

ROLLED STEEL PLATES  
FOR  
COLUMN BASES

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AMERICAN INSTITUTE OF STEEL CONSTRUCTION  
PIERCE, FENNER & SMITH  
STEEL COMPANY

UNITED STATES STEEL CORPORATION

PITTSBURGH, PA.

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ROLLED STEEL PLATES  
FOR  
COLUMN BASES

BEARING PLATES, BRIDGE SHOES,  
MACHINERY BASES,  
ETC.

MANUFACTURED BY  
CARNEGIE STEEL COMPANY  
SUBSIDIARY OF UNITED STATES STEEL CORPORATION  
PITTSBURGH, PA.

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ROLLED STEEL PLATES FOR COLUMN BASES,  
BEARING PLATES, BRIDGE SHOES,  
MACHINERY BASES, ETC.

**W**ITH the more general use of rolled steel plates for Column Bases and similar purposes, this pamphlet is issued giving recommended widths and thicknesses, rolling and cutting tolerances, extras for cutting to length, table giving weights per linear foot and sizes required for various sizes and weights of Carnegie Beam Sections.

Plates for Column Bases are rolled on plate mills.

**Specification.** Plates for Column Bases are furnished of open-hearth steel containing .10 to .25 per cent Carbon.

**Billing.** Plates for Column Bases are invoiced on the basis of the actual weight of material shipped.

ROLLED STEEL COLUMN BASES

RECOMMENDED SIZES

The following widths and thicknesses are suggested as being sufficient to meet all ordinary requirements. They include all sizes proposed by the American Institute of Steel Construction as standards, together with some wider and heavier sections which are required for heavy column loadings. The adoption and use of these sizes as standards will result in better service in the way of shipments from the mill and will also tend to make this class of business more desirable to the rolling mills.

14 x 1 $\frac{1}{4}$	34 x 4	52 x 6
14 x 1 $\frac{1}{2}$	34 x 4 $\frac{1}{2}$	52 x 6 $\frac{1}{2}$
	34 x 5	52 x 7
16 x 1 $\frac{1}{2}$	34 x 5 $\frac{1}{2}$	52 x 8
16 x 2	34 x 6	52 x 9
	34 x 6 $\frac{1}{2}$	
	34 x 7	
20 x 2	34 x 8	56 x 6 $\frac{1}{2}$
20 x 2 $\frac{1}{2}$	36 x 4	56 x 7
20 x 3	36 x 4 $\frac{1}{2}$	56 x 8
	40 x 4 $\frac{1}{2}$	56 x 9
24 x 2 $\frac{1}{2}$	40 x 5	
24 x 3	40 x 5 $\frac{1}{2}$	60 x 8
24 x 3 $\frac{1}{2}$	40 x 6	60 x 9
	44 x 5	60 x 10
28 x 3	44 x 5 $\frac{1}{2}$	
28 x 3 $\frac{1}{2}$	44 x 6	66 x 9
28 x 4	48 x 5 $\frac{1}{2}$	66 x 10
	48 x 6	
	48 x 6 $\frac{1}{2}$	
32 x 3 $\frac{1}{2}$	48 x 7	72 x 10
32 x 4	48 x 8	72 x 11
32 x 4 $\frac{1}{2}$	48 x 9	

The thicknesses given above are the thicknesses of the rolled plate. The maximum thickness of finished plate may be obtained by deducting from the above thicknesses the allowances under "Flatness" in the next table on Tolerances.

ROLLING AND CUTTING TOLERANCES

CLASSIFICATION

U. M. ROLLED  
10" TO 24" WIDE  
1" TO 2" THICK

TOLERANCES  
UNDER OVER

Width  
Length  
Thickness  
Camber  
Flatness

$\frac{1}{8}$ "  $\frac{1}{8}$ "  
0" 1"  
 $\frac{1}{64}$ "  $\frac{1}{32}$ "

Within  $\frac{1}{8}$ " in every 5 ft.

For lengths approximately equal to width, plates will be sufficiently flat to receive, without planing, milled ends of columns. Thicknesses 1' to 2' sheared to length.

Width  
Length  
Thickness

$\frac{1}{8}$ "  $\frac{3}{8}$ "  
0" 1"

$\frac{1}{32}$ "  $\frac{1}{32}$ " for thicknesses over 2" to 4", inclusive.  
 $\frac{1}{16}$ " " " 4" " 6", " "  
 $\frac{3}{32}$ " " " 6" " 8", " "  
 $\frac{1}{32}$ " " " 8" " 10", " "

Camber  
Flatness

Within  $\frac{3}{16}$ " in every 5 ft.

For lengths approximately equal to the width, variation from true flatness or the amount necessary to add to the finished thickness to provide sufficient material for planing one or both sides, is:—

THICKNESSES

Over 2" to 6" incl.  
" 6" " 7 $\frac{1}{2}$ " " "  
" 7 $\frac{1}{2}$ " " 10", " "

PLANING  
ONE SIDE

$\frac{1}{4}$ "  
 $\frac{3}{8}$ "  
 $\frac{1}{2}$ "

PLANING  
TWO SIDES

$\frac{3}{8}$ "  
 $\frac{1}{2}$ "  
 $\frac{5}{8}$ "

U. M. ROLLED  
20" TO 48" WIDE  
OVER 2" TO 10" THICK

Thicknesses 2 $\frac{1}{2}$ " and under, sheared to length. Thicknesses over 2 $\frac{1}{2}$ ", flame cut to length.

ROLLING AND CUTTING TOLERANCES—Concluded

CLASSIFICATION

	TOLERANCES	
	UNDER	OVER
Width	0"	1"
Length	0"	1"
Thickness	$\frac{1}{32}$ "	$\frac{1}{16}$ "
	$\frac{1}{32}$ "	$\frac{3}{32}$ "
	$\frac{1}{32}$ "	$\frac{1}{8}$ "

for thickness over 4" to 6" incl.  
 " " 6" " 8" " "  
 " " 8" " 10" " "

Flatness For lengths approximately equal to the width, the variation from true flatness or the amount necessary to add to the finished thickness to provide sufficient material for planing one or both sides, is:—

THICKNESSES	PLANING	PLANING
	ONE SIDE	TWO SIDES
Widths { Over 4" to 6" incl.	$\frac{1}{4}$ "	$\frac{3}{8}$ "
Over 6" " 7 $\frac{1}{2}$ " " "	$\frac{3}{8}$ "	$\frac{1}{2}$ "
Over 7 $\frac{1}{2}$ " " 10" " "	$\frac{1}{2}$ "	$\frac{5}{8}$ "
Widths { Over 4" to 6" incl.	$\frac{1}{2}$ "	$\frac{5}{8}$ "
Over 6" " 10" " "	$\frac{3}{4}$ "	$\frac{7}{8}$ "

**SHEARED MILL ROLLED  
 OVER 48" TO 72" WIDE  
 OVER 4" TO 10" THICK**

Flame cut to size.

Weight not to exceed 17,000 lbs.

Orders should state whether one or both sides are to be planed and should give the rolled thickness, also the finished thickness.

If furnished in multiple lengths, plates when cut into length approximately equal to the width will be as flat as above tolerances.

If furnished in multiple lengths, mill will allow  $\frac{1}{2}$ " for each divisional cut unless otherwise specified. Thicknesses over 10" may be submitted for special consideration.

Any of the recommended sizes, in unit lengths or multiple lengths not exceeding 300 inches, can be press-flattened within tolerance of  $\frac{1}{8}$ " of being flat on each surface (top and bottom) at an extra cost. Inquiries should be submitted.

EXTRAS FOR CUTTING TO LENGTH AND WIDTH  
IN CENTS PER POUND

Plates over 2½" thick are flame cut to length. The extras for this cutting are as follows:—

12" to 18", inclusive.....	1.00¢
Over 18" to 24", inclusive.....	.75
Over 24" to 48", inclusive.....	.50
Over 48" to 72", inclusive.....	.40
Over 72" to 120", inclusive.....	.30
Over 120" to 180", inclusive.....	.20
Over 180".....	Base

Plates 2½" thick and less are shear cut to length. The extras for this cutting are in accordance with Standard Classification of Extras for Steel Plates, dated September 1, 1924, as follows:—

5' 0" and over up to published limit of length, but not over 80' 0".....	No Extras
Under 5' 0" to 3' 0", inclusive.....	.10¢
Under 3' 0" to 2' 0", inclusive.....	.25
Under 2' 0" to 1' 0", inclusive.....	.50
Under 1' 0".....	1.55

For plates over 56" wide up to 72" wide produced on sheared mills and requiring flame cutting for both width and length, the extra for cutting to width is 0.40¢. This extra is in addition to length extra given above.

ROLLED STEEL COLUMN BASES

MINIMUM AND MAXIMUM ROLLED LENGTHS  
DIMENSIONS IN INCHES

UNIVERSAL MILL PLATES	Width	Thickness	Lengths		Width	Thickness	Lengths	
			Min.	Max.			Min.	Max.
	14	1 1/4 1 1/2	158 154	1152 960	34	4 4 1/2 5 5 1/2 6 6 1/2 7 8	78 78 78 78 78 78 78 78	298 265 238 217 198 184 169 149
16	1 1/2 2	151 130	840 624	36	4 4 1/2	78 78	283 253	
20	2 2 1/2 3	126 101 100	600 494 412	40	4 1/2 5 5 1/2 6	78 78 78 78	245 221 200 184	
24	2 1/2 3 3 1/2	98 83 83	487 406 348	44	5 5 1/2 6	78 78 78	200 182 167	
28	3 3 1/2 4	83 78 78	402 346 302	48	5 1/2 6 6 1/2 7 8 9	78 78 78 78 78 78	172 156 145 134 118 104	
32	3 1/2 4 4 1/2	78 78 78	293 257 229					

Minimum lengths are either determined by the minimum weight slab or the shortest finished plate that mills can handle. While lengths equal to the respective widths can be supplied, it is recommended that items be combined in multiples so as to equal or exceed the minimum lengths given. Sizes 28" and narrower can be produced longer than 300" but lengths greater than 300" cannot be press-flattened.

SHEARED MILL PLATES	Width	Thickness	Length (Max.)	Width	Thickness	Length (Max.)
	52	6	192	60	8	124
		6 1/2	177		9	111
7		163	10		100	
8		143				
9		127	66		9	100
56				10	90	
	6 1/2	163	72	10	82	
	7	152		11	75	
	8	133				
9	119					

On Sheared Mill Sizes single pieces can be furnished in lengths approximately equal to width.



CARNEGIE STEEL COMPANY

WEIGHT PER LINEAR FOOT OF BASE PLATES,  
ROLLED AND FINISHED THICKNESSES

ROLLED SIZE			PLATES ON CONCRETE		PLATES ON STEEL			
Width In.	Thickness In.	Weight per Foot Lbs.	Thickness In.	Weight per Foot Lbs.	Thickness In.	Weight per Foot Lbs.		
UNIVERSAL MILL PLATES	14	1 1/4	59.5	1 1/4	59.5	1 1/4	59.5	ROLLED FLAT
		1 1/2	71.4	1 1/2	71.4	1 1/2	71.4	
	16	1 1/2	81.6	1 1/2	81.6	1 1/2	81.6	
		2	108.8	2	108.8	2	108.8	
	20	2	136.0	2	136.0	2	136.0	
		20	2 1/2	170.0	2 1/4	153.0	2 1/4	
	3		204.0	2 3/4	187.0	2 3/8	178.5	
	24	2 1/2	204.0	2 1/4	183.6	2 1/4	173.4	
		3	244.8	2 3/4	224.4	2 5/8	214.2	
		3 1/2	285.6	3 1/4	265.2	3 1/8	255.0	
	28	3	285.6	2 3/4	261.8	2 5/8	249.9	
		3 1/2	333.2	3 1/4	309.4	3 1/8	297.5	
4		380.8	3 3/4	357.0	3 3/8	345.1		
32	3 1/2	380.8	3 1/4	353.6	3 1/8	340.0		
	4	435.2	3 3/4	408.0	3 3/8	394.4		
	4 1/2	489.6	4 1/4	462.4	4 1/8	448.8		
34	4	462.4	3 3/4	433.5	3 3/8	419.1	PLANED ON TOP	
	4 1/2	520.2	4 1/4	491.3	4 1/8	476.9		
	5	578.0	4 3/4	549.1	4 3/8	534.7		
	5 1/2	635.8	5 1/4	606.9	5 1/8	592.5		
	6	693.6	5 3/4	664.7	5 3/8	650.3		
	6 1/2	751.4	6 1/4	708.1	6	693.6		
	7	809.2	6 3/4	765.9	6 1/2	751.4		
	8	824.8	7 1/2	867.0	7 3/8	852.6		
36	4	489.6	3 3/4	459.0	3 3/8	443.7	PLANED ON TOP AND BOTTOM	
	4 1/2	550.8	4 1/4	520.2	4 1/8	504.9		
40	4 1/2	612.0	4 1/4	578.0	4 1/4	561.0		
	5	680.0	4 3/4	646.0	4 3/8	629.0		
	5 1/2	748.0	5 1/4	714.0	5 1/8	697.0		
	6	816.0	5 3/4	782.0	5 3/8	765.0		
44	5	748.0	4 3/4	710.6	4 3/8	691.9		
	5 1/2	822.8	5 1/4	785.4	5 1/8	766.7		
	6	897.6	5 3/4	860.2	5 3/8	841.5		
48	5 1/2	897.6	5 1/4	856.8	5 1/4	836.4		
	6	979.2	5 3/4	938.4	5 3/8	918.0		
	6 1/2	1060.8	6 1/4	999.6	6	979.2		
	7	1142.4	6 3/4	1081.2	6 1/2	1060.8		
	8	1305.6	7 1/2	1224.0	7 3/8	1203.6		
	9	1468.8	8 1/2	1387.2	8 3/8	1366.8		

## ROLLED STEEL COLUMN BASES

 WEIGHT PER LINEAR FOOT OF BASE PLATES,  
 ROLLED AND FINISHED THICKNESSES

SHEARED MILL PLATES	ROLLED SIZE			PLATES ON CONCRETE		PLATES ON STEEL		PLANED ON TOP AND BOTTOM
	Width In.	Thickness In.	Weight per Foot Lbs.	Thickness In.	Weight per Foot Lbs.	Thickness In.	Weight per Foot Lbs.	
	PLANED ON TOP							
52	6		1060.8	5 3/4	1016.6	5 3/8	994.5	
	6 1/2		1149.2	6 1/8	1082.9	6	1060.8	
	7		1237.6	6 3/8	1171.3	6 1/2	1149.2	
	8		1414.4	7 1/2	1326.0	7 3/8	1303.9	
56	9		1591.2	8 1/2	1502.8	8 3/8	1480.7	
	6 1/2		1237.6	6 1/8	1166.2	6	1142.4	
	7		1332.8	6 3/8	1261.4	6 1/2	1237.6	
	8		1523.2	7 1/2	1428.0	7 3/8	1404.2	
60	9		1713.6	8 1/2	1618.4	8 3/8	1594.6	
	8		1632.0	7 1/4	1479.0	7 1/8	1453.5	
	9		1836.0	8 1/4	1683.0	8 1/8	1657.5	
66	10		2040.0	9 1/4	1887.0	9 1/8	1861.5	
	9		2019.6	8 1/4	1851.3	8 1/8	1823.3	
72	10		2244.0	9 1/4	2075.7	9 1/8	2047.7	
	10		2448.0	9 1/4	2264.4	9 1/8	2233.8	
	11		2692.8	10 1/4	2509.2	10 3/8	2478.6	

Maximum finished thickness of plate bearing on concrete is obtained by deducting allowance (given under Tolerances—Flatness) for planing one side only; plates on steel by deducting for planing two sides.

DIMENSIONS OF BASE PLATES FOR  
CARNEGIE BEAM SECTIONS

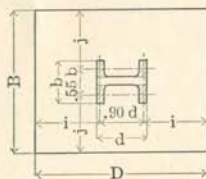
The only condition considered in these tables is that of base plates resting on concrete having safe bearing values of 500, 600 and 750 pounds per square inch.

For many of the heavier column loads given, single or double tier grillages may very often be found to be lighter and more economical than base plates on concrete, but grillages should be the subject of study for each specific case and are therefore outside of the scope of this pamphlet.

The column loads given in the following tables for Carnegie Beam Sections are the maximum for each section and weight, or 15,000 pounds multiplied by the area.

The thicknesses of base plates required for these loads are calculated from the formula of the American Institute of Steel Construction as follows:

The column load  $P$  is assumed to be distributed over the shaded area of the four flanges only, as indicated in diagram. The average effective dimensions of the flange concentrations are considered to be 0.90 of the column depth  $d$  and 0.55 of the column width  $b$ .



- $P$  = Total load on column in pounds.  
 $D$  = Length of slab in inches.  
 $B$  = Width of slab in inches.  
 $A$  = Area of slab =  $D \times B$ .  
 $p$  = Unit Pressure =  $P/A$ .

$$M = \text{Moment for 1 inch width of slab} = p \times i \times \frac{i}{2} = \frac{p \times i^2}{2} \text{ or } \frac{p \times j^2}{2}.$$

Use greater value of  $i$  or  $j$ .

$$S = \text{Section Modulus for 1 inch width of slab} = \frac{M}{18,000}$$

$$= \frac{p \times i^2}{36,000} \text{ or } \frac{p \times j^2}{36,000}.$$

$$\text{Since } S = \frac{t^2}{6}, \text{ therefore } t^2 = \frac{p \times i^2}{6,000} \text{ or } \frac{p \times j^2}{6,000}.$$

## ROLLED STEEL COLUMN BASES

### EXAMPLE

Assume a load of 1,875,000 lbs., Column CB-146 425 lbs. per ft.,  
 $d = 18.51''$ ,  $b = 16.506''$ ,  $.90d = 16.7$  inches,  $.55b = 9.1$  inches,  
 concrete at 500 lbs. per sq. in.

$$\text{Required Area of Slab, } A = \frac{1875000}{500} = 3750 \text{ square inches.}$$

A plate having dimensions of  $56'' \times 67''$ , with an area of 3752 square inches, will be satisfactory.

$$\text{Projection } i = \frac{67 - 16.7}{2} = 25.15 \text{ inches.}$$

$$\text{Projection } j = \frac{56 - 9.1}{2} = 23.45 \text{ inches.}$$

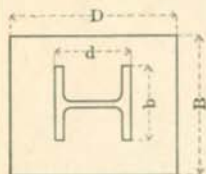
$$i^2 = 25.15^2 = 632.52.$$

In formula  $t^2 = \frac{p \times i^2}{6000}$ , substituting 500 for  $p$  and the value of  $i^2$ ;

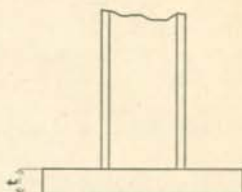
$$t^2 = \frac{500 \times 632.52}{6000} = 52.71 \text{ , and thickness, } t = 7.26 \text{ inches.}$$

CARNEGIE STEEL COMPANY

STANDARD COLUMN BASE PLATES



14-INCH  
COLUMNS



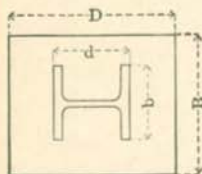
A. I. S. C. Formula—Maximum Bending Stress 18,000 Lbs. per Sq. In.

Column Section No.	Weight per Foot	Load in Thousands of Pounds	Column Dimensions		Pressure per Sq. In. on Concrete					
					500 Lbs.					
			d	b	Thickness t			B	D	Weight Rolled
Calculated	Finished	Rolled								
CB 146	425	1875	18 1/4	16 1/2	7.26	7 1/2	8	56	67	8504
	405	1787	18 1/4	16 3/8	6.87	7 1/2	8	56	64	8123
	385	1698	18 1/4	16 3/8	6.78	7 1/2	8	56	61	7742
	365	1610	17 3/4	16 3/8	6.57	7 1/2	8	54	60	7343
	345	1522	17 1/2	16 3/8	6.22	6 1/2	7	52	58	5981
	325	1434	17 1/8	16 3/8	6.24	6 1/2	7	52	55	5672
	305	1346	16 3/8	16	5.89	6	6 1/2	48	56	4950
	295	1301	16 3/8	16	5.62	5 3/4	6	48	54	4406
	285	1257	16 3/8	15 7/8	5.66	5 3/4	6	48	53	4324
	275	1213	16 1/8	15 7/8	5.48	5 3/4	6	47	52	4154
	265	1169	16 3/8	15 7/8	5.39	5 3/4	6	46	52	4066
	255	1125	16 1/4	15 3/4	5.40	5 3/4	6	44	52	3889
	245	1081	16	15 3/4	5.24	5 3/4	5 1/2	45	48	3366
	235	1037	15 7/8	15 3/4	4.97	5 3/4	5 1/2	43	48	3216
	225	993	15 3/4	15 3/8	4.88	5 3/4	5 1/2	42	48	3141
	215	949	15 3/8	15 3/8	4.89	5 3/4	5 1/2	40	48	2992
	205	904	15 1/2	15 1/2	4.68	4 3/4	5	41	44	2555
	195	860	15 3/8	15 1/2	4.55	4 3/4	5	40	43	2436
	185	816	15 1/4	15 1/2	4.55	4 3/4	5	40	41	2323
	175	772	15	15 3/8	4.40	4 3/4	5	39	40	2210
	165	728	14 7/8	15 3/8	3.99	4 1/4	4 1/2	36	41	1882
	155	684	14 3/8	15 3/8	3.98	4 1/4	4 1/2	36	38	1744
	145	640	14 1/8	15 3/8	3.88	4 1/4	4 1/2	32	40	1632
135	596	14 1/2	15 1/4	3.55	3 3/4	4	33	36	1346	
125	551	14 1/4	15 1/4	3.33	3 3/4	4	31	36	1265	
115	507	14 3/8	15 1/8	3.37	3 3/4	4	28	36	1142	
106	468	14	15 1/8	3.09	3 1/4	3 1/2	28	34	944	
96	423	13 7/8	15	2.84	2 3/4	3	28	30	714	
86	379	13 3/4	15	2.84	2 3/4	3	24	32	653	
CB 145	105	463	14 3/8	12 1/8	3.08	3 1/4	3 1/2	28	33	916
	95	419	14 1/8	12	2.80	2 3/4	3	26	32	707
	85	375	14	12	2.66	2 3/4	3	24	31	632

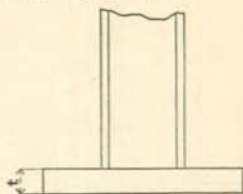
NOTE: Rolled thickness includes allowance for planing on one side and is rounded up to nearest recommended standard thickness. Mill orders should specify the rolled thickness.

ROLLED STEEL COLUMN BASES

STANDARD COLUMN BASE PLATES—Continued



14-INCH  
COLUMNS



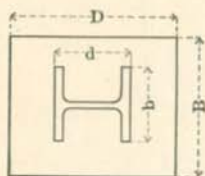
A. I. S. C. Formula—Maximum Bending Stress 18,000 Lbs. per Sq. In.

Column Section No.	Wgt. per Foot	Pressure per Sq. In. on Concrete											
		600 Lbs.					750 Lbs.						
		Thickness t			B	D	Weight Rolled	Thickness t			B	D	Weight Rolled
Calculated	Finished	Rolled	Calculated	Finished				Rolled					
CB 146	425	6.85	7 1/2	8	52	60	7071	7.07	7 1/2	8	49	52	5775
	405	6.96	7 1/2	8	53	56	6727	6.54	6 1/2	7	46	52	4744
	385	6.64	7 1/2	8	51	56	6473	6.33	6 1/2	7	44	52	4537
	365	6.34	6 1/2	7	48	56	5331	6.05	6	6 1/2	44	49	3970
	345	6.34	6 1/2	7	49	52	5053	6.03	6	6 1/2	43	48	3801
	325	5.88	6	6 1/2	46	52	4405	5.76	5 3/4	6	40	48	3264
	305	5.82	5 3/4	6	43	52	3801	5.69	5 3/4	6	41	44	3066
	295	5.73	5 3/4	6	45	48	3672	5.52	5 3/4	6	40	44	2992
	285	5.57	5 3/4	6	44	48	3590	5.34	5 1/4	5 1/2	39	44	2674
	275	5.26	5 1/4	5 1/2	42	48	3141	5.16	5 1/4	5 1/2	37	44	2537
	265	5.27	5 1/4	5 1/2	41	48	3066	5.20	5 1/4	5 1/2	36	44	2468
	255	5.28	5 1/4	5 1/2	39	48	2917	5.20	5 1/4	5 1/2	38	40	2368
	245	5.11	5 1/4	5 1/2	41	44	2811	4.84	4 3/4	5	36	40	2040
	235	4.96	5 1/4	5 1/2	40	44	2742	4.67	4 3/4	5	35	40	1983
	225	4.71	4 3/4	5	38	44	2368	4.51	4 3/4	5	34	39	1878
	215	4.73	4 3/4	5	36	44	2244	4.51	4 3/4	5	34	38	1830
	205	4.65	4 3/4	5	38	40	2153	4.84	4 3/4	5	34	36	1734
	195	4.35	4 3/4	5	36	40	2040	4.17	4 1/4	4 1/2	32	36	1469
	185	4.16	4 1/4	4 1/2	34	40	1734	4.17	4 1/4	4 1/2	32	34	1387
	175	4.03	4 1/4	4 1/2	34	38	1647	3.82	3 3/4	4	31	34	1194
	165	4.03	4 1/4	4 1/2	34	36	1560	3.64	3 3/4	4	29	34	1117
	155	3.73	3 3/4	4	32	36	1305	3.66	3 3/4	4	27	34	1040
	145	3.62	3 3/4	4	30	36	1224	3.55	3 3/4	4	28	31	984
135	3.57	3 3/4	4	31	32	1124	3.46	3 3/4	4	28	29	920	
125	3.26	3 1/4	3 1/2	29	32	920	3.29	3 1/4	3 1/2	27	28	750	
115	3.11	3 1/4	3 1/2	28	30	833	2.97	3 1/4	3 1/2	25	28	694	
106	3.07	3 1/4	3 1/2	25	32	793	2.79	2 3/4	3	24	26	530	
96	2.77	2 3/4	3	24	30	612	2.79	2 3/4	3	24	24	490	
86	2.48	2 3/4	3	23	28	547	2.44	2 3/4	3	20	26	442	
CB 145	105	3.02	3	3 1/2	24	32	762	3.08	3 1/4	3 1/2	24	26	619
	95	2.75	2 3/4	3	24	30	612	2.82	2 3/4	3	20	28	476
	85	2.59	2 3/4	3	23	28	547	2.37	2 3/4	3	20	25	425

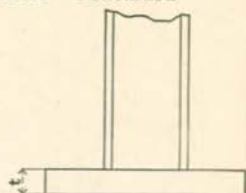
NOTE: Rolled thickness includes allowance for planing on one side and is rounded up to nearest recommended standard thickness. Mill orders should specify the rolled thickness.

CARNEGIE STEEL COMPANY

STANDARD COLUMN BASE PLATES—Continued



10 AND 12-INCH  
COLUMNS



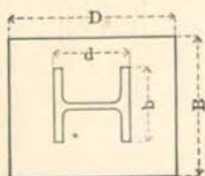
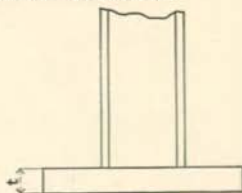
A. I. S. C. Formula—Maximum Bending Stress 18,000 Lbs. per Sq. In.

Column Section No.	Wgt. per Foot	Pressure per Sq. In. on Concrete											
		600 Lbs.					750 Lbs.						
		Thickness t			B	D	Weight Rolled	Thickness t			B	D	Weight Rolled
Calculated	Finished	Rolled	Calculated	Finished				Rolled					
CB 127	230	5.25	5 1/4	5 1/2	40	44	2742	5.16	5 1/4	5 1/2	34	40	2119
	220	5.03	5 3/4	5 3/2	40	41	2555	4.91	5 1/4	5 1/2	34	38	2013
	210	4.93	5 3/4	5 3/2	39	40	2431	4.63	4 3/4	5	34	37	1782
	200	4.78	4 3/4	5	38	40	2153	4.63	4 3/4	5	34	35	1686
	190	4.62	4 3/4	5	36	40	2040	4.51	4 3/4	5	33	34	1589
CB 126	180	4.62	4 3/4	5	34	40	1926	3.67	3 3/4	4	31	34	1194
	170	3.98	4 1/4	4 1/2	35	36	1606	3.67	3 3/4	4	30	34	1156
	160	3.98	4 1/4	4 1/2	33	36	1515	3.67	3 3/4	4	28	34	1079
	150	3.98	4 1/4	4 1/2	32	36	1469	3.75	3 3/4	4	28	32	1015
CB 125	140	3.80	3 3/4	4	31	34	1194	3.75	3 3/4	4	26	32	943
	130	3.67	3 3/4	4	28	34	1079	3.81	3 3/4	4	24	32	870
	120	3.37	3 3/4	4	28	32	1015	3.41	3 3/4	4	26	28	825
	110	3.35	3 3/4	4	26	32	943	3.04	3 1/4	3 1/2	23	28	639
CB 124C	102	3.18	3 1/4	3 1/2	27	28	750	3.05	3 1/4	3 1/2	22	28	611
	95	2.89	3 1/4	3 1/2	25	28	694	3.05	3 1/4	3 1/2	20	28	555
	88	2.73	2 3/4	3	23	28	547	2.69	2 3/4	3	20	26	442
	82	2.73	2 3/4	3	22	28	524	2.37	2 3/4	3	20	24	408
CB 124B	76	2.73	2 3/4	3	20	28	476	2.35	2 3/4	3	20	23	391
	70	2.41	2 3/4	3	20	26	442	2.39	2 3/4	3	20	21	357
	65	2.12	2 3/4	2 1/2	20	24	340	2.18	2 3/4	2 1/2	19	20	269
CB 105	140	3.80	3 3/4	4	31	34	1194	4.07	4 1/4	4 1/2	26	32	1061
	132	3.80	3 3/4	4	29	34	1117	3.89	4 1/4	4 1/2	25	32	1020
	124	3.62	3 3/4	4	29	32	1052	3.36	3 3/4	4	26	28	825
	116	3.48	3 3/4	4	28	31	984	3.36	3 3/4	4	25	28	793
	108	3.37	3 3/4	4	28	29	920	3.36	3 3/4	4	23	28	730
	100	3.22	3 3/4	3 1/2	27	28	750	3.08	3 1/4	3 1/2	24	25	595
CB 104	92	3.02	3 3/4	3 1/2	25	28	694	3.02	3 1/4	3 1/2	23	24	547
	84	2.91	3 3/4	3 1/2	24	26	619	2.70	2 3/4	3	21	24	428
	77	2.91	3 3/4	3 1/2	24	24	571	2.65	2 3/4	3	19	24	388
	70	2.61	2 3/4	3	22	24	449	2.56	2 3/4	3	20	21	357
CB 103A	64	2.38	2 3/4	3	20	24	408	2.35	2 3/4	3	19	20	323
	59	2.27	2 1/4	2 1/2	20	22	312	2.18	2 1/4	2 1/2	18	20	255
	54	2.28	2 1/4	2 1/2	20	20	283	1.95	2	2	16	20	181
	49	1.98	2 1/4	2 1/2	18	20	255	1.95	2	2	15	20	170
CB 102	42	1.80	2	2	16	20	181	1.94	2	2	13	20	147
	36	1.74	2	2	14	20	159	1.94	2	2	12	20	136
	31	1.74	2	2	12	20	136	1.94	2	2	10	20	113

Note: Rolled thickness includes allowance for planing on one side and is rounded up to nearest recommended standard thickness. Mill orders should specify the rolled thickness.

## ROLLED STEEL COLUMN BASES

## STANDARD COLUMN BASE PLATES—Continued


 10 AND 12-INCH  
COLUMNS


A. I. S. C. Formula—Maximum Bending Stress 18,000 Lbs. per Sq. In.

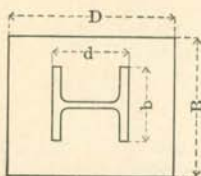
Column Section No.	Weight per Foot	Load in Thousands of Pounds	Column Dimensions		Pressure per Sq. In. on Concrete					
					500 Lbs.					
			d	b	Thickness t			B	D	Weight Rolled
Calculated	Finished	Rolled								
CB 127	230	1015	12	15	5.37	5 1/2	6	43	48	3508
	220	971	12	14 3/4	5.37	5 1/2	6	41	48	3345
	210	926	12	14 1/2	4.92	5 1/4	5 1/2	42	44	2879
	200	882	12	14 1/4	4.92	5 1/4	5 1/2	40	44	2742
	190	838	12	14	4.80	4 3/4	5	39	44	2431
CB 126	180	794	12	14 3/4	4.80	4 3/4	5	36	44	2244
	170	750	12	14 1/2	4.34	4 1/4	4 1/2	38	40	1938
	160	706	12	14 1/4	4.22	4 1/4	4 1/2	36	40	1836
	150	662	12	14	4.07	4 1/4	4 1/2	34	39	1690
CB 125	140	618	12	12 3/4	3.90	4 1/4	4 1/2	34	37	1604
	130	574	12	12 1/2	3.64	3 3/4	4	32	36	1305
	120	529	12	12 1/4	3.64	3 3/4	4	30	36	1224
	110	485	12	12	3.64	3 3/4	4	27	36	1101
CB 124C	102	450	12	12 1/2	3.35	3 3/4	4	27	34	1040
	95	419	12	12 3/8	3.35	3 3/4	4	25	34	963
	88	388	12	12 1/8	3.12	3 1/4	3 1/2	25	32	793
	82	362	12	12	2.77	2 3/4	3	24	30	612
CB 124B	76	335	12	12 1/4	2.49	2 3/4	3	24	28	571
	70	309	12	12 1/8	2.49	2 3/4	3	22	28	524
	65	287	12	12	2.49	2 3/4	3	21	28	500
CB 105	140	618	10	13 1/8	4.03	4 1/4	4 1/2	35	36	1606
	132	582	10	13	3.90	4 1/4	4 1/2	33	36	1515
	124	547	10	12 3/4	3.90	4 1/4	4 1/2	31	36	1423
	116	512	10	12 1/2	3.90	4 1/4	4 1/2	29	36	1331
	108	476	10	12 1/4	3.37	3 3/4	4	30	32	1088
	100	441	10	12	3.32	3 3/4	3 1/2	28	32	888
CB 104	92	406	10	10 3/8	3.19	3 1/4	3 1/2	28	30	833
	84	371	10	10 3/8	3.32	3 1/4	3 1/2	24	32	762
	77	340	10	10 1/4	2.81	2 3/4	3	25	28	595
	70	309	10	10	2.75	2 3/4	3	23	28	547
CB 103A	64	282	10	10 1/2	2.74	2 3/4	3	20	28	476
	59	260	10	10 1/4	2.46	2 3/4	3	20	26	442
	54	238	10	10 1/8	2.24	2 1/4	2 1/2	20	24	340
	49	216	10	10	2.24	2 1/4	2 1/2	18	24	306
CB 102	42	185	10	8 3/8	2.17	2 1/4	2 1/2	16	24	272
	36	159	10	8 1/8	1.66	2	2	16	20	181
	31	137	10	8	1.59	1 1/2	1 1/2	14	20	119

Note: Rolled thickness includes allowance for planing on one side and is rounded up to nearest recommended standard thickness. Mill orders should specify the rolled thickness.

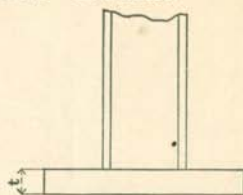


CARNEGIE STEEL COMPANY

STANDARD COLUMN BASE PLATES—Continued



8 AND 9-INCH  
COLUMNS



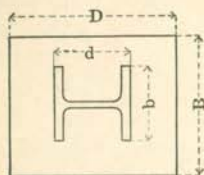
A. I. S. C. Formula—Maximum Bending Stress 18,000 Lbs. per Sq. In.

Column Section No.	Weight per Foot	Load in Thousands of Pounds	Column Dimensions		Pressure per Sq. In. on Concrete					
					500 Lbs.					
					Thickness t			B	D	Weight Rolled
Calculated	Finished	Rolled								
CB 93	48	212	9 1/4	9 1/8	2.27	2 1/4	2 1/2	18	24	306
	43	190	9 1/8	9	2.02	2	2	19	20	215
	38	168	9	9	1.73	2	2	17	20	193
CB 92	35	154	9 1/4	6 1/2	1.79	2	2	16	20	181
	32	141	9 1/8	6 1/2	1.79	2	2	16	18	163
	29	128	9	6 1/2	1.57	1 1/2	1 1/2	14	19	113
CB 83	90	397	9 3/8	8 1/4	3.38	3 3/4	4	25	32	907
	84	371	9 1/4	8 1/4	3.22	3 1/4	3 1/2	27	28	750
	78	344	9 1/4	8 3/8	2.05	3 1/4	3 1/2	25	28	694
	72	318	9 1/8	8 3/8	2.79	2 3/4	3	24	27	551
	66	291	9	8 3/8	2.79	2 3/4	3	24	24	490
	60	264	8 7/8	8 1/4	2.51	2 3/4	3	22	24	449
	54	238	8 5/8	8 1/4	2.34	2 3/4	3	20	24	408
	48	212	8 1/2	8 1/8	2.35	2 3/4	3	18	24	367
	42	185	8 3/8	8 1/8	2.10	2	2	19	20	215
	36	159	8 1/4	8	1.82	2	2	16	20	181
31	137	8	8	1.83	2	2	14	20	159	
CB 82	30	132	8 1/4	6 1/4	1.79	2	2	16	17	154
	27	119	8 1/8	6 1/2	1.65	2	2	15	16	136
	24	106	8	6 1/2	1.50	1 1/2	1 1/2	14	16	95

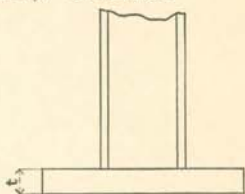
NOTE: Rolled thickness includes allowance for planing on one side and is rounded up to nearest recommended standard thickness. Mill orders should specify the rolled thickness.

ROLLED STEEL COLUMN BASES

STANDARD COLUMN BASE PLATES—Continued



8 AND 9-INCH  
COLUMNS



A. I. S. C. Formula—Maximum Bending Stress 18,000 Lbs. per Sq. In.

Column Section No.	Wgt. per Foot	Pressure per Sq. In. on Concrete										Weight Rolled	
		600 Lbs.					750 Lbs.						
		Thickness t			B	D	Weight Rolled	Thickness t			B		D
		Calculated	Finished	Rolled				Calculated	Finished	Rolled			
CB 93	48	2.06	2	2	18	20	204	1.94	2	2	16	18	163
	43	1.87	2	2	16	20	181	1.95	2	2	16	16	145
	38	1.88	2	2	14	20	159	1.59	2	2	14	16	127
CB 92	35	1.85	2	2	13	20	147	1.66	2	2	13	16	118
	32	1.80	2	2	15	16	136	1.48	1 1/2	1 1/2	12	16	82
	29	1.65	2	2	14	16	127	1.40	1 1/2	1 1/2	11	16	75
CB 83	90	3.07	3 1/4	3 1/2	24	28	666	3.06	3 1/4	3 1/2	22	24	524
	84	3.05	3 1/4	3 1/2	24	26	619	2.88	3 1/4	3 1/2	21	24	500
	78	3.10	3 1/4	3 1/2	21	28	583	2.76	2 3/4	3	19	24	388
	72	2.76	2 3/4	3	22	24	449	2.79	2 3/4	3	18	24	367
	66	2.52	2 3/4	3	20	24	408	2.81	2 3/4	3	16	24	326
	60	2.45	2 3/4	3	20	22	374	2.39	2 3/4	3	18	20	306
	54	2.53	2 3/4	3	20	20	340	2.16	2 1/4	2 1/2	16	20	227
	48	2.13	2 1/4	2 1/2	18	20	255	2.03	2	2	16	18	163
	42	1.98	2	2	16	20	181	1.86	2	2	15	16	136
36	1.84	2	2	16	17	154	1.70	2	2	14	16	127	
31	1.54	1 1/2	1 1/2	14	17	101	1.54	1 1/2	1 1/2	12	16	82	
CB 82	30	1.64	2	2	14	16	127	1.52	1 1/2	1 1/2	11	16	75
	27	1.49	1 1/2	1 1/2	13	16	88	1.54	1 1/2	1 1/2	10	16	68
	24	1.49	1 1/2	1 1/2	13	14	77	1.20	1 1/4	1 1/4	10	14	50

NOTE: Rolled thickness includes allowance for planing on one side and is rounded up to nearest recommended standard thickness. Mill orders should specify the rolled thickness.

# CARNEGIE STEEL COMPANY

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

## OFFICES

### GENERAL OFFICES:

**Pittsburgh**, Carnegie Building, 434 Fifth Avenue.

### DISTRICT OFFICES:

**Birmingham**, Brown-Marx Building, 2000 First Avenue, North,

**Boston**, Statler Office Building, 20 Providence Street,

**Buffalo**, The Marine Trust Co. Building, 233-239 Main Street,

**Chicago**, 208 South La Salle Street,

**Cincinnati**, Union Trust Building, Fourth and Walnut Streets,

**Cleveland**, Rockefeller Building, 614 Superior Avenue, N. W.,

**Denver**, First National Bank Building, 17th and Stout Streets,

**Detroit**, 2130 Buhl Building, 535 Griswold Street,

**New Orleans**, Maison Blanche, 921 Canal Street,

**New York**, Empire Building, 71 Broadway,

**Philadelphia**, Widener Building, Chestnut and Juniper Streets,

**Pittsburgh**, Carnegie Building, 434 Fifth Avenue,

**St. Louis**, 506 Olive Street,

**St. Paul**, 1308 Merchants National Bank Building, 4th & Robert Sts.

### EXPORT REPRESENTATIVES:

#### UNITED STATES STEEL PRODUCTS CO.

**New York**, Hudson Terminal, 30 Church Street.

#### PACIFIC COAST REPRESENTATIVES:

##### UNITED STATES STEEL PRODUCTS CO., PACIFIC COAST DEPT.

**Los Angeles**, 2087 East Slauson Avenue,

**Portland**, 777 Nicolai Street,

**San Francisco**, Russ Building, Pine and Montgomery Streets,

**Seattle**, Fourth Avenue South and Connecticut Street.