJ 6	8.5	5 7/8	4	3/16	3/16	3/8	1 7/8	5	3/16	7	1 3/4	3/16	2 1/4
6 x 4													
R-25													

Gages g<sub>2</sub> are based on 1/4" edge distance (7/8" maximum rivet.)

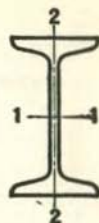




# BEAMS

## AMERICAN STANDARD

### PROPERTIES OF SECTIONS

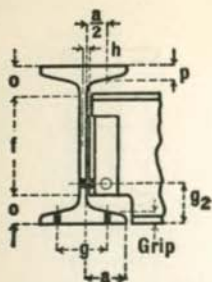
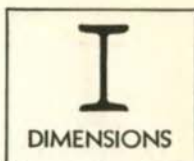


District Rolled	Section Index and Nominal Size	Depth of Beam In.	Weight per Foot Lbs.	Area of Section In. <sup>2</sup>	Width of Flange In.	Web Thickness In.	Axis 1-1			Axis 2-2		
							I In. <sup>4</sup>	S In. <sup>3</sup>	r In.	I In. <sup>4</sup>	S In. <sup>3</sup>	r In.
P. C.	24" I B 18	24	120.0	35.13	8.048	.798	3010.8	250.9	9.26	84.9	21.1	1.56
	24 x 7 <sup>7</sup> / <sub>8</sub> R=.60		105.9	30.98	7.875	.625	2811.5	234.3	9.53	78.9	20.0	1.60
P. C.	24" I B 1	24	100.0	29.25	7.247	.747	2371.8	197.6	9.05	48.4	13.4	1.29
	24 x 7 R=.60		90.0	26.30	7.124	.624	2230.1	185.8	9.21	45.5	12.8	1.32
P. C.	20" I B 2	20	95.0	27.74	7.200	.800	1599.7	160.0	7.59	50.5	14.0	1.35
	20 x 7 R=.70		85.0	24.80	7.053	.653	1501.7	150.2	7.78	47.0	13.3	1.38
P. C.	20" I B 3	20	75.0	21.90	6.391	.641	1263.5	126.3	7.60	30.1	9.4	1.17
	20 x 6 <sup>1</sup> / <sub>4</sub> R=.60		65.4	19.08	6.250	.500	1169.5	116.9	7.83	27.9	8.9	1.21
P.C.B.	18" I B 4	18	70.0	20.46	6.251	.711	917.5	101.9	6.70	24.5	7.8	1.09
	18 x 6 R=.56		54.7	15.94	6.000	.460	795.5	88.4	7.07	21.2	7.1	1.15
P.C.B.	15" I B 7	15	50.0	14.59	5.640	.550	481.1	64.2	5.74	16.0	5.7	1.05
	15 x 5 <sup>1</sup> / <sub>2</sub> R=.51		42.9	12.49	5.500	.410	441.8	58.9	5.95	14.6	5.3	1.08
P. C.	12" I B 8	12	50.0	14.57	5.477	.687	301.6	50.3	4.55	16.0	5.8	1.05
	12 x 5 <sup>1</sup> / <sub>4</sub> R=.56		40.8	11.84	5.250	.460	268.9	44.8	4.77	13.8	5.3	1.08
P.C.B.	12" I B 9	12	35.0	10.20	5.078	.428	227.0	37.8	4.72	10.0	3.9	0.99
	12 x 5 R=.45		31.8	9.26	5.000	.350	215.8	36.0	4.83	9.5	3.8	1.01
P.C.B.	10" I B 10	10	35.0	10.22	4.944	.594	145.8	29.2	3.78	8.5	3.4	0.91
	10 x 4 <sup>5</sup> / <sub>8</sub> R=.41		25.4	7.38	4.660	.310	122.1	24.4	4.07	6.9	3.0	0.97
P.C.B.	8" I B 12	8	23.0	6.71	4.171	.441	64.2	16.0	3.09	4.4	2.1	0.81
	8 x 4 R=.37		18.4	5.34	4.000	.270	56.9	14.2	3.26	3.8	1.9	0.84
P.C.B.	7" I B 13	7	20.0	5.83	3.860	.450	41.9	12.0	2.68	3.1	1.6	0.74
	7 x 3 <sup>5</sup> / <sub>8</sub> R=.35		15.3	4.43	3.660	.250	36.2	10.4	2.86	2.7	1.5	0.78

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	Thick-ness, P	Thick-ness	Half Thick-ness	a	f	o	Min. g <sub>2</sub>	Clear. h	Gage g		Grip
		Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.		In.
24" I B 18 R=.60	120.0 105.9	8 7 7/8	1 1/8 1 1/8	1 1/16 5/8	7/16 5/16	3 5/8 3 5/8	20 1/8 20 1/8	11 5/16 11 5/16	3 1/4 3 1/4	1 1/2 3/8	4 4	1 3/8 1 3/8	1 1
24" I B 1 R=.60	100.0 90.0 79.9	7 1/4 7 1/8 7	7/8 7/8 7/8	3/4 5/8 1/2	3/8 3/16 1/4	3 1/4 3 1/4 3 1/4	20 3/4 20 3/4 20 3/4	1 5/8 1 5/8 1 5/8	3 3 3	7/16 3/8 5/16	4 4 4	7/8 7/8 7/8	1 1 1
20" I B 2 R=.70	95.0 85.0	7 1/4 7	1 5/16 1 5/16	1 3/16 1 1/16	7/16 5/16	3 1/4 3 1/4	16 1/2 16 1/2	1 3/4 1 3/4	3 1/4 3 1/4	1 1/2 3/8	4 4	1 5/16 7/8	1 1
20" I B 3 R=.60	75.0 65.4	6 3/8 6 1/4	1 3/16 1 3/16	5/8 1/2	5/16 1/4	2 7/8 2 7/8	16 7/8 16 7/8	1 9/16 1 9/16	3 3	3/8 5/16	3 1/2 3 1/2	1 3/16 3/4	7/8 7/8
18" I B 4 R=.56	70.0 54.7	6 1/4 6	1 1/16 1 1/16	3/4 1/2	3/8 1/4	2 3/4 2 3/4	15 1/4 15 1/4	1 3/8 1 3/8	2 3/4 2 3/4	7/16 5/16	3 1/2 3 1/2	1 1/16 1 1/16	7/8 7/8
15" I B 7 R=.511	50.0 42.9	5 5/8 5 1/2	5/8 5/8	9/16 7/16	5/16 1/4	2 1/2 2 1/2	12 1/2 12 1/2	1 1/4 1 1/4	2 3/4 2 3/4	3/8 5/16	3 1/2 3 1/2	9/16 9/16	3/4 3/4
12" I B 8 R=.56	50.0 40.8	5 1/2 5 1/4	1 1/16 1 1/16	1 1/16 1/2	3/8 1/4	2 3/8 2 3/8	9 9/8 9 9/8	1 5/16 1 5/16	2 3/4 2 3/4	7/16 5/16	3 3	5/8 5/8	3/4 3/4
12" I B 9 R=.45	35.0 31.8	5 1/8 5	9/16 9/16	7/16 3/8	1/4 3/16	2 3/8 2 3/8	9 3/4 9 3/4	1 1/8 1 1/8	2 1/2 2 1/2	5/16 1/4	3 3	1/2 1/2	3/4 3/4
-10" I B 10 R=.41	35.0 25.4	5 4 5/8	1/2 1/2	5/8 5/16	5/16 3/16	2 1/8 2 1/8	8 8	1 1	2 1/2 2 1/2	3/8 1/4	2 3/4 2 3/4	1/2 1/2	3/4 3/4
8" I B 12 R=.37	23.0 18.4	4 1/8 4	7/16 7/16	7/16 5/16	1/4 1/8	1 7/8 1 7/8	6 1/4 6 1/4	7/8 7/8	2 1/4 2 1/4	5/16 3/16	2 1/4 2 1/4	7/16 7/16	3/4 3/4
7" I B 13 R=.35	20.0 15.3	3 7/8 3 5/8	3/8 3/8	7/16 1/4	1/4 1/8	1 3/4 1 3/4	5 5/8 5 5/8	1 5/16 1 5/16	2 2 1/4	5/16 3/16	2 1/4 2 1/4	3/8 3/8	5/8 5/8

Gages g<sub>2</sub> are based on 1/4" edge distance (3/8" maximum rivet).

STANDARD BEAMS

STANDARD CHANNELS

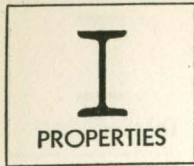
CAR & SHIP CHANNELS

EQUAL ANGLES

UNEQUAL ANGLES

BULB ANGLES

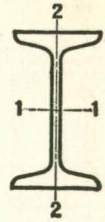
TEES & ZEEs



# BEAMS

## AMERICAN STANDARD

### PROPERTIES OF SECTIONS



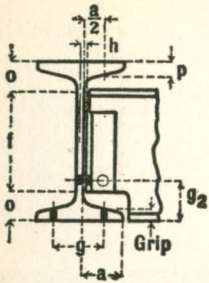
District Rolled	Section Index and Nominal Size	Depth of Beam In.	Weight per Foot Lbs.	Area of Section In. <sup>2</sup>	Width of Flange In.	Web Thickness In.	Axis 1-1			Axis 2-2		
							I	S	r	I	S	r
							In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
P.C.B. P.C.B.S.	6" I B 14 6 x 3 <sup>3</sup> / <sub>8</sub> R = .33	6	17.25 12.5	5.02 3.61	3.565 3.330	.465 .230	26.0 21.8	8.7 7.3	2.28 2.46	2.3 1.8	1.3 1.1	0.68 0.72
P.C. P.C.S.	5" I B 15 5 x 3 R = .31	5	14.75 10.0	4.29 2.87	3.284 3.000	.494 .210	15.0 12.1	6.0 4.8	1.87 2.05	1.7 1.2	1.0 0.82	0.63 0.65
P.C.B. P.C.B.S.	4" I B 16 4 x 2 <sup>5</sup> / <sub>8</sub> R = .29	4	9.5 7.7	2.76 2.21	2.796 2.660	.326 .190	6.7 6.0	3.3 3.0	1.56 1.64	0.91 0.77	0.65 0.58	0.58 0.59
P.C.B. P.C.B.S.	3" I B 17 3 x 2 <sup>3</sup> / <sub>8</sub> R = .27	3	7.5 5.7	2.17 1.64	2.509 2.330	.349 .170	2.9 2.5	1.9 1.7	1.15 1.23	0.59 0.46	0.47 0.40	0.52 0.53

## H-BEAMS

District Rolled	Section Index and Nominal Size	Depth of Beam In.	Weight per Foot Lbs.	Area of Section In. <sup>2</sup>	Width of Flange In.	Web Thickness In.	Axis 1-1			Axis 2-2		
							I	S	r	I	S	r
							In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
P.C.	H 4 8 x 8 R = .313	8	34.3	10.00	8.000	.375	115.5	28.9	3.40	35.1	8.8	1.87
P.C.	H 3a 6 x 6 R = .313	6	25.0	7.33	5.938	.313	47.0	15.7	2.53	14.9	5.0	1.43
P.C.B.	H 3 6x6 R = .313	6	20.0	5.86	5.938	.250	38.8	12.9	2.57	11.4	3.8	1.39
P.C.B.	H 2 5 x 5 R = .313	5	18.9	5.47	5.000	.313	23.8	9.5	2.08	7.8	3.1	1.20
P.C.B.S.	*H 1 4 x 4 R = .313	4	13.0	3.82	3.937	.250	10.4	5.2	1.65	3.4	1.7	.94

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

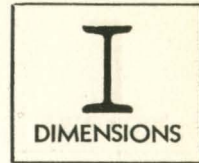
\*For 10 LB. weight per foot see page 14. Section CB-41.



# BEAMS

## AMERICAN STANDARD

### DIMENSIONS OF SECTIONS



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 <sub>2</sub>	Clear. h	Gage g	Grip	
		In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
6" I B 14 R=.33	17.25 12.5	3 5/8 3 5/8	3/8 3/8	1/2 1/4	1/4 1/8	1 1/2 1 1/2	4 1/2 4 1/2	3/4 3/4	2 2	5/16 3/16	2 2	3/8 5/16	5/8 5/8
5" I B 15 R=.31	14.75 10.0	3 1/4 3	5/16 5/16	1/2 1/4	1/4 1/8	1 3/8 1 3/8	3 5/8 3 5/8	1 1/16 1 1/16	2 2	5/16 3/16	1 3/4 1 3/4	5/16 5/16	1/2 1/2
4" I B 16 R=.29	9.5 7.7	2 3/4 2 5/8	5/16 3/16	5/16 3/16	3/16 1/8	1 1/4 1 1/4	2 3/4 2 3/4	5/8 5/8	2 2	1/4 3/16	1 1/2 1 1/2	5/16 5/16	1/2 1/2
3" I B 17 R=.27	7.5 5.7	2 1/2 2 3/8	1/4 1/4	3/8 3/16	3/16 1/8	1 1/8 1 1/8	1 7/8 1 7/8	9/16 9/16	..... .....	1/4 3/16	1 1/2 1 1/2	1/4 1/4	3/8 3/8

## 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 <sub>2</sub>	Gage g	Grip		
		In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	
H 4 8 R=.313	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	
H 3a 6 R=.313	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	
H 3 6 R=.313	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	
H 2 5 R=.313	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	
H 1 4 R=.313	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	

Gages g<sub>2</sub> are based on 1 1/4" edge distance (7/8" maximum rivet).

STANDARD CHANNELS

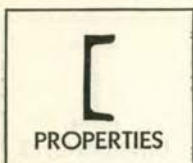
CAR & SHIP CHANNELS

EQUAL ANGLES

UNEQUAL ANGLES

BULB ANGLES

TEES & ZEES



# CHANNELS

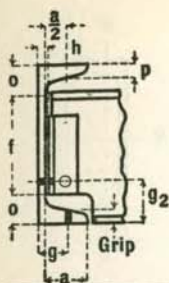
## AMERICAN STANDARD

### PROPERTIES OF SECTIONS



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

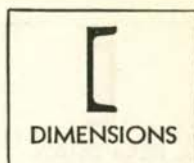
†C 60 is not an American standard channel.  
For key to symbols in first column, refer to page 3.



# CHANNELS

## AMERICAN STANDARD

### DIMENSIONS OF SECTIONS



Section Index and Depth	Weight per Foot	Flange				Web		Distance						Max. Flange Rivet
		Width	Thick-ness, p	Thick-ness	Half Thick-ness	a	f	o	Min. g <sub>2</sub>	Clear. h	Gage g	Grip		
													Lbs.	
†C 60 18 R = .625	58.0	4 1/4	5/8	1 1/16	3/8	3 1/2	15 3/8	1 5/16	2 3/4	3/4	2 1/2	5/8	1	
	51.9	4 3/8	5/8	5/8	5/8	3 1/2	15 3/8	1 5/16	2 3/4	1 1/16	2 1/2	5/8	1	
	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 15 R = .50	50.0	3 3/4	5/8	3/4	3/8	3	12 3/8	1 5/16	2 3/4	1 5/16	2 1/4	5/8	1	
	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	
	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 13 R = .48	50.0	4 3/8	5/8	1 3/16	7/16	3 5/8	10 3/8	1 5/16	2 3/4	7/8	2 1/2	5/8	1	
	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	
	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 12 R = .38	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	
	25.0	3	1/2	3/8	3/8	2 5/8	9 7/8	1 1/16	2 1/2	7/16	1 3/4	1/2	7/8	
	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 10 R = .34	30.0	3	7/16	1 1/16	3/8	2 3/8	8 1/8	1 5/16	2 1/2	3/4	1 3/4	7/16	3/4	
	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	
	20.0	2 3/4	7/16	3/8	3/8	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	9/16	1 1/2	7/16	3/4	
C 4 9 R = .33	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	
	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	
	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 8 R = .32	18.75	2 1/2	3/8	1/2	1/4	2	6 3/8	1 3/16	2 1/4	9/16	1 1/2	3/8	3/4	
	13.75	2 3/8	3/8	5/16	3/16	2	6 3/8	1 3/16	2 1/4	3/8	1 3/8	3/8	3/4	
	11.5	2 1/4	3/8	1/4	1/8	2	6 3/8	1 3/16	2 1/4	5/16	1 3/8	3/8	3/4	
C 6 7 R = .31	14.75	2 1/4	3/8	7/16	1/4	1 7/8	5 3/8	1 3/16	2	1/2	1 1/4	3/8	5/8	
	12.25	2 1/4	3/8	5/16	3/16	1 7/8	5 3/8	1 3/16	2	3/8	1 1/4	3/8	5/8	
	9.8	2 1/8	3/8	1/4	1/8	1 7/8	5 3/8	1 3/16	2	5/16	1 1/4	3/8	5/8	
C 7 6 R = .30	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	
	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	
	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 5 R = .29	9.0	1 7/8	5/16	5/16	3/16	1 1/2	3 5/8	1 1/16	2	3/8	1 1/8	5/16	1 1/2	
	6.7	1 3/4	5/16	3/16	1/8	1 1/2	3 5/8	1 1/16	2	1/4	1 1/8	5/16	1 1/2	
C 9 4 R = .28	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 1/2	
	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 1/2	
C 10 3 R = .27	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 1/2	
	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 1/2	
	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 1/2	

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

STANDARD CHANNELS

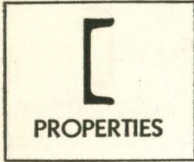
CAR & SHIP CHANNELS

EQUAL ANGLES

UNEQUAL ANGLES

BULB ANGLES

TEES & ZEEES



# CHANNELS

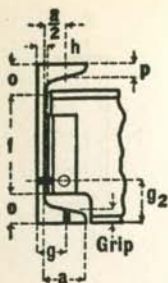
## CAR BUILDING AND SHIPBUILDING

### PROPERTIES OF SECTIONS



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

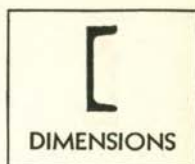
For key to symbols in first column, refer to page 3.



# CHANNELS

## CAR BUILDING AND SHIP BUILDING

### DIMENSIONS OF SECTIONS



Section Index and Depth	Weight per Foot	Flange		Web		Distance						Max. Flange Rivet	
		Width	Thick-ness, p	Thick-ness	Half Thick-ness	a	f	o	Min. g <sup>2</sup>	Clear. h	Gage g		Grip
C 60 18 R=.625	58.0	4 1/4	5/8	1 1/16	3/8	3 1/2	15 3/8	1 5/16	2 3/4	3/4	2 1/2	5/8	1
	51.9	4 1/8	5/8	5/8	5/16	3 1/2	15 3/8	1 5/16	2 3/4	1 1/16	2 1/2	5/8	1
	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	3/4	3 1/2	15 3/8	1 5/16	2 3/4	1/2	2 1/2	5/8	1
C 20 13 R=.48	50.0	4 3/8	5/8	1 3/16	7/16	3 5/8	10 3/8	1 5/16	2 3/4	7/8	2 1/2	5/8	1
	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
	35.0	4 1/8	5/8	7/16	3/4	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 12 R=.50	50.0	4 1/8	1 1/16	7/8	7/16	3 3/8	9 1/2	1 1/4	2 1/2	1 5/16	2 1/2	1 1/16	1
	45.0	4	1 1/16	1 1/16	5/8	3 3/8	9 1/2	1 1/4	2 1/2	3/4	2 1/2	1 1/16	1
	40.0	3 7/8	1 1/16	5/8	5/16	3 3/8	9 1/2	1 1/4	2 1/2	1 1/16	2 1/2	1 1/16	1
	35.0	3 3/4	1 1/16	1/2	3/4	3 3/8	9 1/2	1 1/4	2 1/2	9/16	2 1/2	1 1/16	1
C 171 12 R=.60	37.0	3 5/8	5/8	5/8	5/16	3	9 1/2	1 1/4	2 1/2	1 1/16	2 1/4	5/8	7/8
	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
	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 10 R=.575	41.1	4 5/16	9/16	1 3/16	7/16	3 1/2	7 1/2	1 1/4	2 1/2	7/8	2 1/2	9/16	7/8
	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
	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 10 R=.575	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
	24.9	3 3/8	9/16	5/8	3/16	3	7 5/8	1 3/16	2 1/2	7/16	2	9/16	7/8
C 28 10 R=.50	25.3	3 1/2	1/2	7/16	1/4	3 3/8	7 7/8	1 1/16	2 1/2	1/2	2	1/2	7/8
	21.9	3 1/2	1/2	5/16	3/16	3 3/8	7 7/8	1 1/16	2 1/2	3/8	2	1/2	7/8
C 32 9 R=.55	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
	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

Gages g are usual standard gages, but may be varied if conditions require.  
Gages g<sub>2</sub> are based on 1/4" edge distance (7/8" maximum rivet).

CAR & SHIP CHANNELS

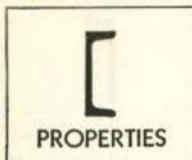
EQUAL ANGLES

UNEQUAL ANGLES

BULB ANGLES

TEES & ZEES

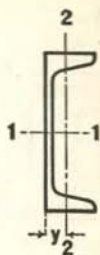




# CHANNELS

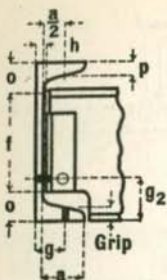
## CAR BUILDING AND SHIP BUILDING

### PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Depth of Channel	Weight per Foot	Area of Section	Width of Flange	Web Thickness	Axis 1-1			Axis 2-2			
							I	S	r	I	S	r	y
							In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.	In.
P. C.	C 36 8 x 3½ R=.525	8	22.8	6.63	3.500	.425	63.3	15.8	3.09	7.4	3.0	1.05	1.04
			21.4	6.23	3.450	.375	61.2	15.3	3.13	6.9	2.9	1.05	1.05
P. B.	C 37 8 x 3 R=.50	8	20.0	5.83	3.025	.400	54.0	13.5	3.05	4.7	2.2	0.90	0.86
			18.7	5.43	2.975	.350	51.9	13.0	3.09	4.4	2.1	0.90	0.88
P. C.	C 41 7 x 3½ R=.50	7	22.7	6.60	3.600	.500	47.1	13.5	2.67	7.5	3.0	1.07	1.07
			19.1	5.55	3.450	.350	42.8	12.2	2.78	6.3	2.7	1.07	1.11
P.	C 42 7 x 3 R=.475	7	17.6	5.12	3.000	.375	37.3	10.7	2.70	4.2	2.0	0.90	0.90
P.	C 46 6 x 3½ R=.475	6	18.0	5.22	3.500	.375	29.4	9.8	2.38	6.1	2.6	1.08	1.15
			15.3	4.48	3.500	.340	25.3	8.4	2.38	5.1	2.1	1.08	1.08
P.	C 47 6 x 3 R=.475	6	16.3	4.75	3.000	.375	25.8	8.6	2.33	4.0	1.9	0.91	0.95
			15.1	4.37	2.938	.313	24.7	8.2	2.38	3.6	1.8	0.91	0.97
P.	C 48 6 x 2½ R=.375	6	12.0	3.52	2.500	.313	18.6	6.2	2.30	2.0	1.1	0.75	0.72
P.	C 200 4 x 2½ R=.28	4	13.8	4.00	2.500	.500	8.8	4.4	1.49	2.2	1.4	0.74	0.86
P. P. C.	*C 192 *C 193 *C 21 3 x 1½ R=.19	3	9.0	2.64	2.125	.500	3.1	2.1	1.09	0.97	0.68	0.61	0.71
			7.1	2.08	1.938	.313	2.7	1.8	1.14	0.71	0.56	0.58	0.68

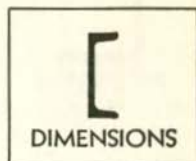
\*C 193 and C 21 are identical with C 192 except flanges are flared outward to 3/8" at the toe of flanges.  
For key to symbols in first column, refer to page 3.



# CHANNELS

## CAR BUILDING AND SHIP BUILDING

### DIMENSIONS OF SECTIONS



Section Index and Depth	Weight per Foot	Flange		Web		Distance						Max. Flange Rivet	
		Width	Thick-ness, p	Thick-ness	Half Thick-ness	a	f	o	Min. g <sub>1</sub>	Clear. h	Gage g		Grip
		Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.		In.
C 36 8 R=.525	22.8 21.4	3½ 3½	½ ½	⅞ ⅞	¼ ⅜	3⅞ 3⅞	5⅞ 5⅞	1⅞ 1⅞	2¼ 2¼	½ ⅞	2 2	½ ½	⅞ ⅞
C 37 8 R=.50	20.0 18.7	3 3	½ ½	⅞ ⅞	⅜ ⅜	2⅞ 2⅞	5⅞ 5⅞	1⅞ 1⅞	2¼ 2¼	½ ⅞	1¾ 1¾	½ ½	⅞ ⅞
C 41 7 R=.50	22.7 19.1	3⅞ 3½	½ ½	⅞ ⅞	¼ ⅜	3⅞ 3⅞	4⅞ 4⅞	1⅞ 1⅞	2¼ 2¼	⅞ ⅞	2 2	½ ½	⅞ ⅞
C 42 7 R=.475	17.6	3	½	⅞	⅜	2⅞	5	1	2¼	⅞	1¾	½	⅞
C 46 6 R=.475	18.0	3½	½	⅞	⅜	3⅞	4	1	2¼	⅞	2	½	⅞
C 56 6 R=.385	15.3	3½	⅞	⅞	⅜	3⅞	4⅞	1⅞	2	⅞	2	⅞	⅞
C 47 6 R=.475	16.3 15.1	3 3	½ ½	⅞ ⅞	⅜ ⅜	2⅞ 2⅞	4 4	1 1	2¼ 2¼	⅞ ⅞	1¾ 1¾	½ ½	¾ ¾
C 48 6 R=.375	12.0	2½	⅞	⅞	⅜	2⅞	4½	¾	2	⅞	1½	⅞	⅞
C 200 4 R=.28	13.8	2½	½	½	¼	2	2⅞	1⅞	2	⅞	1½	½	⅞
*C 192													
*C 193													
*C 21	9.0	2⅞	⅞	½	¼	1⅞	1⅞	⅞	...	⅞	...	..	..
3 R=.19	7.1	2	⅞	⅞	⅜	1⅞	1⅞	⅞	...	⅞	...	..	..

Gages g are usual standard gages, but may be varied if conditions require.

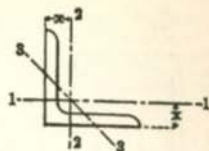
Gages g<sub>1</sub> are based on 1¼" edge distance (⅞" maximum rivet).

\*C 193 and C 21 are identical with C 192 except flanges are flared out to 3⅞" at toe of flanges.



# EQUAL ANGLES

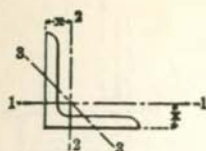
## PROPERTIES OF SECTIONS



District Rolled	Section Index	Size	Thickness	Weight per Foot	Area of Section	Axis 1-1 and Axis 2-2				Axis 3-3
						I	S	$r$	$r$	$r$ min.
						In. <sup>4</sup>	In. <sup>3</sup>	In.	In.	In.
P.C.B.	A 1 R = $\frac{3}{8}$	8 x 8	$1\frac{1}{8}$	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
			$\frac{7}{8}$	45.0	13.23	79.6	14.0	2.45	2.32	1.56
			$\frac{3}{4}$	38.9	11.44	69.7	12.2	2.47	2.28	1.57
			$\frac{5}{8}$	32.7	9.61	59.4	10.3	2.49	2.23	1.58
			$\frac{9}{16}$	29.6	8.68	54.1	9.3	2.50	2.21	1.58
			$\frac{1}{2}$	26.4	7.75	48.6	8.4	2.51	2.19	1.58
P.C.B.	A 2 R = $\frac{1}{2}$	6 x 6	1	37.4	11.00	35.5	8.6	1.80	1.86	1.16
P.C.B.			$\frac{7}{8}$	33.1	9.73	31.9	7.6	1.81	1.82	1.17
P.C.B.			$\frac{3}{4}$	28.7	8.44	28.2	6.7	1.83	1.78	1.17
P.C.B.S.			$\frac{5}{8}$	24.2	7.11	24.2	5.7	1.84	1.73	1.17
P.C.B.S.			$\frac{9}{16}$	21.9	6.43	22.1	5.1	1.85	1.71	1.18
P.C.B.S.			$\frac{1}{2}$	19.6	5.75	19.9	4.6	1.86	1.68	1.18
P.C.B.S.			$\frac{7}{16}$	17.2	5.06	17.7	4.1	1.87	1.66	1.19
P.C.B.S.			$\frac{3}{8}$	14.9	4.36	15.4	3.5	1.88	1.64	1.19
P.S.	$\frac{5}{16}$	12.6	3.66	13.0	3.0	1.89	1.61	1.19		
P.C.	A 3 R = $\frac{1}{2}$	5 x 5	$\frac{7}{8}$	27.2	7.98	17.8	5.2	1.49	1.57	0.96
P.C.B.S.			$\frac{3}{4}$	23.6	6.94	15.7	4.5	1.50	1.52	0.97
P.C.B.S.			$\frac{5}{8}$	20.0	5.86	13.6	3.9	1.52	1.48	0.97
P.C.B.S.			$\frac{1}{2}$	16.2	4.75	11.3	3.2	1.54	1.43	0.98
P.C.B.S.			$\frac{7}{16}$	14.3	4.18	10.0	2.8	1.55	1.41	0.98
P.C.B.S.			$\frac{3}{8}$	12.3	3.61	8.7	2.4	1.56	1.39	0.99
P.C.B.S.	$\frac{5}{16}$	10.3	3.03	7.4	2.0	1.56	1.36	0.99		

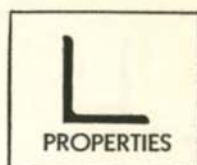
\*Special gage.

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	x	x	r min.
						In. <sup>4</sup>	In. <sup>2</sup>	In.	In.	In.
P.C.B.S.	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.S.	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
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	1/2	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

†Bar size.

\*Special gage.

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

EQUAL ANGLES

UNEQUAL ANGLES

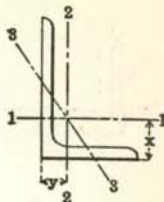
BULB ANGLES

TEES & ZEES



# UNEQUAL ANGLES

## PROPERTIES OF SECTIONS



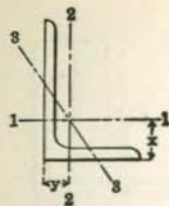
District Rolled	Section Index	Size	Thickness	Weight per Foot	Area of Section	Axis 1-1				Axis 2-2				Axis 3-3		
						I	S	x	x	I	S	x	y	r min.		
						In. <sup>4</sup>	In. <sup>3</sup>	In.	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.	In.	In.		
C.	A94 R=1/2	9 x 4	1	40.8	12.00	97.0	17.6	2.84	3.50	12.0	4.0	1.00	1.00	0.83		
			3/8	36.1	10.61	86.8	15.7	2.86	3.45	10.8	3.6	1.01	0.95	0.84		
			5/16	31.3	9.19	76.1	13.6	2.88	3.41	9.6	3.1	1.02	0.91	0.84		
			3/8	26.3	7.73	64.9	11.5	2.90	3.36	8.3	2.6	1.04	0.86	0.85		
			1/2	23.8	7.00	59.1	10.4	2.91	3.33	7.6	2.4	1.04	0.83	0.85		
			1/2	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.	A18 R=3/8	8 x 6	1	44.2	13.00	80.8	15.1	2.49	2.65	38.8	8.9	1.73	1.65	1.28		
			3/8	39.1	11.48	72.3	13.4	2.51	2.61	34.9	7.9	1.74	1.61	1.28		
			5/16	33.8	9.94	63.4	11.7	2.53	2.56	30.7	6.9	1.76	1.56	1.29		
			3/8	28.5	8.36	54.1	9.9	2.54	2.52	26.3	5.9	1.77	1.52	1.30		
			1/2	25.7	7.56	49.3	8.9	2.55	2.50	24.0	5.3	1.78	1.50	1.30		
			1/2	23.0	6.75	44.3	8.0	2.56	2.47	21.7	4.8	1.79	1.47	1.30		
			1/2	20.2	5.93	39.2	7.1	2.57	2.45	19.3	4.2	1.80	1.45	1.30		
P.C.	A50 R=3/8	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		
			3/8	33.1	9.73	62.4	12.5	2.53	3.00	10.5	3.5	1.04	1.00	0.85		
			5/16	28.7	8.44	54.9	10.9	2.55	2.95	9.4	3.1	1.05	0.95	0.85		
			3/8	24.2	7.11	46.9	9.2	2.56	2.91	8.1	2.6	1.07	0.91	0.86		
			1/2	21.9	6.43	42.8	8.4	2.58	2.88	7.4	2.4	1.07	0.88	0.86		
			1/2	19.6	5.75	38.5	7.5	2.59	2.86	6.7	2.2	1.08	0.86	0.86		
			1/2	17.2	5.06	34.1	6.6	2.60	2.83	6.0	1.9	1.09	0.83	0.87		
P.C.	A60 R=3/8	7 x 4	3/8	30.2	8.86	42.9	9.7	2.20	2.55	10.2	3.5	1.07	1.05	0.86		
			5/16	26.2	7.69	37.8	8.4	2.22	2.51	9.1	3.0	1.09	1.01	0.86		
			3/8	22.1	6.49	32.4	7.1	2.24	2.46	7.8	2.6	1.10	0.96	0.86		
			5/16	20.0	5.88	29.6	6.5	2.24	2.44	7.2	2.4	1.11	0.94	0.87		
			1/2	17.9	5.25	26.7	5.8	2.25	2.42	6.5	2.1	1.11	0.92	0.87		
			1/2	15.8	4.63	23.7	5.1	2.26	2.39	5.8	1.9	1.12	0.89	0.88		
			3/8	13.6	3.99	20.6	4.4	2.27	2.37	5.1	1.6	1.13	0.87	0.88		
P.C.B.	A20 R=1/2	6 x 4	3/8	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.S.			3/8	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.S.			5/16	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.S.			3/8	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.S.			5/16	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.S.			3/8	14.3	4.18	15.5	3.8	1.92	1.96	5.6	1.8	1.16	0.96	0.87		
P.C.B.S.			5/16	12.3	3.61	13.5	3.3	1.93	1.94	4.9	1.6	1.17	0.94	0.88		
P.C.			3/8	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.			A21 R=3/8	6 x 3 1/2	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.					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.	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.	3/8	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.	A23 R=1/16	5 x 3 1/2	3/8	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.S.			3/8	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.S.			5/16	13.6	4.00	10.0	3.0	1.58	1.66	4.0	1.6	1.01	0.91	0.75		
P.C.B.S.			3/8	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.S.			5/16	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.S.			3/8	8.7	2.56	6.6	1.9	1.61	1.59	2.7	1.0	1.03	0.84	0.76		
P.C.B.S.			5/16	7.0	2.06	5.4	1.6	1.61	1.56	2.2	0.83	1.04	0.81	0.76		
P.C.			3/8													
P.C.B.S.	A24 R=3/8	5 x 3	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.			3/8	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.			5/16	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.			3/8	8.2	2.40	6.3	1.9	1.61	1.68	1.8	0.75	0.85	0.68	0.66		
C.S.			1/2	6.6	1.94	5.1	1.5	1.62	1.66	1.4	0.61	0.86	0.66	0.66		

\*Special gage.

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

# UNEQUAL ANGLES

## PROPERTIES OF SECTIONS



District Rolled	Section Index	Size	Thickness In.	Weight per Foot Lbs.	Area of Section In. <sup>2</sup>	Axis 1-1				Axis 2-2				Axis 3-3
						I	S	r	x	I	S	r	y	r min.
						In. <sup>4</sup>	In. <sup>4</sup>	In.	In.	In. <sup>4</sup>	In. <sup>4</sup>	In.	In.	In.
P.C.	A26 R=3/8	4 x 3 1/2	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.			3/4	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.			5/8	10.6	3.09	4.8	1.7	1.24	1.23	3.4	1.3	1.05	0.98	0.72
P.C.B.S.			3/4	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.			5/8	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.			3/4	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.S.	A27 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
			3/4	11.1	3.25	5.0	1.9	1.25	1.33	2.4	1.1	0.86	0.83	0.64
			5/8	9.8	2.87	4.5	1.7	1.25	1.30	2.2	1.0	0.87	0.80	0.64
			3/4	8.5	2.48	4.0	1.5	1.26	1.38	1.9	0.87	0.88	0.78	0.64
			5/8	7.2	2.09	3.4	1.2	1.27	1.26	1.7	0.74	0.89	0.76	0.65
			3/4	5.8	1.69	2.8	1.0	1.28	1.24	1.4	0.60	0.89	0.74	0.65
P.C.B.S.	A28 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
			3/4	9.1	2.65	3.1	1.3	1.08	1.10	2.1	0.98	0.89	0.85	0.62
			5/8	7.9	2.30	2.7	1.1	1.09	1.08	1.8	0.85	0.90	0.83	0.62
			3/4	6.6	1.93	2.3	0.96	1.10	1.06	1.6	0.72	0.90	0.81	0.63
			5/8	5.4	1.56	1.9	0.78	1.11	1.04	1.3	0.58	0.91	0.79	0.63
			3/4	4.9	1.44	1.8	0.75	1.12	1.11	1.3	0.41	0.74	0.61	0.63
P.C.B.	A29 R=3/8	3 1/2 x 2 1/2	1/2	9.4	2.75	3.2	1.4	1.09	1.20	1.4	0.76	0.70	0.70	0.53
			3/4	8.3	2.43	2.9	1.3	1.09	1.18	1.2	0.68	0.71	0.68	0.54
			5/8	7.2	2.11	2.6	1.1	1.10	1.16	1.1	0.59	0.72	0.66	0.54
			3/4	6.1	1.78	2.2	0.93	1.11	1.14	0.94	0.50	0.73	0.64	0.54
			5/8	4.9	1.44	1.8	0.75	1.12	1.11	0.78	0.41	0.74	0.61	0.54
			3/4	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.	A32 R=3/8	3 x 2 1/2	1/2	8.5	2.50	2.1	1.0	0.91	1.00	1.3	0.74	0.72	0.75	0.52
			3/4	7.6	2.21	1.9	0.93	0.92	0.98	1.2	0.66	0.73	0.73	0.52
			5/8	6.6	1.92	1.7	0.81	0.93	0.96	1.0	0.58	0.74	0.71	0.52
			3/4	5.6	1.62	1.4	0.69	0.94	0.93	0.90	0.49	0.74	0.68	0.53
			5/8	4.5	1.31	1.2	0.56	0.95	0.91	0.74	0.40	0.75	0.66	0.53
			3/4	4.5	1.31	1.2	0.56	0.95	0.91	0.74	0.40	0.75	0.66	0.53
P.C.B.	A33 R=3/8	3 x 2	1/2	7.7	2.25	1.9	1.0	0.92	1.08	0.67	0.47	0.55	0.58	0.43
			3/4	6.8	2.00	1.7	0.89	0.93	1.06	0.61	0.42	0.55	0.56	0.43
			5/8	5.9	1.73	1.5	0.78	0.94	1.04	0.54	0.37	0.56	0.54	0.43
			3/4	5.0	1.47	1.3	0.65	0.95	1.02	0.47	0.32	0.57	0.52	0.43
			5/8	4.1	1.19	1.1	0.54	0.95	0.99	0.39	0.26	0.57	0.49	0.43
			3/4	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.	†A35 R=1/4	2 1/2 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
			1/2	4.5	1.31	0.79	0.47	0.78	0.81	0.45	0.31	0.58	0.56	0.42
			3/4	3.62	1.06	0.65	0.38	0.78	0.79	0.37	0.25	0.59	0.54	0.42
			1/2	2.75	0.81	0.51	0.29	0.79	0.76	0.29	0.20	0.60	0.51	0.43
C.S.	†A48 R=1/4	2 1/2 x 1 1/2	3/8	4.7	1.36	0.82	0.52	0.78	0.92	0.22	0.20	0.40	0.42	0.32
			1/2	3.92	1.15	0.71	0.44	0.79	0.90	0.19	0.17	0.41	0.40	0.32
			3/4	3.19	0.94	0.59	0.36	0.79	0.88	0.16	0.14	0.41	0.38	0.32
			1/2	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.	†A37 R=1/4	2 x 1 1/2	1/4	2.77	0.81	0.32	0.24	0.62	0.66	0.15	0.14	0.43	0.41	0.32
			3/8	2.12	0.62	0.25	0.18	0.63	0.64	0.12	0.11	0.44	0.39	0.32
			1/2	1.44	0.42	0.17	0.13	0.64	0.62	0.09	0.08	0.45	0.37	0.32

\*Special gage.

†Bar size.

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

UNEQUAL ANGLES

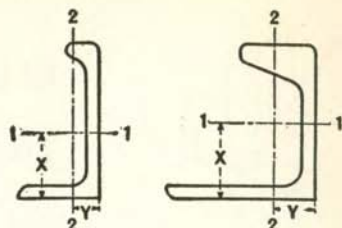
BULB ANGLES

TEES & ZEES



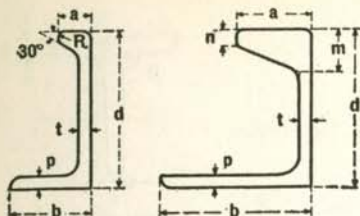
# BULB ANGLES

## PROPERTIES OF SECTIONS



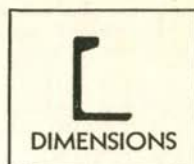
District Rolled	Section Index and Nominal Size	Thickness		Weight per Foot	Area of Section	Axis 1-1				Axis 2-2			
		Web	Flange			I	S	r	x	I	S	r	y
		In.	In.			In. <sup>4</sup>	In. <sup>3</sup>	In.	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.	In.
<b>SHIP BUILDING</b>													
P.	BA 313 10 x 3½	.64	.61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



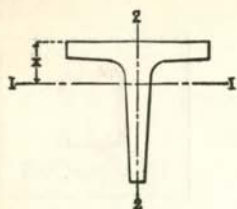
# BULB ANGLES

## 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.
<b>SHIP BUILDING</b>										
BA 313 10 x 3½	32.3	3¾	5/8	10	5/8	1½/16	.40	—	—	
	29.9	35/8	9/16	10	9/16	17/8	.40	—	—	
	27.2	35/8	1/2	10	1/2	19/16	.40	—	—	
	24.8	3½	7/16	10	7/16	1¾	.40	—	—	
	22.4	3½	7/16	10	3/8	1½/16	.40	—	—	
BA 312 9 x 3½	23.8	35/8	7/16	9	1/2	1½/16	.36	—	—	
	21.6	3½	7/16	9	7/16	15/8	.36	—	—	
	19.4	3½	3/8	9	3/8	19/16	.36	—	—	
BA 311 8 x 3½	24.3	35/8	9/16	8	9/16	15/8	.32	—	—	
	20.0	3½	7/16	8	7/16	1½	.32	—	—	
	16.0	3½	3/8	8	3/8	19/8	.32	—	—	
BA 309 7 x 3½	21.1	35/8	9/16	7	9/16	1½	.28	—	—	
	17.1	3½	7/16	7	7/16	19/8	.28	—	—	
	13.6	3½	3/8	7	9/16	1¼	.28	—	—	
BA 307 6 x 3½	17.4	3¾	1/2	6	1/2	15/16	.24	—	—	
	13.9	35/8	3/8	6	3/8	13/16	.24	—	—	
	10.7	3½	3/16	6	¼	1½/16	.24	—	—	
BA 303 5 x 2½	9.8	2½	5/16	5	3/8	1	.20	—	—	
	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	—	—	
<b>CAR BUILDING</b>										
BA 125 5 x 4½	19.1	4½	7/16	5	7/16	2¼	—	19/32	9/16	
BA 124 5 x 3½	13.0	3½	3/8	5	3/8	1½	—	1½/16	7/16	
BA 122 4 x 3½	14.3	3½	1/2	4	1/2	1½	—	15/16	1/2	
BA 123 4 x 3½	11.9	3½	3/8	4	3/8	1½	—	29/32	1/2	



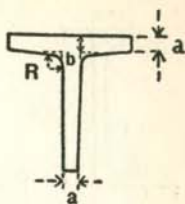


PROPERTIES

# TEES

## EQUAL AND UNEQUAL

### PROPERTIES AND DIMENSIONS OF SECTIONS



DIMENSIONS

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

### EQUAL TEES

P.C.	T 1	4	4	1/2	9/16	1/2	13.5	3.97	5.7	2.0	1.20	1.18	2.8	1.4	0.84
P.C.	T 8	3	3	3/8	7/16	5/16	7.8	2.27	1.8	0.86	0.90	0.88	0.90	0.60	0.63
P.C.	T 9	3	3	5/16	3/8	5/16	6.7	1.95	1.6	0.74	0.90	0.86	0.75	0.50	0.62
P.C.	†T 10	2 1/2	2 1/2	3/8	7/16	1/4	6.4	1.87	1.0	0.59	0.74	0.76	0.52	0.42	0.53
P.C.	†T 11	2 1/2	2 1/2	5/16	3/8	1/4	5.5	1.60	0.88	0.50	0.74	0.74	0.44	0.35	0.52
P.C.	†T 13	2 1/4	2 1/4	1/4	5/16	1/4	4.1	1.19	0.52	0.32	0.66	0.65	0.25	0.22	0.46
P.C.	†T 14	2	2	5/16	3/8	1/4	4.4	1.26	0.44	0.31	0.59	0.61	0.23	0.23	0.43
P.C.	†T 15	2	2	1/4	5/16	1/4	3.62	1.05	0.37	0.26	0.59	0.59	0.18	0.18	0.42

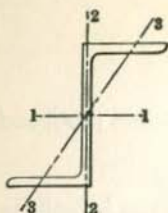
### UNEQUAL TEES

P.	T 50	5	3 1/8	* 1/2, 13/32	* 9/16, 5/8	3/8	13.6	4.00	2.7	1.1	0.82	0.76	5.2	2.1	1.14
		5	3	3/8, 13/32	7/16, 5/8	3/8	11.5	3.37	2.4	1.1	0.84	0.76	3.9	1.6	1.10
P.	T 60	4	4 1/2	3/8	7/16	1/2	11.2	3.29	6.3	2.0	1.39	1.31	2.1	1.1	0.80
P.C.	T 61	4	3	3/8	7/16	3/8	9.2	2.68	2.0	0.90	0.86	0.78	2.1	1.1	0.89
P.	T 62	4	2 1/2	3/8	7/16	3/8	8.5	2.48	1.2	0.62	0.69	0.62	2.1	1.0	0.92
P.C.	T 79	3	2 1/2	5/16	3/8	5/16	6.1	1.77	0.94	0.52	0.73	0.68	0.75	0.50	0.65

†Bar Size.

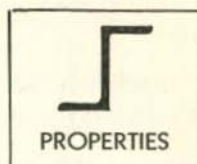
\*Where two dimensions are shown, the first is for the flange, the second for the stem.

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



# ZEES

## PROPERTIES AND DIMENSIONS OF SECTIONS



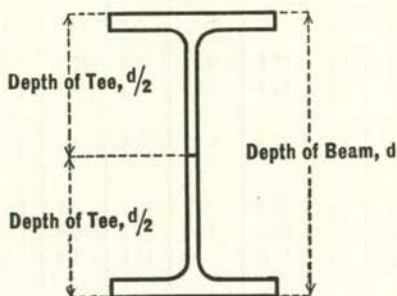
District Rolled	Section Index	Size			Weight per Foot	Area of Section	Axis 1-1			Axis 2-2			Axis 3-3
		Depth	Flange	Thick-ness			I	S	r	I	S	r	r min.
		In.	In.	In.			Lbs.	In. <sup>4</sup>	In. <sup>3</sup>	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
P.C.	Z 1	6 $\frac{1}{8}$	3 $\frac{5}{8}$	$\frac{1}{2}$	21.1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

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

## STRUCTURAL TEES

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" . . . . .	$\frac{1}{8}"$
Beams or Channels 6" to 15" incl. . . . .	$\frac{3}{16}"$
Beams or Channels over 15" to 20" . . . . .	$\frac{1}{4}"$
Beams over 20" to 24" . . . . .	$\frac{5}{16}"$
Beams over 24" . . . . .	$\frac{3}{8}"$

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.

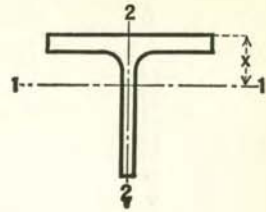
These sections should be ordered either in pairs or so as to utilize all of the beam or channel from which they are produced.

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

# STRUCTURAL TEES

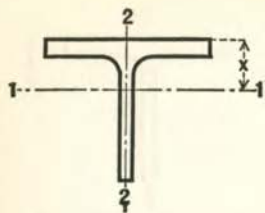
CUT FROM  
CB SECTIONS

PROPERTIES OF SECTIONS



District Produced	Section Index	Weight per Foot	Depth of Tee	Flange		Stem Thickness	Area of Section	Axis 1-1				Axis 2-2		
				Width	Thickness			I	S	r	x	I	S	r
				Lbs.	In.			In.	In.	In.	In. <sup>2</sup>	In. <sup>4</sup>	In. <sup>2</sup>	In.
P.	T18 WF TCB 18 (CB 362)	150	18.36	16.655	1.680	.945	44.09	1222.7	85.9	5.27	4.13	612.6	73.6	3.73
		140	18.25	16.595	1.570	.885	41.16	1133.3	79.9	5.25	4.07	563.7	67.9	3.70
		130	18.12	16.555	1.440	.845	38.28	1059.2	75.4	5.26	4.07	510.3	61.6	3.65
		122.5	18.03	16.512	1.350	.802	36.01	994.3	71.1	5.25	4.04	472.3	57.2	3.62
		115	17.94	16.475	1.260	.765	33.86	935.8	67.2	5.26	4.02	435.5	52.9	3.59
P.	T18 WF TCB 18 (CB 361)	97	18.24	12.117	1.260	.770	28.56	904.0	67.3	5.63	4.81	177.7	29.3	2.49
		91	18.16	12.072	1.180	.725	26.77	844.0	63.0	5.61	4.77	163.9	27.1	2.47
		85	18.08	12.027	1.100	.680	24.99	784.7	58.8	5.60	4.74	150.3	25.0	2.45
		80	18.00	12.000	1.020	.653	23.54	741.0	56.0	5.61	4.76	137.7	22.9	2.42
		75	17.92	11.972	.940	.625	22.08	696.7	53.0	5.62	4.79	125.2	20.9	2.38
P.	T16 WF TCB16.5 (CB 332)	120	16.75	15.865	1.400	.830	35.26	822.5	63.2	4.83	3.73	437.2	55.1	3.52
		110	16.63	15.810	1.275	.775	32.36	754.1	58.4	4.83	3.71	391.2	49.5	3.48
		100	16.50	15.750	1.150	.715	29.40	683.6	53.3	4.82	3.67	345.8	43.9	3.43
P.	T16 WF TCB16.5 (CB 331)	76	16.75	11.565	1.055	.635	22.35	591.9	47.4	5.15	4.26	128.1	22.1	2.39
		70.5	16.66	11.535	.960	.605	20.76	551.8	44.7	5.16	4.30	114.9	19.9	2.35
		65	16.55	11.510	.855	.580	19.13	513.0	42.1	5.18	4.37	100.7	17.5	2.29
P.	T15 WF TCB 15 (CB 302)	105	15.19	15.105	1.315	.775	30.89	578.0	48.7	4.33	3.31	354.0	46.9	3.38
		95	15.06	15.040	1.185	.710	27.95	520.4	44.1	4.31	3.26	312.3	41.5	3.34
		86	14.94	14.985	1.065	.655	25.32	471.0	40.2	4.31	3.23	275.1	36.7	3.30
P.	T15 WF TCB 15 (CB 301)	66	15.15	10.551	1.000	.615	19.41	420.7	37.4	4.66	3.90	92.5	17.5	2.18
		62	15.08	10.521	.930	.585	18.22	394.8	35.3	4.65	3.90	84.8	16.1	2.16
		58	15.00	10.500	.850	.564	17.07	371.8	33.6	4.67	3.94	76.6	14.6	2.12
		54	14.91	10.484	.760	.548	15.88	349.5	32.1	4.69	4.03	67.6	12.9	2.06
P.	T13 WF TCB13.5 (CB 272)	88.5	13.655	14.090	1.190	.725	26.05	391.8	36.7	3.88	2.97	259.4	36.8	3.16
		80	13.54	14.023	1.075	.658	23.52	351.4	33.1	3.87	2.91	229.0	32.7	3.12
		72.5	13.44	13.965	.975	.600	21.34	316.3	29.9	3.85	2.85	203.5	29.1	3.09
P.	T13 WF TCB13.5 (CB 271)	57	13.64	10.070	.932	.570	16.77	288.9	28.3	4.15	3.42	74.8	14.9	2.11
		51	13.535	10.018	.827	.518	15.01	257.7	25.4	4.14	3.39	64.8	12.9	2.08
		47	13.455	9.990	.747	.490	13.83	238.5	23.7	4.15	3.41	57.5	11.2	2.04
P.	T12 WF TCB 12 (CB 243)	80	12.36	14.091	1.135	.656	23.54	271.6	27.6	3.40	2.51	246.3	35.0	3.23
		72.5	12.245	14.043	1.020	.608	21.31	246.2	25.2	3.40	2.48	217.1	30.9	3.19
		65	12.13	14.000	.900	.565	19.13	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	Depth of Tee	Flange		Stem Thickness	Area of Section	Axis 1-1				Axis 2-2		
				Width	Thick-ness			I	S	x	x	I	S	x
				In.	In.			In. <sup>4</sup>	In. <sup>3</sup>	In.	In.	In. <sup>4</sup>	In. <sup>3</sup>	In.
P.	T12 WF	60	12.115	12.088	.930	.556	17.64	213.6	22.4	3.48	2.62	127.0	21.0	2.68
	TCB 12	55	12.08	12.042	.855	.510	16.18	195.2	20.5	3.47	2.57	114.5	19.0	2.66
	(CB 242)	50	12.00	12.000	.775	.468	14.71	176.7	18.7	3.46	2.54	101.8	17.0	2.63
P.	T12 WF	47	12.145	9.061	.872	.516	13.81	185.9	20.3	3.67	2.99	51.1	11.3	1.92
	TCB 12	42	12.045	9.015	.772	.470	12.35	165.9	18.3	3.66	2.97	44.2	9.80	1.89
	(CB 241)	38	11.955	8.985	.682	.440	11.18	151.1	16.9	3.68	3.00	38.3	8.51	1.85
P.	T10 WF	71	10.73	13.132	1.095	.659	20.89	177.3	20.8	2.91	2.18	193.0	29.4	3.04
	TCB10.5	63.5	10.62	13.061	.985	.588	18.67	155.8	18.3	2.89	2.11	169.3	25.9	3.01
(CB 213)	56	10.50	13.000	.865	.527	16.48	136.4	16.2	2.88	2.06	144.8	22.3	2.96	
P.	T10 WF	48	10.57	9.038	.935	.575	14.11	137.1	17.1	3.11	2.55	54.7	12.1	1.97
	TCB10.5	41	10.43	8.962	.795	.499	12.05	115.4	14.5	3.09	2.48	44.8	10.0	1.93
(CB 212)														
P.	T10 WF	36.5	10.62	8.295	.740	.455	10.73	110.2	13.7	3.21	2.60	33.1	7.98	1.76
	TCB10.5	34	10.57	8.270	.685	.430	10.01	102.8	12.9	3.20	2.59	30.2	7.30	1.74
	(CB 211)	31	10.495	8.240	.615	.400	9.12	93.7	11.9	3.21	2.59	26.6	6.45	1.71
P.	T9 WF	57	9.24	11.833	.991	.595	16.77	102.6	13.9	2.47	1.85	127.8	21.6	2.76
	TCB 9	52.5	9.16	11.792	.911	.554	15.45	93.9	12.8	2.47	1.82	115.5	19.6	2.73
	(CB 183)	48	9.08	11.750	.831	.512	14.13	85.3	11.7	2.46	1.78	103.4	17.6	2.71
P.	T9 WF	42.5	9.16	8.838	.911	.526	12.49	84.4	11.9	2.60	2.05	49.7	11.3	2.00
	TCB 9	38.5	9.08	8.787	.831	.475	11.32	75.3	10.6	2.58	1.99	44.3	10.1	1.98
	(CB 182)	35	9.00	8.750	.751	.438	10.28	68.1	9.67	2.57	1.96	39.2	8.97	1.95
		32	8.935	8.715	.686	.403	9.40	61.8	8.82	2.56	1.93	35.2	8.07	1.93
P.	T9 WF	30	9.125	7.558	.695	.416	8.82	64.8	9.32	2.71	2.17	23.5	6.23	1.63
	TCB 9	27.5	9.06	7.532	.630	.390	8.09	59.6	8.63	2.71	2.16	21.0	5.57	1.61
	(CB 181)	25	9.00	7.500	.570	.358	7.35	53.9	7.85	2.71	2.14	18.6	4.96	1.59
P.	T8 WF	48	8.16	11.533	.875	.535	14.13	64.7	9.82	2.14	1.57	103.6	18.0	2.71
	TCB 8	44	8.08	11.502	.795	.504	12.95	59.5	9.11	2.14	1.55	92.6	16.1	2.67
(CB 163)														
P.	T8 WF	39	8.16	8.586	.875	.529	11.46	60.0	9.45	2.28	1.81	43.8	10.2	1.95
	TCB 8	35.5	8.08	8.543	.795	.486	10.43	54.0	8.57	2.28	1.77	38.9	9.11	1.93
	(CB 162)	32	8.00	8.500	.715	.443	9.40	48.3	7.71	2.27	1.73	34.2	8.05	1.91
		29	7.93	8.464	.645	.407	8.52	43.6	7.00	2.26	1.70	30.2	7.14	1.88
P.	T8 WF	25	8.125	7.073	.628	.380	7.35	42.2	6.77	2.40	1.89	17.4	4.92	1.54
	TCB 8	22.5	8.06	7.039	.563	.346	6.62	37.8	6.10	2.39	1.87	15.2	4.33	1.52
	(CB 161)	20	8.00	7.000	.503	.307	5.88	33.2	5.37	2.37	1.82	13.3	3.79	1.50
		18	7.93	6.992	.428	.299	5.30	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.

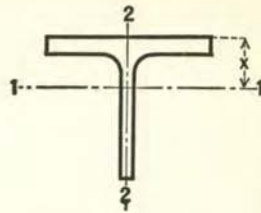
For key to symbols in first column, refer to page 3.

# STRUCTURAL TEES

CUT FROM

CB SECTIONS

PROPERTIES OF SECTIONS



District Produced	Section Index	Weight per Foot	Depth of Tee	Flange		Stem Thickness	Area of Section	Axis 1-1				Axis 2-2			
				Width	Thick-ness			I	S	r	x	I	S	r	
															Lbs.
P.	T 7 WF TCB 7 (CB 146)	105.5	7.875	15.800	1.563	.980	31.04	102.2	16.2	1.81	1.57	514.3	65.1	4.07	
		101	7.815	15.750	1.503	.930	29.70	95.7	15.2	1.80	1.53	489.8	62.2	4.06	
		95.5	7.75	15.710	1.438	.890	28.36	90.1	14.4	1.78	1.49	465.1	59.2	4.05	
		92	7.69	15.660	1.378	.840	27.04	83.9	13.4	1.76	1.45	441.4	56.4	4.04	
		88	7.625	15.640	1.313	.820	25.87	80.2	12.9	1.76	1.42	418.9	53.6	4.02	
		83.5	7.56	15.600	1.248	.780	24.55	75.0	12.1	1.75	1.39	395.1	50.7	4.01	
		79	7.50	15.550	1.188	.730	23.24	69.3	11.3	1.73	1.34	372.5	47.9	4.00	
		75	7.44	15.515	1.128	.695	22.04	64.9	10.6	1.72	1.31	351.3	45.3	3.99	
	71	7.375	15.500	1.063	.680	20.92	62.1	10.2	1.72	1.29	330.1	42.6	3.97		
P.	T 7 WF TCB 7 (CB 145)	68	7.375	14.740	1.063	.660	19.99	60.0	9.89	1.73	1.31	283.9	38.5	3.77	
		63.5	7.31	14.690	.998	.610	18.67	54.7	9.04	1.71	1.26	263.8	35.9	3.76	
		59.5	7.25	14.650	.938	.570	17.49	50.4	8.36	1.70	1.22	245.9	33.6	3.75	
		55.5	7.185	14.620	.873	.540	16.33	46.7	7.80	1.69	1.19	227.4	31.1	3.73	
		51.5	7.125	14.575	.813	.495	15.13	42.4	7.10	1.67	1.15	209.9	28.8	3.72	
		47.5	7.06	14.545	.748	.465	13.97	39.1	6.58	1.67	1.12	191.9	26.4	3.71	
	43.5	7.00	14.500	.688	.420	12.78	34.9	5.88	1.65	1.08	174.8	24.1	3.70		
P.	T 7 WF TCB 7 (CB 144)	42	7.09	12.023	.778	.451	12.36	37.4	6.36	1.74	1.21	112.7	18.8	3.02	
		39	7.03	12.000	.718	.428	11.47	34.8	5.96	1.74	1.19	103.5	17.2	3.00	
P.	T 7 WF TCB 7 (CB 143)	37	7.095	10.072	.783	.450	10.88	36.1	6.26	1.82	1.32	66.7	13.3	2.48	
		34	7.03	10.040	.718	.418	10.00	33.0	5.74	1.81	1.29	60.6	12.1	2.46	
		30.5	6.955	10.000	.643	.378	8.97	29.2	5.13	1.80	1.25	53.6	10.7	2.45	
P.	T 7 WF TCB 7 (CB 142)	26.5	6.97	8.062	.658	.370	7.79	27.7	4.95	1.88	1.38	28.8	7.14	1.92	
		24	6.905	8.031	.593	.339	7.06	24.9	4.49	1.88	1.35	25.6	6.38	1.91	
		21.5	6.84	8.000	.528	.308	6.32	22.2	4.02	1.87	1.33	22.6	5.64	1.89	
P.	T 7 WF TCB 7 (CB 141)	19	7.06	6.776	.513	.313	5.59	23.5	4.27	2.05	1.56	12.3	3.64	1.49	
		17	7.00	6.750	.453	.287	5.00	21.1	3.86	2.05	1.55	10.6	3.15	1.46	
		15	6.93	6.733	.383	.270	4.41	19.0	3.55	2.08	1.59	8.77	2.61	1.41	
P.	T 6 WF TCB 6 (CB 124)	80.5	6.94	12.515	1.486	.905	23.69	62.6	11.5	1.63	1.47	243.1	38.9	3.20	
		66.5	6.69	12.365	1.236	.755	19.56	48.4	9.03	1.57	1.33	195.0	31.5	3.16	
		60	6.56	12.320	1.106	.710	17.65	43.4	8.22	1.57	1.28	172.5	28.0	3.13	
		53	6.44	12.230	.986	.620	15.59	36.7	7.01	1.53	1.20	150.4	24.6	3.11	
		49.5	6.375	12.190	.921	.580	14.54	33.7	6.46	1.52	1.16	139.1	22.8	3.09	
		46	6.31	12.155	.856	.545	13.53	31.0	5.98	1.51	1.13	128.2	21.1	3.08	
		42.5	6.25	12.105	.796	.495	12.49	27.8	5.38	1.49	1.08	117.7	19.5	3.07	
		39.5	6.19	12.080	.736	.470	11.61	25.8	5.02	1.48	1.06	108.2	17.9	3.05	
		36	6.125	12.040	.671	.430	10.58	23.1	4.53	1.48	1.02	97.6	16.2	3.04	
			32.5	6.06	12.000	.606	.390	9.55	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.

CAR SECTIONS

CRANE RAILS

CORRUGATED SHEETS

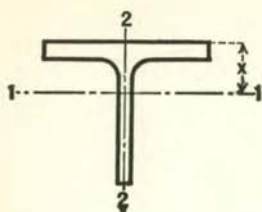
PILING

PLATES

FLOOR PLATES

INDEX

PRODUCTS & OFFICES



# STRUCTURAL TEES

CUT FROM

CB SECTIONS

PROPERTIES OF SECTIONS

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

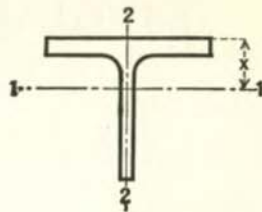
Section Index in parentheses refers to beam from which tee is cut.

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

# STRUCTURAL TEES

CUT FROM  
CB SECTIONS

## PROPERTIES OF SECTIONS



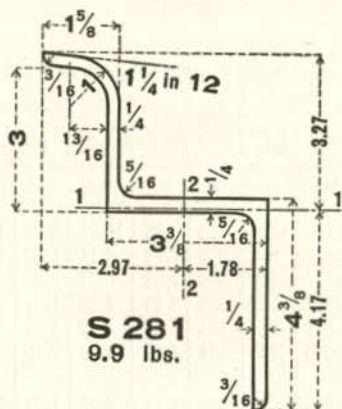
District Produced	Section Index	Weight per Foot	Depth of Tee	Flange		Stem Thickness	Area of Section	Axis 1-1				Axis 2-2		
				Width	Thickness			I	S	r	x	I	S	r
P.	T 4 WF TCB 4 (CB 83)	33.5	4.50	8.287	.933	.575	9.85	10.94	3.07	1.05	.94	44.3	10.7	2.12
		29	4.375	8.222	.808	.510	8.53	9.11	2.60	1.03	.87	37.50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

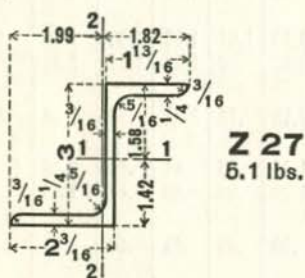


# MISCELLANEOUS CAR BUILDING SECTIONS

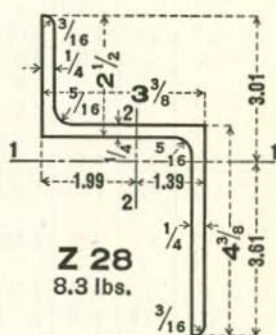
W SIDE PLATE SECTION



SIDE POST SECTION



SIDE PLATE SECTION

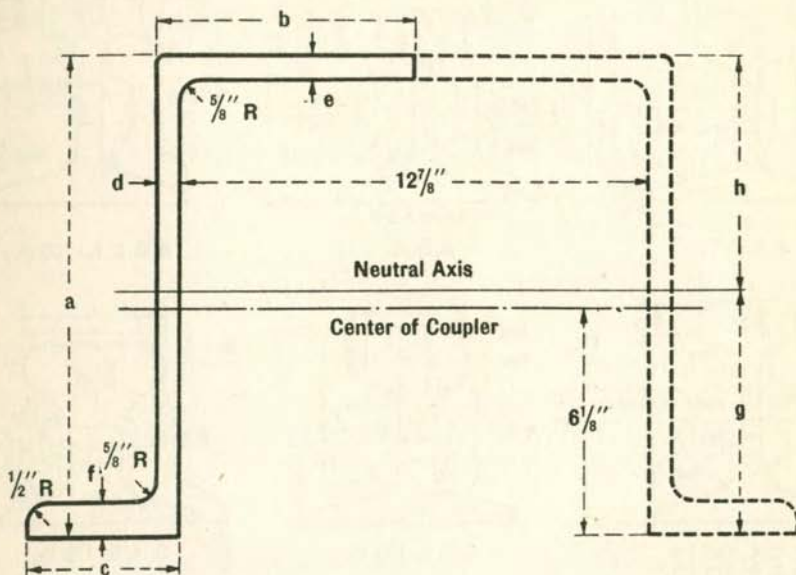


District Rolled	Section Index	Depth in.	Weight per Foot Lbs.	Area in. <sup>2</sup>	Axis 1-1		Axis 2-2	
					I	S	I	S
					in. <sup>4</sup>	in. <sup>2</sup>	in. <sup>4</sup>	in. <sup>2</sup>
P.C.	S 281	7 <sup>7</sup> / <sub>16</sub>	9.9	2.89	11.26	2.70	6.94	2.34
P.C.B.	Z 27	3	5.10	1.50	2.13	1.34	1.16	0.58
P.C.	Z 28	3 <sup>3</sup> / <sub>8</sub>	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. <sup>2</sup>	In.	In.	In.	In.	In.	In.
P.C.	Z-26	51.2	15.06	13 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>32</sub>	4 <sup>3</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>32</sub>	19 <sup>1</sup> / <sub>32</sub>	15 <sup>1</sup> / <sub>16</sub>
		41.2	12.12	12 <sup>15</sup> / <sub>16</sub>	6 <sup>29</sup> / <sub>32</sub>	4 <sup>1</sup> / <sub>16</sub>	15 <sup>1</sup> / <sub>32</sub>	15 <sup>1</sup> / <sub>32</sub>	13 <sup>1</sup> / <sub>16</sub>
		36.2	10.65	12 <sup>7</sup> / <sub>8</sub>	6 <sup>27</sup> / <sub>32</sub>	4	13 <sup>1</sup> / <sub>32</sub>	13 <sup>1</sup> / <sub>32</sub>	3 <sup>1</sup> / <sub>4</sub>
		31.3	9.20	12 <sup>13</sup> / <sub>16</sub>	6 <sup>25</sup> / <sub>32</sub>	3 <sup>15</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>32</sub>	11 <sup>1</sup> / <sub>32</sub>	11 <sup>1</sup> / <sub>16</sub>

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. <sup>3</sup>	In. <sup>3</sup>	In. <sup>3</sup>		
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

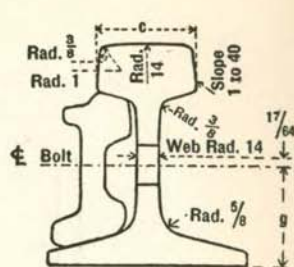


A.S.C.E.

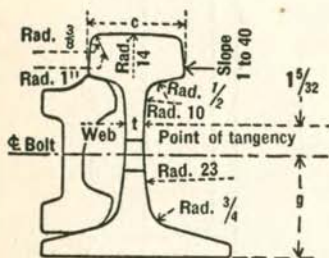


Series A & B

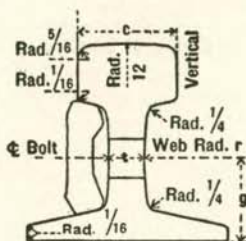
A.R.A.



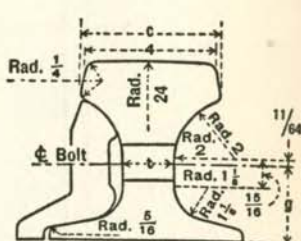
A.R.E.A.-100 lb.



A.R.E.A.-131 LB.  
A.R.E.A.-112 LB.\*



C. I. S. 105 lb.



C. I. S. 175 lb.

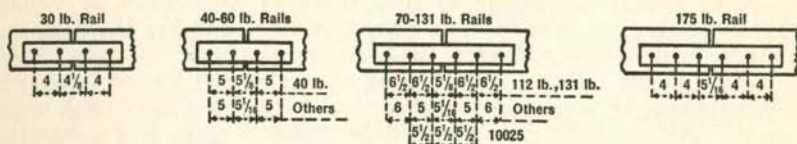
District Rolled	Weight per Yd. and Type	Section Index	Dimensions, Inches											Properties			
			Depth	Base Width	Minimum Web	Web Radius	Head Width	Head Depth	Web Depth	Base Thickness		Slope	Gage	Gross Area	Axis x-x		
										m	n				I	S	N.A. from base y
d	b	t	r	c	e	h	m	n	s	g	in. <sup>2</sup>	in. <sup>4</sup>	in. <sup>3</sup>	in.			
P.C.B.	30 lb. A.S.C.E.	3040	3 3/8	3 3/8	2 1/64	12	1 11/16	7/8	1 23/32	1 7/32	1 1/64	13°	1 25/64	3.00	4.1	2.5	1.52
P.C.	40 lb. A.S.C.E.	4040	3 1/2	3 1/2	2 5/64	12	1 7/8	1 1/64	1 55/64	9/8	7/32	13°	1 7 1/128	3.94	6.6	3.6	1.68
P.C.B.	60 lb. A.S.C.E.	6040	4 1/4	4 1/4	3 1/64	12	2 3/8	1 7/32	2 17/64	4 9/64	9/32	13°	1 11 5/128	5.93	14.6	6.6	2.05
P.C.	70 lb. A.S.C.E.	7040	4 5/8	4 5/8	3 3/64	12	2 7/16	1 11/32	2 15/64	1 3/16	9/32	13°	2 3/64	6.81	19.7	8.2	2.22
P.C.B.	80 lb. A.S.C.E.	8040	5	5	3 5/64	12	2 1/2	1 1/2	2 5/8	7/8	1 9/64	13°	2 3/16	7.86	26.4	10.1	2.38
P.C.B.	85 lb. A.S.C.E.	8540	5 3/16	5 3/16	9/16	12	2 9/16	1 35/64	2 3/4	5 7/64	1 9/64	13°	2 17/64	8.33	30.1	11.1	2.47
P.C.B.	90 lb. A.R.A.-A.	9020	5 5/8	5 1/8	9/16	14	2 9/16	1 15/32	3 3/32	1	2 3/64	14°	2 37/64	8.82	38.7	12.6	2.54
P.C.	90 lb. A.S.C.E.	9040	5 5/8	5 5/8	9/16	12	2 5/8	1 19/32	2 55/64	5 9/64	1 9/64	13°	2 45/128	8.83	34.4	12.2	2.55
P.C.	100 lb. A.R.A.-A.	10020	6	5 1/2	9/16	14	2 3/4	1 9/16	3 3/8	1 1/16	3/8	14°	2 3/4	9.84	48.9	15.0	2.75
C.B.	100 lb. A.R.E.A.	10025	6	5 3/8	9/16	14	2 11/16	1 21/32	3 3/32	1 1/16	2 5/64	14°	2 45/64	9.95	49.0	15.1	2.75
P.C.B.	100 lb. A.R.A.-B.	10030	5 1/2	5 5/8	9/16	12	2 21/64	1 45/64	2 55/64	1 5/64	3 1/64	13°	2 65/128	9.85	41.3	13.7	2.63
P.C.	100 lb. A.S.C.E.	10040	5 3/4	5 3/4	9/16	12	2 3/4	1 45/64	3 5/64	3 1/32	5/16	13°	2 65/128	9.84	44.0	14.6	2.73
P.C.	105 lb. C.I.S.	10551	5 5/8	5 1/8	15/16	12	2 9/16	1 25/32	2 13/32	1	1 13/32	13°	2 13/64	10.30	34.4	12.4	2.41
P.C.B.	112 lb. A.R.E.A.	11228	6 5/8	5 1/2	1 9/32	12	2 23/32	1 11/16	3 13/16	1 3/8	7/16	14°	2 7/8	11.01	65.5	18.1	3.00
P.C.B.	131 lb. A.R.E.A.	13128	7 1/8	6	2 1/32	Sketch	3	1 3/4	4 3/16	1 3/16	7/16	14°	3 3/32	12.82	88.5	22.6	3.20
P.	175 lb. C.I.S.	175-418	6	6	1 1/2	Sketch	4 1/4	1 3/4	3 7/64	1 9/64	1/2	12°	2 21/32	17.15	71.5	23.7	3.02

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

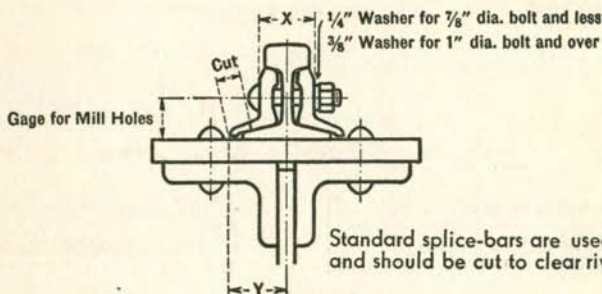
\*For A.R.E.A. 112 Lb, Rad. 3/4" is 5/8"; Rad. 1/2" is 3/8"; P.T. Dimension 1 5/32" is 7/8".

Other Dimensions Same as for A.R.E.A. 131 Lb.

# CRANE RAIL SPLICES



Rail gage for splice bars shown on page 42.



For New Work and Major Repairs the following Rail Sections are recommended—

### Pittsburgh District

4040, 6040, 8540, 10551, 11228, 13128 and 175-418.

### Chicago District

4040, 6040, 8540, 10030, 10551, 11228, 13128 and 175-418.

### Birmingham District

3040, 6040, 8540, 9020, 10025, 10551, 11228, 13128 and 175-418.

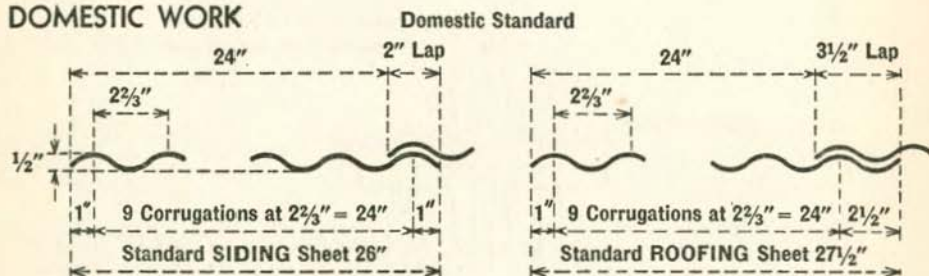
RAIL		JOINT BAR				BOLTS		
Section	Section	Lg.	Holes	Y	Cut	Diam.	X	Lg.
3040	S 3040	16 1/8	1 1/16 x 3 1/32	2	9/16	5/8	1 1/16	2 3/4
4040	S 4040	20	1 3/16 x 1 1/8	2 3/16	9/16	3/4	1 15/16	3 1/4
6040	S 6040	24	1 3/16 x 1 1/8	2 1/16	1 1/16	3/4	2 19/32	3 7/8
7040	S 7040	34	1 3/16 x 1 1/8	2 15/16	3/4	3/4	2 27/32	4 1/8
8040	S 8040	34	1 5/16 x 1 1/4	3 3/16	1 3/16	7/8	3 1/16	4 1/2
8540	S 8540	34	1 5/16 x 1 1/4	3 11/32	7/8	7/8	3 5/32	4 1/2
9020	S 9020	34	1 1/16 x 1 13/32	3 19/16	1 3/8	1	3 5/16	4 7/8
9040	S 9040	34	1 1/16 x 1 13/32	3 7/16	7/8	1	3 1/4	4 3/4
10020	S 10020	34	1 1/16 x 1 13/32	4 1/16	1 1/16	1	3 7/16	4 7/8
10025	Confer	..	.....	.....	.....	..	..	..
10030	Confer	..	.....	.....	.....	..	..	..
10040	S 10040	34	1 1/16 x 1 13/32	3 5/8	7/8	1	3 7/16	4 7/8
10551	S 7040	34	1 5/16 x 1 1/4	.....	.....	7/8	3 5/32	4 1/2
11228	Confer	..	.....	.....	.....	..	..	..
13128	Confer	..	.....	.....	.....	..	..	..
175-418	418	26	1 3/16	4 1/32	1 1/4	1 1/8	4 3/4	6 1/2

# 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



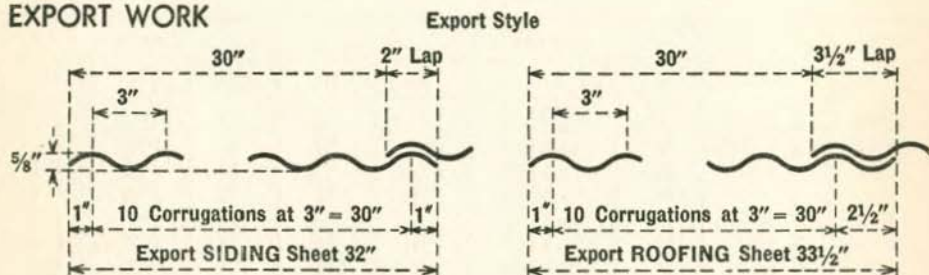
Nominal  $2\frac{1}{2}"$  widths of corrugation (actual  $2\frac{2}{3}"$ ) are preferred for domestic work.

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 27 1/2" wide after corrugating with one edge turned up and the other down. They are laid with 1/2 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



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 33 1/2" 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

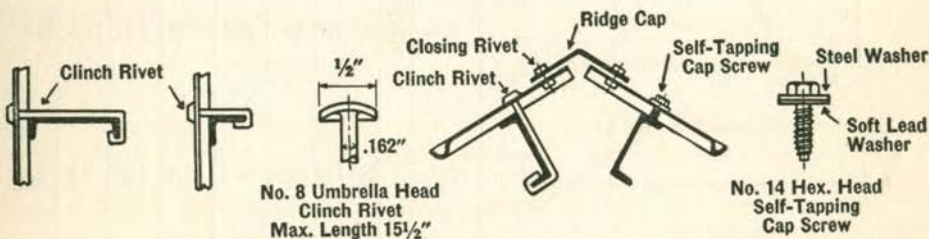
Black				Galvanized				Maximum Span Between Supports	
Manufacturers Standard Gage			Corrugated Pounds per Sq. Ft.	Galvanized Sheet Gage			Corrugated Pounds per Sq. Ft.		
Gage No.	Pounds per Sq. Ft.	Approx. Thick. Inches	32" & 33½" Wide	Gage No.	Pounds per Sq. Ft.	Approx. Thick. Inches	32" & 33½" Wide	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:

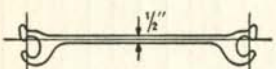
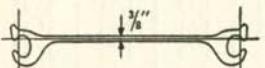
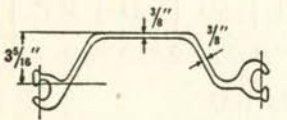
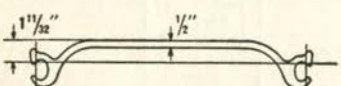
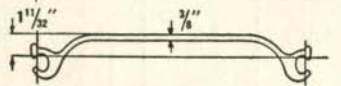
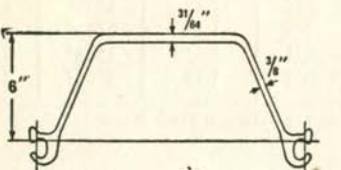
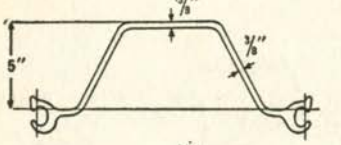
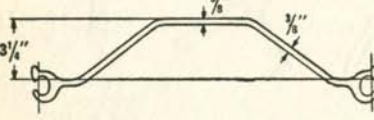
Roofing = net area + end laps + 15% for side laps of 1½ corrugations.

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		Web Thickness	Section Modulus		
				Per Foot	Per Square Foot of Wall		Per Pile	Per Foot of Wall	
				In.	Lbs.	Lbs.	In.	In. <sup>3</sup>	In. <sup>3</sup>
	C.	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	
INTERLOCK WITH EACH OTHER									
	P.	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 3/8	36.0	22.0	3/8	8.8	5.4	
INTERLOCK WITH EACH OTHER									

For key to symbols in first column, refer to page 3.  
 \*Expect to be available about January 1, 1947.

# STEEL SHEET PILING SECTIONS—Z PILES

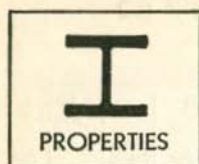
Profile	District Rolled	Section Index	Driving Distance per Pile	Weight			Section Modulus	
				Per Foot	Per Square Foot of Wall	Web Thickness	Per Pile	Per Foot of Wall
				In.	Lbs.	Lbs.	In.	In. <sup>3</sup>
	P.	MZ 38	18	57.0	38.0	3/8	70.2	46.8
INTERLOCK WITH EACH OTHER								
	P.	MZ 32	21	56.0	32.0	3/8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

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.

\*Expect to be available about January 1, 1947.

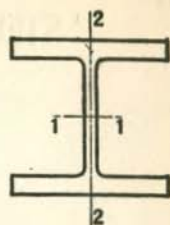




# BEARING PILES

## WIDE FLANGE

## CBP SECTIONS



### PROPERTIES OF SECTIONS

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

### I-BEAM-LOK BRIDGE FLOORING

I-Beam-Lok for open floors is available in two types, one to be laid parallel and the other transverse to traffic. Both types are 5" in depth and weigh approximately 19 pounds per square foot. These floors can be used on 4' 0" spans for H-20 loading and 5' 0" spans for H-15 loading.

The concrete filled armored type I-Beam-Lok is available in 4 1/4" and 3" depths. The 4 1/4" floor weighs 57.5 pounds per square foot installed complete with concrete and can be used on stringer spacings up to 7' 0" for H-20 loading. The 3" floor weighs 46.6 pounds per square foot installed and can be used on stringer spacings up to 5' 0" for H-20 loading. Integral steel form strips are built in at the factory.

### T-TYPE SIDEWALK FLOORING

These concrete filled sidewalk units are fabricated using 2" tees, and are available in light and heavy types. The light type has tees spaced on 6" centers and the heavy on 4" centers. They weigh 29.2 and 32.9 pounds, respectively, per square foot when filled with concrete.

A booklet, "Steel Flooring," giving complete information, is available.

## PLATES

ON the following pages are shown size limitations of universal and sheared mill plates and floor plates, carbon steel—structural grade.

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



PLATES ROLLED IN PITTSBURGH DISTRICT  
EXTREME SIZES OF RECTANGULAR UNIVERSAL MILL PLATES  
OVER 2 INCHES THICK

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

Thickness Inches	WIDTHS IN INCHES												Thickness Inches												
	Over 6	Over 7	Over 8	Over 9	Over 10	Over 11	Over 13	Over 15	Over 17	Over 19	Over 21	Over 23		Over 25	Over 27	Over 29	Over 31	Over 33	Over 35	Over 37	Over 39	Over 41	Over 43	Over 45	
2 1/4	276	276	252	252	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	444
2 1/2	252	252	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	216	444
3	204	204	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	444
3 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
4 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
5 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
6 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
7 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
8 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
9 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
10 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
11 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
12 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
13 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
14 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	444

LENGTHS IN INCHES

All sizes must be cut to length.

PLATES ROLLED IN PITTSBURGH DISTRICT  
 EXTREME SIZES OF RECTANGULAR AND CIRCULAR SHEARED MILL PLATES  
 2 INCHES THICK AND UNDER

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

Thickness Inches	Weight Lbs. per Sq. Ft.	WIDTHS IN INCHES												Circles Maximum Diameter, inches	Thickness Inches												
		24	30	36	42	48	48 1/2	54	60	66	72	78	84			90	90 1/2	96	102	108	114	120	126	132	138	144	
		LENGTHS IN INCHES																									
3/16	7.65	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	122	3/16
1/4	10.20	720	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	134	1/4
5/16	12.75	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	140	5/16
3/8	15.30	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	146	3/8
7/16	17.85	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	146	7/16
1/2	20.40	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	146	1/2
9/16	22.95	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	146	9/16
5/8	25.50	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	146	5/8
11/16	28.05	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	146	11/16
3/4	30.60	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	146	3/4
13/16	33.15	495	515	520	520	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	146	13/16
7/8	35.70	495	495	520	520	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	146	7/8
1	40.80	450	465	520	520	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	146	1
1 1/8	45.90	450	465	520	520	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	146	1 1/8
1 1/4	51.00	400	450	500	520	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	146	1 1/4
1 1/2	61.20	400	420	500	520	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	146	1 1/2
1 3/4	71.40	400	420	500	520	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	146	1 3/4
2	81.60	400	420	500	520	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	146	2

\*Plates ordered over 90" wide and 3/8" thick, must be specified to thickness only. Cannot be furnished to weight per sq. ft.

PLATES ROLLED IN PITTSBURGH DISTRICT  
 EXTREME SIZES OF RECTANGULAR SHEARED MILL PLATES  
 OVER 2 INCHES THICK

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

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 114 Incl.		Over 114 to 120 Incl.	Over 120 to 126 Incl.	Over 126 to 132 Incl.	Over 132 to 144 Incl.	Over 144 to 151 Incl.
2 1/4	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	334
2 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	299
3	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	247
3 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	210
4	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	182
4 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	168
5	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	151
5 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	145
6	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	138
6 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	134
7	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
7 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
8	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
8 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
9	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
9 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
10	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
10 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
11	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
11 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
12	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
12 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
13	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
13 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
14	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
14 1/2	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126
15	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	126

LENGTHS IN INCHES

All Sizes must be gas cut to width and length.  
 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  
 OVER 2 INCHES THICK  
 CARBON STEEL—STRUCTURAL GRADE—72,000 LBS. MAXIMUM T. S.

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

LENGTHS IN INCHES

All sizes must be gas cut to length.





PLATES ROLLED IN CHICAGO DISTRICT  
 EXTREME SIZES OF RECTANGULAR SHEARED MILL PLATES,  
 OVER 2 INCHES THICK

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

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	385	360	330	310	305	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	150	140	130	120	120	5½
6	365	335	305	280	255	235	220	205	190	180	165	155	145	135	130	120	110	110	6
6½	340	310	280	255	235	215	200	185	175	165	155	145	135	130	120	110	100	100	6½
7	315	285	260	240	225	205	190	175	160	150	140	130	125	115	110	100	90	90	7
7½	295	270	245	230	215	195	180	165	150	140	130	120	115	105	100	90	80	80	7½
8	275	255	230	215	200	180	165	150	140	130	120	110	105	95	90	80	70	70	8
8½	265	245	220	205	185	170	155	140	130	120	110	100	95	85	80	70	60	60	8½
9	245	220	200	185	170	155	140	130	120	110	100	90	85	75	70	60	50	50	9
9½	230	210	190	175	160	145	135	125	115	105	95	85	80	70	65	55	45	45	9½
10	215	200	180	165	150	135	125	115	105	95	85	75	70	60	55	45	35	35	10
10½	205	185	170	155	140	130	120	110	100	90	80	70	65	55	45	35	25	25	10½
11	195	175	160	145	130	120	110	100	90	80	70	60	55	45	35	25	15	15	11
11½	185	165	150	135	125	115	105	95	85	75	65	55	50	40	30	20	10	10	11½
12	175	155	140	125	115	105	95	85	75	65	55	45	40	30	20	10	5	5	12
12½	170	150	135	120	110	100	90	80	70	60	50	40	35	25	15	5	0	0	12½
13	160	140	125	110	100	90	80	70	60	50	40	30	25	15	5	0	0	0	13
13½	155	135	120	105	95	85	75	65	55	45	35	25	20	10	5	0	0	0	13½
14	140	120	105	90	80	70	60	50	40	30	20	15	10	5	0	0	0	0	14
14½	140	120	105	90	80	70	60	50	40	30	20	15	10	5	0	0	0	0	14½
15	140	120	105	90	80	70	60	50	40	30	20	15	10	5	0	0	0	0	15

All sizes must be gas cut to width and length.  
 In general circles can be furnished in diameters equal to widths of plates shown.





PLATES ROLLED IN BIRMINGHAM DISTRICT  
 EXTREME SIZES OF RECTANGULAR SHEARED MILL PLATES  
 OVER 1½ INCHES THICK  
 CARBON STEEL—STRUCTURAL GRADE—72,000 LBS. MAXIMUM T. S.

Thickness Inches	WIDTHS IN INCHES												Thickness Inches											
	38	40	42	44	46	48	50	52	54	56	58	60		62	64	66	68	70	72	74	76	78	80	82
1¼	720	720	720	720	720	720	720	720	720	720	720	717	694	673	652	633	615	598	581	566	551	537	524	511
1½	720	720	720	720	720	720	720	720	720	720	720	717	648	628	608	589	572	555	540	525	511	497	484	473
1½	720	720	720	720	720	704	682	656	633	612	591	572	554	537	521	506	492	478	465	453	441	430	419	
1¾	720	720	720	710	681	655	630	607	586	565	546	529	512	497	482	468	455	442	430	419	408	398	388	
1¾	720	717	685	656	630	605	582	561	541	523	505	489	473	458	445	432	420	408	397	386	376	367	357	
1¾	698	666	637	610	585	563	541	521	503	485	469	454	439	426	413	401	389	378	368	358	349	340	331	
2	653	623	595	570	547	525	505	486	469	453	437	423	409	397	385	373	362	352	343	333	324	316	308	
2	576	549	525	503	482	463	445	428	413	398	385	372	360	349	338	328	318	309	301	292	284	277	270	
2½	515	491	469	449	430	413	397	382	368	355	343	331	320	310	300	291	283	275	267	259	252	246	239	
2¾	465	443	423	405	388	372	358	344	331	319	308	298	288	279	270	262	254	246	239	233	226	220	214	
3	429	409	391	374	358	344	330	318	306	296	286	276	267	258	251	243	236	229	222	216	210	205	199	
3½	373	356	341	326	313	301	289	278	269	259	250	242	235	227	220	214	208	202	196	191	186	181	177	
4	324	309	296	283	271	261	251	241	233	224	217	210	203	196	190	185	179	174	169	165	160	156	152	
4½	286	273	260	249	239	229	221	212	204	197	190	184	178	172	167	162	157	153	148	144	140	137	133	
5	262	250	237	227	218	209	201	195	187	182	176	169	164	159	153	151	146	140	137	133	129	127	124	
5½	235	224	215	205	197	189	182	175	169	163	157	152	147	142	138	134	130	126	123	119	116	113	110	
6	214	204	195	187	179	172	165	159	153	148	143	138	133	129	125	121	118	114	111	108	105	102	100	
6½	197	188	179	171	164	157	152	146	140	135	131	126	122	118	114	111	108	105	102	99	96	93	91	
7	182	173	165	158	151	145	140	134	129	125	120	116	112	109	105	102	99	96	93	90	88	86	84	
7½	169	161	153	147	140	135	129	124	120	115	111	107	104	100	97	94	91	89	86	83	81	79	77	
8	157	150	143	136	131	125	120	115	111	107	103	100	96	93	90	87	85	82	80	78	76	74	72	

For maximum circle diameters see note on page 61.

Plate widths under 38" to 16" minimum are gas cut from the above standard size plates when the total product from the standard size plate is ordered.  
 MACHINE LEVELING is limited to plate sizes shown above the heavy black line.  
 HOT BED FLATNESS is furnished for plate sizes shown below the heavy black line.  
 All sizes must be gas cut to width and length.

PLATES ROLLED IN BIRMINGHAM DISTRICT  
 EXTREME SIZES OF RECTANGULAR SHEARED MILL PLATES  
 OVER 1½ INCHES THICK  
 CARBON STEEL—STRUCTURAL GRADE—72,000 LBS. MAXIMUM T. S.

Thickness Inches	WIDTHS IN INCHES												Thickness Inches										
	84	86	88	90	92	94	96	98	100	102	104	106		108	110	112	114	116	118	120	122	124	126
1¼	498	487	476	465	454	445	435	426	417	409	401	393	385	378	371	364	357	351	345	339	333	327	322
1½	450	439	429	419	410	401	392	384	376	368	361	354	347	340	333	327	321	315	310	304	299	294	289
1¾	409	399	390	381	372	364	356	348	341	334	327	321	314	308	302	297	291	286	281	276	271	266	261
1⅝	378	369	361	353	344	337	330	322	316	309	303	297	291	285	280	275	270	265	260	255	251	247	242
1¾	349	340	332	325	317	310	303	297	291	285	279	273	268	263	257	253	248	243	239	234	230	226	222
1⅞	323	315	308	301	294	287	281	275	269	263	258	253	247	243	238	233	229	225	221	217	213	209	205
2	301	293	286	280	273	267	261	255	250	245	239	235	230	225	221	216	212	208	204	201	197	194	190
2¼	263	257	251	245	239	233	228	223	218	213	209	204	200	196	192	188	185	181	178	174	171	168	164
2½	233	227	222	216	211	206	202	197	193	188	184	180	177	173	169	166	163	160	156	153	150	148	145
2¾	209	204	198	194	189	184	180	176	172	168	164	161	157	154	151	148	144	142	139	136	134	131	128
3	194	190	185	180	176	172	168	164	161	157	153	150	147	144	141	138	135	133	130	128	125	122	119
3½	172	168	164	160	157	153	150	147	143	140	137	135	132	129	127	124	122	120	118	115	113	111	109
4	148	145	141	138	135	131	129	126	123	120	118	115	113	111	109	107	105	103	101	99	97	95	93
4½	130	126	123	120	117	115	112	109	107	105	103	101	99	97	95	93	91	89	87	85	83	81	79
5	119	118	115	111	109	107	104	101	99	97	95	93	91	89	87	85	83	81	79	77	75	73	71
5½	109	105	102	100	97	95	93	91	89	87	85	83	81	79	77	75	73	71	69	67	65	63	61
6	97	95	92	90	88	85	83	81	79	77	75	73	71	69	67	65	63	61	59	57	55	53	51
6½	89	87	85	83	81	79	77	75	73	71	69	67	65	63	61	59	57	55	53	51	49	47	45
7	81	79	77	75	73	71	69	67	65	63	61	59	57	55	53	51	49	47	45	43	41	39	37
7½	73	71	69	67	65	63	61	59	57	55	53	51	49	47	45	43	41	39	37	35	33	31	29
8	65	63	61	59	57	55	53	51	49	47	45	43	41	39	37	35	33	31	29	27	25	23	21

Circles Maximum Diameter:  
 Thickness 1¼—¾ Incl. 96\*  
 Over ¾—7 Incl. 72\*  
 Over 7—8 Incl. 70\*

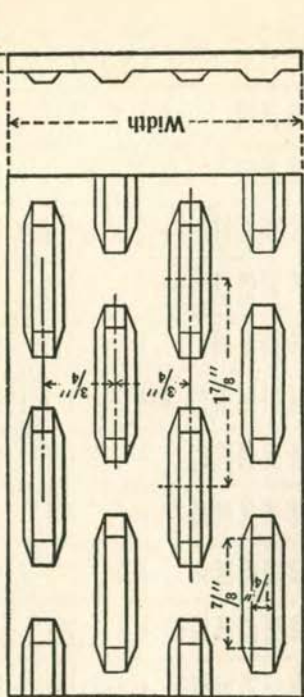
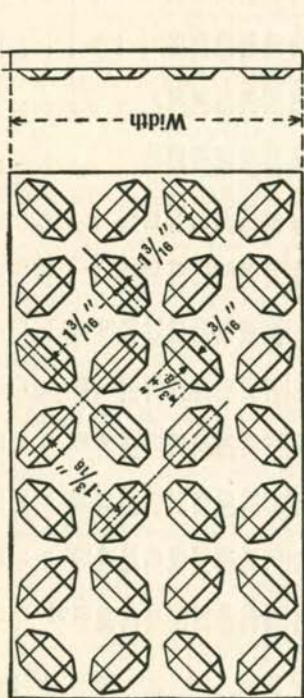
Plate widths under 38" to 18" minimum are gas cut from the above standard size plates  
 The above **ROLLING** from the standard size plate is ordered.  
**MACHINE ROLLING** is limited to plate sizes shown above the heavy black line.  
**HOI-BED FLATNESS** is furnished for plate sizes shown below the heavy black line.  
 All sizes must be gas cut to width and length.

# EXTREME SIZES OF RECTANGULAR AND CIRCULAR FLOOR PLATES

## CARBON STEEL—SECTION S-300

## CARBON STEEL—SECTION M-41

Thickness



Thickness Inches	Weight—Lbs. Per Sq. Ft.	WIDTHS IN INCHES						Circles Maximum Diameter, Inches	Thickness Inches
		Over 6 to 12 Incl.	Over 18 to 24 Incl.	Over 30 to 36 Incl.	Over 48 to 60 Incl.	Over 72 to 84 Incl.	Over 72 to 84 Incl.		
		LENGTHS IN INCHES							
1/8	6.15	144	180	240	240	*240	60	1/8	
3/16	8.70	144	180	300	360	600	84	3/16	
1/4	11.25	144	180	300	360	600	84	1/4	
5/16	13.80	144	180	300	360	600	84	5/16	
3/8	16.35	120	180	300	360	600	84	3/8	
7/16	18.90	120	180	300	360	600	72	7/16	
1/2	21.45	120	180	300	360	600	72	1/2	
5/8	26.55	120	180	300	360	600	72	5/8	
3/4	31.65	120	180	300	360	600	72	3/4	
1	41.85	120	180	300	360	600	72	1	

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

Thickness Inches	Weight—Lbs. Per Sq. Ft.	WIDTHS IN INCHES						Circles Maximum Diameter, Inches	Thickness Inches
		Over 6 to 12 Incl.	Over 18 to 24 Incl.	Over 30 to 36 Incl.	Over 48 to 60 Incl.	Over 72 to 84 Incl.	Over 72 to 84 Incl.		
		LENGTHS IN INCHES							
1/8	6.50	144	180	240	360	480	60	1/8	
3/16	8.70	144	180	300	360	600	90	3/16	
1/4	11.25	144	180	300	360	600	90	1/4	
5/16	13.80	144	180	300	360	600	90	5/16	
3/8	16.35	120	180	300	360	600	90	3/8	
7/16	18.90	120	180	300	360	600	90	7/16	
1/2	21.45	120	180	300	360	600	90	1/2	
5/8	26.55	120	180	300	360	600	84	5/8	
3/4	31.65	120	180	300	360	480	84	3/4	
1	41.85	300	360	480	360	480	72	1	

Pittsburgh District only.  
Weights are approximate and may vary.

# FLOOR PLATES

## ALLOWABLE UNIFORM LOAD

In Pounds Per Square Foot  
(Weight of Plate Included)

FOR  
FLOOR PLATES SUPPORTED ALONG TWO OPPOSITE EDGES ONLY  
Bending Stress—16000 lbs. per Sq. In.

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"
1/8	333	148	83	53	37						
3/16	750	333	188	120	83	61	47				
1/4	1333	593	333	213	148	109	83	65	53		
5/16	2083	926	521	333	231	170	130	103	83	69	58
3/8	3000	1333	750	480	333	245	188	148	120	99	83
7/16	4083	1815	1021	653	454	333	255	202	163	135	113
1/2	5333	2370	1333	853	593	435	333	263	213	176	148
5/8	8333	3704	2083	1333	926	680	521	412	333	275	231
3/4	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.



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# PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES OF UNITED STATES STEEL CORPORATION

## CARNEGIE-ILLINOIS STEEL CORPORATION

Pittsburgh, Pa.

Chicago, Ill.

### ROLLED, FORGED, FABRICATED AND CAST STEEL PRODUCTS

Wide Flange CB Sections  
Structural Shapes  
Plates  
Bars  
Concrete Reinforcing Bars  
Flats  
Slack Barrel Hoop  
Strip  
Column Base Plates  
Floor Plates  
I-Beam-Lok Floor Construction  
Steel Sheet Piling  
CBP Bearing Piles  
Steel Mine Timbers

Rails, Heavy and Light  
U-S-S Controlled Steels  
U-S-S Abrasion Resisting Steel  
GEO Track Material  
Splice Bars  
Tie Plates  
Track Bolts  
Track Spikes  
Cross Ties  
Axles and Forgings  
Wheels, Car and Locomotive  
U-S-S Carilloy (Alloy) Steels  
U-S-S Stainless and  
Heat-Resisting Steels

U-S-S High Strength Steels

### SHEET AND TIN MILL PRODUCTS

Black Sheets—  
Hot Rolled  
Cold Rolled  
Strip Steel  
Hot Rolled  
U-S-S Electrical Sheets  
U-S-S Vitrenamel  
U-S-S Stainless and  
Heat Resisting Steel Sheets  
U-S-S High Strength Steel Sheets  
Blued Sheets—  
Copper Steel Wellsville Polished  
Blued Stove Pipe and Elbow Stock  
Superblue  
Long Terne Sheets  
Copper Steel Roofing Long Ternes  
Galvannealed Sheets

Galvanized Sheets—  
U-S-S Galvanized  
U-S-S Copper Steel Galvanized  
U-S-S Galvanized Paint Bond  
U-S-S Galvanized Culvert Sheets  
Corrugated Sheets  
Black and Galvanized  
Formed Roofing and Siding Products  
Bright Tin Plates—  
Cokes  
Charcoals  
Terne Plates—  
Ternes  
Old Style Ternes  
U. S. Eagle Ternes  
Fire Door Ternes  
Long and Short Ternes  
Tin Mill Black

### LORAIN DIVISION

Special Track Work and Accessories  
Girder Rails  
Industrial and Mine Cars  
Coal Conveyors  
Mine Jacks

Forged Steel Grinding Balls  
Carbon Steel Castings  
Manganese Steel Castings  
Alloy Steel Castings  
Grey Iron Castings

# PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES OF UNITED STATES STEEL CORPORATION—Continued

## COLUMBIA STEEL COMPANY

General Offices: Russ Building, San Francisco, Cal.

### ROLLED, CAST AND DRAWN STEEL PRODUCTS

Structural Shapes	Wire—
Bars and Small Shapes	Manufacturers Wires
Concrete Reinforcement Bars	Plain or Galvanized
Strip under ¼"	Barbed
Tie Plates	Spring
Sheets—	Wire Nails
Black	Wire Fence
Blue Annealed	Wire Rope
Galvanized	Wire Rods
Semi-Finished Material	Wire Strand
	Wire Tacks
	Steel Castings

Also distributors for Pacific Coast territory of products of  
all subsidiary manufacturing companies of United States Steel Corporation

## TENNESSEE COAL, IRON AND RAILROAD COMPANY

General Offices: Brown-Marx Building, Birmingham, Ala.

### ROLLED, FORGED AND DRAWN STEEL PRODUCTS

Structural Shapes	Axles	Sheets—
Plates	Forgings	Hot Rolled
Bars	Rails	Hot Rolled Annealed
Small Shapes	Rail Accessories	Galvanized
Hot Rolled Strip	Semi-Finished Material	Wire and Wire Products
Cotton Ties	Pig Iron	

## AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

### STEEL STRUCTURES OF ALL CLASSES

Bridges	Dams	Towers
Buildings	Crane Runways	Poles
Viaducts	Buckle Plates	Sub-Stations
Subway Structures	Barges	Tanks
Ferry Aprons	Hulls	Eyebars
Ore Docks	Turntables	Electric Furnaces (Heroult)

# PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES OF UNITED STATES STEEL CORPORATION—Continued

## AMERICAN STEEL AND WIRE COMPANY

General Offices: Rockefeller Building, 614 Superior Ave., N.W., Cleveland, Ohio

### WIRE AND WIRE PRODUCTS

Aerial Tramways	Netting	Tacks
Bale Ties	Piano Wire	Telegraph Wire
Barbed Wire	Plain Wire	Telephone Wire
Cold Rolled Strip Steel	Rail Bonds	Trolley Wire
Concrete Reinforcement	Screw Stock	U-S-S Stainless and Heat Resisting Steels
Electrical Wires	Spikes	Welding Wire
Flat Wire	Springs	Wire Fabric
Hoops	Steel Gates	Wire Fence
Manufacturing Wires	Steel Posts	Wire Rope
Nails	Strand	

Wire for Manufacturing Purposes

## CYCLONE FENCE COMPANY

General Offices: Waukegan, Ill.

### ORNAMENTAL AND PROTECTIVE FENCE

Chain Link Protective Fence	Chain Link Conveyor Belting
Chain Link Road Guard	Screen Cloth
Ornamental Iron Fence	Hardware Cloth
Ornamental Lawn Fence	Woven Wire Partitions
Wire Baskets (Rubbish Burners)	

# PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES OF UNITED STATES STEEL CORPORATION—Concluded

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## NATIONAL TUBE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

### WELDED AND SEAMLESS STEEL TUBULAR PRODUCTS

Standard Pipe	Boiler Tubes
Copper Steel Pipe	Seamless Mechanical Tubing
Line Pipe, Casing	Aircraft Tubing
Oil Well Tubing	Seamless Alloy Tubing
Drive Pipe	Trolley Poles, Line Poles
Rotary Drill Pipe	Cylinders, Seamless Couplings
Galvanized Pipe	U-S-S Stainless and
Special Dipped and Coated Pipe	Heat Resisting Pipes and Tubes
Duroline (cement lined) Pipe	

## OIL WELL SUPPLY COMPANY

General Offices: Dallas, Texas

### OIL FIELD DRILLING AND PUMPING MACHINERY AND AUXILIARY EQUIPMENT

"Oilwell," "Imperial," "Wilson-Snyder" and "Erie Ball" Products	
General Machine Products	Locomotive Type Boilers
Drop and Light Hammer Forgings	Swaged Nipples and Bull Plugs
Steel and Iron Castings	Special Fittings
Erie Ball Steam Engines	Wilson-Snyder Pumping Machinery

## UNIVERSAL ATLAS CEMENT COMPANY

General Offices: 135 East 42nd Street, New York, N.Y.

Atlas Portland Cement	Atlas White Portland Cement
Universal Portland Cement	Atlas Lumnite Cement
Atlas Waterproofed White Portland Cement	

