

SPECIAL LIGHT STRUCTURAL BEAMS



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ILLINOIS STEEL COMPANY
CHICAGO, ILLINOIS
1925

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SPECIAL LIGHT STRUCTURAL BEAMS



ROLLED BY
ILLINOIS STEEL COMPANY
CHICAGO, ILLINOIS

ILLINOIS STEEL COMPANY

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ILLINOIS STEEL COMPANY
Chicago, Illinois

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STEEL FURNACE PRODUCTS

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C. P. Toluol

Introductory

In response to a demand from Engineers, Architects and others interested in Structural Material, Illinois Steel Company developed and has furnished for several years a series of "I" Beam Sections lighter than the present American Standard Minimum Sections.

The demand for these Light Beams was caused by a desire to bring about better economy in the designing of buildings and other structural work where the depth and rigidity of the American Standard Beams were desired, but where their full strength was not required by the specified loading.

In developing these sections, we departed slightly from the range in depth of the American Standard "I" Beam Sections and included a beam 21 inches in depth. This was done to make the range in depth in the Light Beam Series more uniform than in the American Standard Beam Series.

The dimensions and properties of the Light Beam Series are shown on the following pages, and for convenience, we have also included tables showing the properties and carrying capacities of the American Standard "I" Beams rolled by us.

1925

Purchasers are requested to use
the following method in
ordering structural sections.

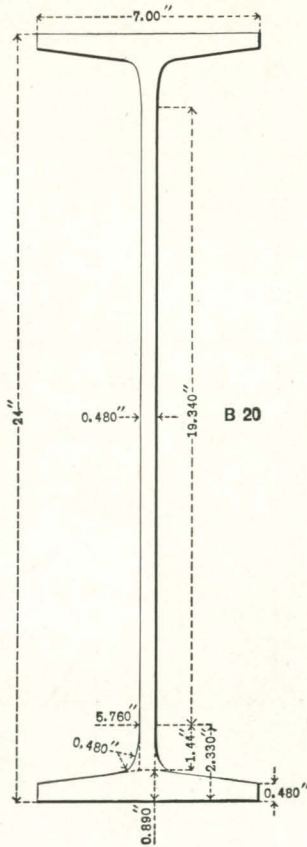
SPECIFY

WEIGHT per foot (not gage)

and

LENGTH in feet and inches

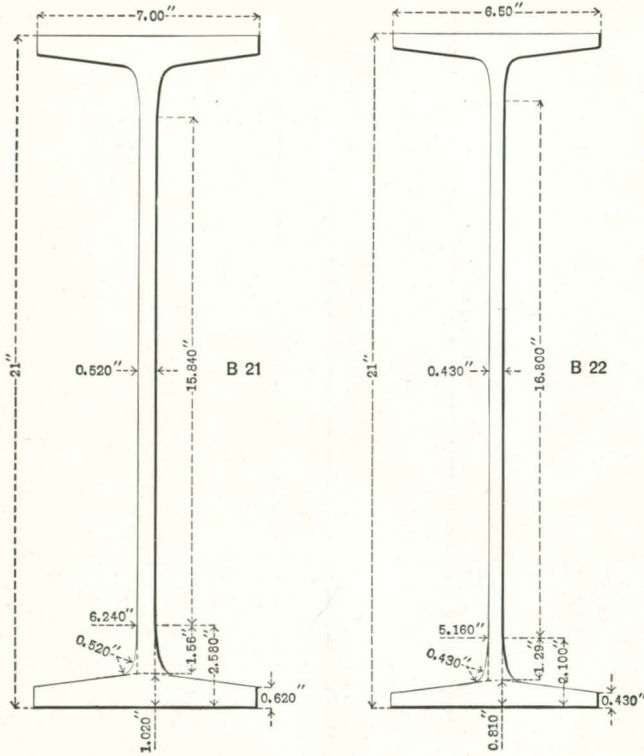
SPECIAL LIGHT STRUCTURAL BEAMS



Section Index	Depth of Beam, Inches	Weight per Foot, Pounds	Flange Width, Inches		Web Thickness, Inches	
			Decimal	Fractional	Decimal	Fractional
B 20	24	71.0	7.00	7	0.480	$\frac{31}{64}$

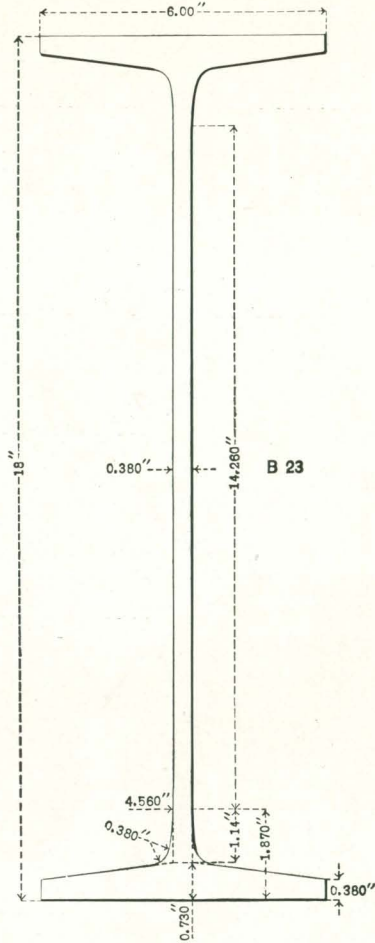
SPECIAL LIGHT STRUCTURAL BEAMS—Continued

1925



Section Index	Depth of Beam, Inches	Weight per Foot, Pounds	Flange Width, Inches		Web Thickness, Inches	
			Decimal	Fractional	Decimal	Fractional
B 21	21	75.0	7.00	7	0.520	$\frac{33}{64}$
B.22	21	58.0	6.50	$6\frac{1}{2}$	0.430	$\frac{7}{16}$

SPECIAL LIGHT STRUCTURAL BEAMS—Continued

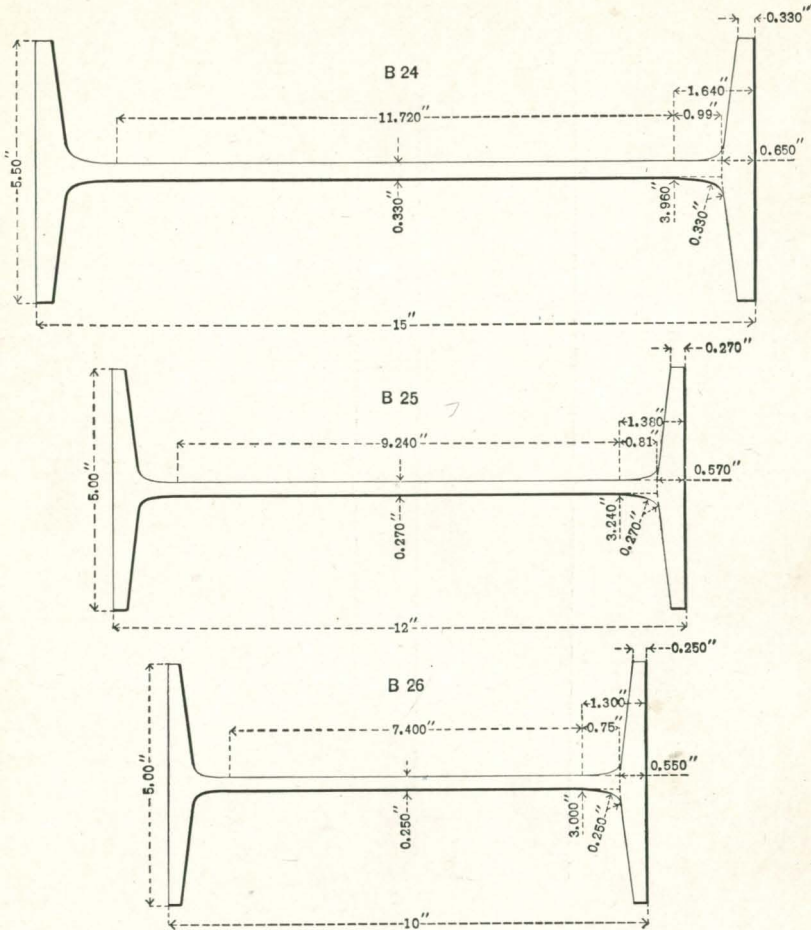


Section Index	Depth of Beam, Inches	Weight per Foot, Pounds	Flange Width, Inches		Web Thickness, Inches	
			Decimal	Fractional	Decimal	Fractional
B 23	18	46.0	6.00	6	0.380	$\frac{3}{8}$

ILLINOIS STEEL COMPANY

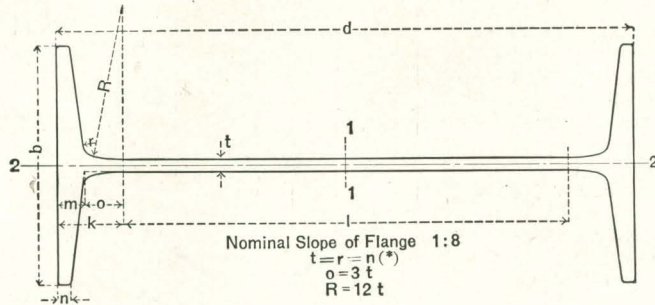
SPECIAL LIGHT STRUCTURAL BEAMS—Concluded

1925



Section Index	Depth of Beam, Inches	Weight per Foot, Pounds	Flange Width, Inches		Web Thickness, Inches	
			Decimal	Fractional	Decimal	Fractional
B 24	15	35.0	5.50	5½	0.330	21/64
B 25	12	25.0	5.00	5	0.270	17/64
B 26	10	22.0	5.00	5	0.250	1/4

DIMENSIONS AND PROPERTIES OF SPECIAL LIGHT STRUCTURAL BEAMS



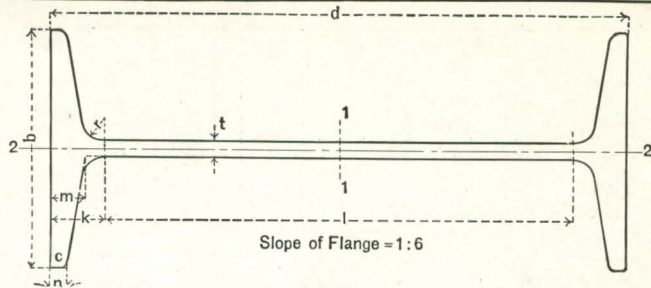
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Section Index	Dimensions in Inches									Depth, d Inches	Weight per Foot Pounds	Area of Section Sq. In.	Axis 1-1			Axis 2-2		
	b	t	m	n	o	R	r	k	l				I	S	r	I	S	r
													Inches ⁴	Inches ³	Inches	Inches ⁴	Inches ³	Inches
B 20	7.00	0.48	0.89	0.48	1.44	5.76	0.48	2.33	19.34	24	71	20.88	1815.	151.2	9.32	33.98	9.71	1.26
B 21	7.00	0.52	1.02	0.62*	1.56	6.24	0.52	2.58	15.84	21	75	22.05	1524.	145.1	8.32	41.90	11.97	1.38
B 22	6.50	0.43	0.81	0.43	1.29	5.16	0.43	2.10	16.80	21	58	16.90	1143.	108.8	8.22	24.50	7.54	1.20
B 23	6.00	0.38	0.73	0.38	1.14	4.56	0.38	1.87	14.26	18	46	13.34	675.7	75.1	7.12	17.14	5.71	1.13
B 24	5.50	0.33	0.65	0.33	0.99	3.96	0.33	1.64	11.72	15	35	10.22	367.9	49.0	6.00	11.56	4.20	1.06
B 25	5.00	0.27	0.57	0.27	0.81	3.24	0.27	1.38	9.24	12	25	7.35	175.5	29.2	4.89	7.30	2.92	1.00
B 26	5.00	0.25	0.55	0.25	0.75	3.00	0.25	1.30	7.40	10	22	6.42	110.3	22.1	4.15	6.87	2.75	1.03

*B 21 has extra heavy flange

DIMENSIONS AND PROPERTIES OF AMERICAN STANDARD BEAMS



Section Index	Dimensions in Inches								Depth, d Inches	Weight per Foot Pounds	Area of Section Sq. In.	Axis 1-1			Axis 2-2				
	b	t	m	n	r	c	k	l				I	S	r	I	S	r		
												Inches ⁴	Inches ³	Inches	Inches ⁴	Inches ³	Inches		
B 1	7.25	0.75	1.14	0.60	0.60	0.30	1 ⁵ / ₈	20 ³ / ₄	24	100.0	29.25	2371.8	197.6	9.05	48.4	13.4	1.29		
	7.19	0.69	1.14	0.60	0.60	0.30	1 ⁵ / ₈	20 ³ / ₄				95.0	27.79	2301.5	191.8	9.08	47.0	13.0	1.30
	7.12	0.62	1.14	0.60	0.60	0.30	1 ⁵ / ₈	20 ³ / ₄				90.0	26.30	2230.1	185.8	9.21	45.5	12.8	1.32
	7.06	0.56	1.14	0.60	0.60	0.30	1 ⁵ / ₈	20 ³ / ₄				85.0	24.84	2159.8	180.0	9.33	44.2	12.5	1.33
	7.00	0.50	1.14	0.60	0.60	0.30	1 ⁵ / ₈	20 ³ / ₄				79.9	23.33	2087.2	173.9	9.46	42.9	12.2	1.36
B 2	7.27	0.87	1.18	0.65	0.70	0.36	1 ³ / ₄	16 ¹ / ₂	20	100.0	29.20	1648.3	164.8	7.51	52.4	14.4	1.34		
	7.20	0.80	1.18	0.65	0.70	0.36	1 ³ / ₄	16 ¹ / ₂				95.0	27.74	1599.7	160.0	7.59	50.5	14.0	1.35
	7.13	0.73	1.18	0.65	0.70	0.36	1 ³ / ₄	16 ¹ / ₂				90.0	26.26	1550.3	155.0	7.68	48.7	13.7	1.36
	7.05	0.65	1.18	0.65	0.70	0.36	1 ³ / ₄	16 ¹ / ₂				85.0	24.80	1501.7	150.2	7.78	47.0	13.3	1.38
	7.00	0.60	1.18	0.65	0.70	0.36	1 ³ / ₄	16 ¹ / ₂				81.4	23.74	1466.3	146.6	7.86	45.8	13.1	1.39
B 3	6.39	0.64	1.03	0.55	0.60	0.30	1 ¹ / ₂	17	20	75.0	21.90	1263.5	126.3	7.60	30.1	9.4	1.17		
	6.32	0.57	1.03	0.55	0.60	0.30	1 ¹ / ₂	17				70.0	20.42	1214.2	121.4	7.71	28.9	9.2	1.19
	6.25	0.50	1.03	0.55	0.60	0.30	1 ¹ / ₂	17				65.4	19.08	1169.5	116.9	7.83	27.9	8.9	1.21
B 4	6.25	0.71	0.92	0.46	0.56	0.28	1 ³ / ₈	15 ¹ / ₄	18	70.0	20.46	917.5	101.9	6.70	24.5	7.8	1.09		
	6.17	0.63	0.92	0.46	0.56	0.28	1 ³ / ₈	15 ¹ / ₄				65.0	18.98	877.7	97.5	6.80	23.4	7.6	1.11
	6.09	0.55	0.92	0.46	0.56	0.28	1 ³ / ₈	15 ¹ / ₄				60.0	17.50	837.8	93.1	6.92	22.3	7.3	1.13
	6.00	0.46	0.92	0.46	0.56	0.28	1 ³ / ₈	15 ¹ / ₄				54.7	15.94	795.5	88.4	7.07	21.2	7.1	1.15
B 5	6.77	1.17	1.27	0.80	0.90	0.48	2	11	15	100.0	29.41	900.5	120.1	5.53	51.0	15.1	1.31		
	6.67	1.07	1.27	0.80	0.90	0.48	2	11				95.0	27.94	872.9	116.4	5.59	48.4	14.5	1.32
	6.57	0.97	1.27	0.80	0.90	0.48	2	11				90.0	26.47	845.4	112.7	5.65	45.9	14.0	1.32
	6.47	0.87	1.27	0.80	0.90	0.48	2	11				85.0	25.00	817.8	109.0	5.72	43.6	13.5	1.32
	6.40	0.80	1.27	0.80	0.90	0.48	2	11				81.3	23.81	795.5	106.1	5.78	41.8	13.1	1.32

B 6	6.28	0.87	1.04	0.59	0.69	0.35	15/8	113/4	15	75.0	21.85	687.2	91.6	5.61	30.6	9.8	1.18
	6.18	0.77	1.04	0.59	0.69	0.35	15/8	113/4		70.0	20.38	659.6	87.9	5.69	28.8	9.3	1.19
	6.08	0.67	1.04	0.59	0.69	0.35	15/8	113/4		65.0	18.91	632.1	84.3	5.78	27.2	8.9	1.20
	6.00	0.59	1.04	0.59	0.69	0.35	15/8	113/4		60.8	17.68	609.0	81.2	5.87	26.0	8.7	1.21
B 7	5.74	0.65	0.83	0.41	0.51	0.25	11/4	121/2	15	55.0	16.06	508.7	67.8	5.63	17.0	5.9	1.03
	5.64	0.55	0.83	0.41	0.51	0.25	11/4	121/2		50.0	14.59	481.1	64.2	5.74	16.0	5.7	1.05
	5.54	0.45	0.83	0.41	0.51	0.25	11/4	121/2		45.0	13.12	453.6	60.5	5.88	15.0	5.4	1.07
	5.50	0.41	0.83	0.41	0.51	0.25	11/4	121/2		42.9	12.49	441.8	58.9	5.95	14.6	5.3	1.08
B 8	5.60	0.81	0.86	0.46	0.56	0.28	13/8	91/4	12	55.0	16.04	319.3	53.2	4.46	17.3	6.2	1.04
	5.48	0.69	0.86	0.46	0.56	0.28	13/8	91/4		50.0	14.57	301.6	50.3	4.55	16.0	5.8	1.05
	5.36	0.57	0.86	0.46	0.56	0.28	13/8	91/4		45.0	13.10	284.1	47.3	4.66	14.8	5.5	1.06
	5.25	0.46	0.86	0.46	0.56	0.28	13/8	91/4		40.8	11.84	268.9	44.8	4.77	13.8	5.3	1.08
B 9	5.08	0.43	0.74	0.35	0.45	0.21	11/8	93/4	12	35.0	10.20	227.0	37.8	4.72	10.0	3.9	0.99
	5.00	0.35	0.74	0.35	0.45	0.21	11/8	93/4		31.8	9.26	215.8	36.0	4.83	9.5	3.8	1.01
B 10	5.09	0.74	0.67	0.31	0.41	0.19	1	8	10	40.0	11.69	158.0	31.6	3.68	9.4	3.7	0.90
	4.94	0.59	0.67	0.31	0.41	0.19	1	8		35.0	10.22	145.8	29.2	3.78	8.5	3.4	0.91
	4.80	0.45	0.67	0.31	0.41	0.19	1	8		30.0	8.75	133.5	26.7	3.91	7.6	3.2	0.93
	4.66	0.31	0.67	0.31	0.41	0.19	1	8		25.4	7.38	122.1	24.4	4.07	6.9	3.0	0.97
B 11	4.76	0.72	0.63	0.29	0.39	0.17	1	7	9	35.0	10.22	111.3	24.7	3.30	7.3	3.0	0.84
	4.60	0.56	0.63	0.29	0.39	0.17	1	7		30.0	8.76	101.4	22.5	3.40	6.4	2.8	0.85
	4.44	0.40	0.63	0.29	0.39	0.17	1	7		25.0	7.28	91.4	20.3	3.54	5.6	2.5	0.88
	4.33	0.29	0.63	0.29	0.39	0.17	1	7		21.8	6.32	84.9	18.9	3.67	5.2	2.4	0.90
B 12	4.26	0.53	0.58	0.27	0.37	0.16	7/8	61/4	8	25.5	7.43	68.1	17.0	3.03	4.7	2.2	0.80
	4.17	0.44	0.58	0.27	0.37	0.16	7/8	61/4		23.0	6.71	64.2	16.0	3.09	4.4	2.1	0.81
	4.08	0.35	0.58	0.27	0.37	0.16	7/8	61/4		20.5	5.97	60.2	15.1	3.18	4.0	2.0	0.82
	4.00	0.27	0.58	0.27	0.37	0.16	7/8	61/4		18.4	5.34	56.9	14.2	3.26	3.8	1.9	0.84
B 13	3.86	0.45	0.53	0.25	0.35	0.15	7/8	51/4	7	20.0	5.83	41.9	12.0	2.68	3.1	1.6	0.74
	3.76	0.35	0.53	0.25	0.35	0.15	7/8	51/4		17.5	5.09	38.9	11.1	2.77	2.9	1.6	0.76
	3.66	0.25	0.53	0.25	0.35	0.15	7/8	51/4		15.3	4.43	36.2	10.4	2.86	2.7	1.5	0.78
B 14	3.57	0.47	0.49	0.23	0.33	0.14	3/4	41/2	6	17.25	5.02	26.0	8.7	2.28	2.3	1.3	0.68
	3.44	0.34	0.49	0.23	0.33	0.14	3/4	41/2		14.75	4.29	23.8	7.9	2.36	2.1	1.2	0.69
	3.33	0.23	0.49	0.23	0.33	0.14	3/4	41/2		12.5	3.61	21.8	7.3	2.46	1.8	1.1	0.72
B 15	3.28	0.49	0.44	0.21	0.31	0.13	3/4	31/2	5	14.75	4.29	15.0	6.0	1.87	1.7	1.0	0.63
	3.14	0.35	0.44	0.21	0.31	0.13	3/4	31/2		12.25	3.56	13.5	5.4	1.95	1.4	0.91	0.63
	3.00	0.21	0.44	0.21	0.31	0.13	3/4	31/2		10.0	2.87	12.1	4.8	2.05	1.2	0.82	0.65
B 16	2.87	0.40	0.40	0.19	0.29	0.11	5/8	23/4	4	10.5	3.05	7.1	3.5	1.52	1.0	0.70	0.57
	2.80	0.33	0.40	0.19	0.29	0.11	5/8	23/4		9.5	2.76	6.7	3.3	1.56	0.91	0.65	0.58
	2.72	0.25	0.40	0.19	0.29	0.11	5/8	23/4		8.5	2.46	6.3	3.2	1.60	0.83	0.61	0.58
	2.66	0.19	0.40	0.19	0.29	0.11	5/8	23/4		7.7	2.21	6.0	3.0	1.64	0.77	0.58	0.59
B 17	2.51	0.35	0.35	0.17	0.27	0.10	5/8	13/4	3	7.5	2.17	2.9	1.9	1.15	0.59	0.47	0.52
	2.41	0.25	0.35	0.17	0.27	0.10	5/8	13/4		6.5	1.88	2.7	1.8	1.19	0.51	0.43	0.52
	2.33	0.17	0.35	0.17	0.27	0.10	5/8	13/4		5.7	1.64	2.5	1.7	1.23	0.46	0.40	0.53

ILLINOIS STEEL COMPANY

AMERICAN STANDARD
AND
SPECIAL LIGHT STRUCTURAL BEAMS

BEAMS—SAFE LOADS UNIFORMLY DISTRIBUTED IN THOUSANDS OF POUNDS

Span in feet	Section Number												
	B 1			B 20	B 21	B 22	B 2						
	Depth in Inches												
	24			24	21	21	20						
Pounds per Foot													
	100	95	90	85	79.9	71	75	58	100	95	90	85	81.4
5	358.6								349.2	320.0	290.4		
6	351.4	329.3	299.5					180.6	293.0	284.4	275.6	261.2	240.0
7	301.1	292.3	283.2	270.2	240.0	230.0	218.4	165.9	251.2	243.8	236.2	228.8	223.4
8	263.5	255.7	247.8	240.0	231.9	201.7	193.5	145.1	219.8	213.3	206.7	200.2	195.5
9	234.2	227.3	220.2	213.3	206.1	179.3	172.0	129.0	195.4	189.6	183.8	178.0	173.8
10	210.8	204.6	198.2	192.0	185.5	161.3	154.8	116.1	175.8	170.6	165.4	160.2	156.4
11	191.6	186.0	180.2	174.5	168.7	146.7	140.7	105.6	159.9	155.1	150.3	145.6	142.2
12	175.7	170.5	165.2	160.0	154.6	134.4	129.0	96.8	146.5	142.2	137.8	133.5	130.3
13	162.1	157.4	152.5	147.7	142.7	124.1	119.1	89.3	135.2	131.2	127.2	123.2	120.3
14	150.6	146.1	141.6	137.1	132.5	115.2	110.6	82.9	125.6	121.9	118.1	114.4	111.7
15	140.6	136.4	132.2	128.0	123.7	107.6	103.2	77.4	117.2	113.7	110.3	106.8	104.3
16	131.8	127.8	123.9	120.0	116.0	100.8	96.8	72.6	109.9	106.6	103.4	100.1	97.8
17	124.0	120.3	116.6	112.9	109.1	94.9	91.1	68.3	103.4	100.4	97.3	94.2	92.0
18	117.1	113.7	110.1	106.7	103.1	89.6	86.0	64.5	97.7	94.8	91.9	89.0	86.9
19	110.9	107.7	104.3	101.0	97.6	84.9	81.5	61.1	92.5	89.8	87.0	84.3	82.3
20	105.4	102.3	99.1	96.0	92.8	80.7	77.4	58.1	87.9	85.3	82.7	80.1	78.2
21	100.4	97.4	94.4	91.4	88.3	76.8	73.7	55.3	83.7	81.3	78.8	76.3	74.5
22	95.8	93.0	90.1	87.3	84.3	73.3	70.4	52.8	79.9	77.6	75.2	72.8	71.1
23	91.7	89.0	86.2	83.5	80.7	70.1	67.3	50.5	76.4	74.2	71.9	69.7	68.0
24	87.8	85.3	82.6	80.0	77.3	67.2	64.5	48.4	73.3	71.1	68.9	66.7	65.2
25	84.3	81.8	79.3	76.8	74.2	64.5	61.9	46.4	70.3	68.3	66.2	64.1	62.6
26	81.1	78.7	76.2	73.8	71.4	62.1	59.5	44.7	67.6	65.6	63.6	61.6	60.2
27	78.1	75.8	73.4	71.1	68.7	59.8	57.3	43.0	65.1	63.2	61.2	59.3	57.9
28	75.3	73.1	70.8	68.6	66.3	57.6	55.3	41.5	62.8	60.9	59.0	57.2	55.9
29	72.7	70.6	68.4	66.2	64.0	55.6	53.4	40.0	60.6	58.8	57.0	55.2	53.9
30	70.3	68.2	66.1	64.0	61.8	53.8	51.6	38.7	58.6	56.9	55.1	53.4	52.1
31	68.0	66.0	63.9	61.9	59.8	52.0	49.9	37.5	56.7	55.0	53.4	51.7	50.5
32	65.9	63.9	62.0	60.0	58.0	50.4	48.4	36.3	54.9	53.3	51.7	50.1	48.9
33	63.9	62.0	60.1	58.2	56.2	48.9	46.9	35.2	53.3	51.7	50.1	48.5	47.4
34	62.0	60.2	58.3	56.5	54.6	47.5	45.5	34.2	51.7	50.2	48.6	47.1	46.0
35	60.2	58.4	56.6	54.9	53.0	46.1	44.2	33.2	50.2	48.8	47.2	45.8	44.7
36	58.6	56.8	55.1	53.3	51.5	44.8	43.0	32.3	48.8	47.4	45.9	44.5	43.4
37	57.0	55.3	53.6	51.9	50.1	43.6	41.8	31.4	47.5	46.1	44.7	43.3	42.3
38	55.5	53.8	52.2	50.5	48.8	42.5	40.7	30.6	46.3	44.9	43.5	42.1	41.2
39	54.1	52.5	50.8	49.2	47.6	41.4	39.7	29.8	45.1	43.8	42.4	41.1	40.1
40	52.7	51.1	49.6	48.0	46.4	40.3	38.7	29.0	44.0	42.7	41.3	40.0	39.1
41	51.4	49.9	48.4	46.8	45.3	39.3	37.8	28.3	42.9	41.6	40.3	39.1	38.1
42	50.2	48.7	47.2	45.7	44.2	38.4	36.9	27.6	41.9	40.6	39.4	38.1	37.2
43	49.0	47.6	46.1	44.6	43.1	37.5	36.0	27.0					
44	47.9	46.5	45.1	43.6	42.2	36.7	35.2	26.4					
45	46.8	45.5	44.1	42.7	41.2	35.9							
46	45.8	44.5	43.1	41.7	40.3	35.1							
47	44.9	43.5	42.2	40.8	39.5	34.3							
48	43.9	42.6	41.3	40.0	38.7	33.6							
49	43.0	41.8	40.5	39.2	37.9	32.9							
50	42.2	40.9	39.6	38.4	37.1	32.3							

ILLINOIS STEEL COMPANY

AMERICAN STANDARD
AND
SPECIAL LIGHT STRUCTURAL BEAMS

BEAMS—SAFE LOADS UNIFORMLY DISTRIBUTED IN THOUSANDS OF POUNDS

Span in feet	Section Number												
	B 3			B 4			B 23	B 5					
	Depth in Inches												
	20			18			18	15					
Pounds per Foot													
	75	70	65.4	70	65	60	54.7	46	100	95	90	85	81.3
1													
2													
3													
4				256.0	226.4				354.0	327.0			
5	256.4	226.8		217.5	208.0	196.9	165.6	136.8	256.1	248.3	240.4	232.6	226.3
6	224.6	215.9	200.0	181.2	173.4	165.5	157.1	133.5	213.5	206.9	200.4	193.8	188.6
7	192.5	185.0	178.2	155.3	148.5	141.8	134.7	114.4	183.0	177.4	171.8	166.2	161.6
8	168.5	161.9	155.9	135.9	130.0	124.1	117.9	100.1	160.1	155.2	150.3	145.4	141.4
9	149.7	143.9	138.6	120.8	115.6	110.3	104.8	89.0	142.3	137.9	133.6	129.2	125.7
10	134.8	129.5	124.7	108.7	104.0	99.3	94.3	80.1	128.1	124.1	120.2	116.3	113.1
11	122.5	117.7	113.4	98.9	94.6	90.3	85.7	72.8	116.4	112.8	109.3	105.7	102.9
12	112.3	107.9	104.0	90.6	86.7	82.7	78.6	66.7	106.7	103.4	100.2	96.9	94.3
13	103.7	99.6	96.0	83.7	80.0	76.4	72.5	61.6	98.5	95.5	92.5	89.5	87.0
14	96.3	92.5	89.1	77.7	74.3	70.9	67.3	57.2	91.5	88.7	85.9	83.1	80.8
15	89.9	86.3	83.2	72.5	69.4	66.2	62.9	53.4	85.4	82.7	80.2	77.5	75.4
16	84.2	81.0	78.0	68.0	65.0	62.1	58.9	50.1	80.0	77.6	75.1	72.7	70.7
17	79.3	76.2	73.4	64.0	61.2	58.4	55.5	47.1	75.3	73.0	70.7	68.4	66.6
18	74.9	72.0	69.3	60.4	57.8	55.2	52.4	44.5	71.1	69.0	66.8	64.6	62.9
19	70.9	68.2	65.7	57.2	54.8	52.3	49.6	42.1	67.4	65.3	63.3	61.2	59.5
20	67.4	64.8	62.4	54.4	52.0	49.7	47.1	40.0	64.0	62.1	60.1	58.2	56.6
21	64.2	61.7	59.4	51.8	49.5	47.3	44.9	38.1	61.0	59.1	57.2	55.4	53.9
22	61.3	58.9	56.7	49.4	47.3	45.1	42.9	36.4	58.2	56.4	54.6	52.9	51.4
23	58.6	56.3	54.2	47.3	45.2	43.2	41.0	34.8	55.7	54.0	52.3	50.6	49.2
24	56.2	54.0	52.0	45.3	43.3	41.4	39.3	33.4	53.4	51.7	50.1	48.5	47.1
25	53.9	51.8	49.9	43.5	41.6	39.7	37.7	32.0	51.2	49.7	48.1	46.5	45.2
26	51.8	49.8	48.0	41.8	40.0	38.2	36.3	30.8	49.3	47.7	46.2	44.7	43.5
27	49.9	48.0	46.2	40.3	38.5	36.8	34.9	29.7	47.4	46.0	44.5	43.1	41.9
28	48.1	46.3	44.6	38.8	37.1	35.5	33.7	28.6	45.7	44.3	42.9	41.5	40.4
29	46.5	44.7	43.0	37.5	35.9	34.2	32.5	27.6	44.2	42.8	41.5	40.1	39.0
30	44.9	43.2	41.6	36.2	34.7	33.1	31.4	26.7	42.7	41.4	40.1	38.8	37.7
31	43.5	41.8	40.2	35.1	33.6	32.0	30.4	25.8	41.3	40.0	38.8	37.5	36.5
32	42.1	40.5	39.0	34.0	32.5	31.0	29.5	25.0	40.0	38.8	37.6	36.3	35.4
33	40.8	39.2	37.8	33.0	31.5	30.1	28.6	24.3					
34	39.6	38.1	36.7	32.0	30.6	29.2	27.7	23.6					
35	38.5	37.0	35.6	31.0	29.7	28.4	26.9	22.9					
36	37.4	36.0	34.7	30.2	28.9	27.6	26.2	22.2					
37	36.4	35.0	33.7	29.4	28.1	26.8	25.5	21.6					
38	35.5	34.1	32.8	28.6	27.4	26.1	24.8	21.1					
39	34.6	33.2	32.0										
40	33.7	32.4	31.2										
41	32.9	31.6	30.4										
42	32.1	30.8	29.7										

ILLINOIS STEEL COMPANY

AMERICAN STANDARD
AND
SPECIAL LIGHT STRUCTURAL BEAMS

BEAMS—SAFE LOADS UNIFORMLY DISTRIBUTED IN THOUSANDS OF POUNDS

Span in Feet	Section Number												
	B 6			B 7				B 24	B 8				
	Depth in Inches												
	15			15				15	12				
	Pounds per Foot												
	75	70	65	60.8	55	50	45	42.9	35	55	50	45	40.8
1													
2										194.4			
3	260.4				194.4					189.2	164.9	135.6	
4	244.3	231.0	201.6	177.0	180.9	165.0	135.6			141.9	134.1	126.3	110.4
5	195.5	187.6	179.8	173.2	144.7	136.9	129.0	123.0	99.0	113.5	107.2	101.0	95.6
6	162.9	156.4	149.8	144.4	120.6	114.1	107.5	104.7	87.2	94.6	89.4	84.2	79.7
7	139.7	134.0	128.4	123.7	103.3	97.7	92.1	89.7	74.7	81.1	76.6	72.1	68.3
8	122.2	117.3	112.4	108.3	90.4	85.5	80.6	80.6	78.5	65.4	71.0	67.0	63.1
9	108.6	104.2	99.9	96.2	80.4	76.0	71.7	69.8	58.1	63.1	59.6	56.1	53.1
10	97.7	93.8	89.9	86.6	72.3	68.4	64.5	62.8	52.3	56.8	53.6	50.5	47.8
11	88.9	85.3	81.7	78.7	65.8	62.3	58.6	57.1	47.6	51.6	48.7	45.9	43.5
12	81.5	78.2	74.9	72.2	60.3	57.0	53.7	52.4	43.6	47.3	44.7	42.1	39.8
13	75.2	72.2	69.1	66.6	55.6	52.6	49.6	48.3	40.2	43.7	41.2	38.8	36.8
14	69.8	67.0	64.2	61.9	51.7	48.9	46.1	44.9	37.4	40.6	38.3	36.1	34.2
15	65.2	62.5	59.9	57.7	48.2	45.6	43.0	41.9	34.9	37.8	35.7	33.7	31.9
16	61.1	58.6	56.2	54.1	45.2	42.8	40.3	39.3	32.7	35.5	33.5	31.6	29.9
17	57.5	55.2	52.9	50.9	42.6	40.2	37.9	37.0	30.8	33.4	31.5	29.7	28.1
18	54.3	52.1	49.9	48.1	40.2	38.0	35.8	34.9	29.1	31.5	29.8	28.1	26.6
19	51.4	49.4	47.3	45.6	38.1	36.0	33.9	33.1	27.5	29.9	28.2	26.6	25.2
20	48.9	46.9	44.9	43.3	36.2	34.2	32.2	31.4	26.2	28.4	26.8	25.3	23.9
21	46.5	44.7	42.8	41.2	34.5	32.6	30.7	29.9	24.9	27.0	25.5	24.0	22.8
22	44.4	42.7	40.9	39.4	32.9	31.1	29.3	28.6	23.8	25.8	24.4	23.0	21.7
23	42.5	40.8	39.1	37.7	31.5	29.8	28.0	27.3	22.7	24.7	23.3	22.0	20.8
24	40.7	39.1	37.5	36.1	30.1	28.5	26.9	26.2	21.8	23.7	22.3	21.0	19.9
25	39.1	37.5	36.0	34.6	28.9	27.4	25.8	25.1	20.9	22.7	21.4	20.2	19.1
26	37.6	36.1	34.6	33.3	27.8	26.3	24.8	24.2	20.1	21.8	20.6	19.4	18.4
27	36.2	34.7	33.3	32.1	26.8	25.3	23.9	23.3	19.4				
28	34.9	33.5	32.1	30.9	25.8	24.4	23.0	22.4	18.7				
29	33.7	32.3	31.0	29.9	24.9	23.6	22.2	21.7	18.0				
30	32.6	31.3	30.0	28.9	24.1	22.8	21.5	20.9	17.4				
31	31.5	30.3	29.0	27.9	23.3	22.1	20.8	20.3	16.9				
32	30.5	29.3	28.1	27.1	22.6	21.4	20.2	19.6	16.3				

ILLINOIS STEEL COMPANY

**AMERICAN STANDARD
AND
SPECIAL LIGHT STRUCTURAL BEAMS**

BEAMS—SAFE LOADS UNIFORMLY DISTRIBUTED IN THOUSANDS OF POUNDS

Span in Feet	Section Number											
	B 9		B 25		B 10			B 26		B 11		
	Depth in Inches											
	12		12		10			10		9		
	Pounds per Foot											
	35	31.8	25	40	35	30	25.4	22	35	30	25	21.8
2				148.2	118.8				130.3	101.0		
3	102.7			112.4	103.7	89.4			87.9	80.1	71.5	52.2
4	100.9	84.0	64.8	84.3	77.7	71.2	62.0	50.0	66.0	60.1	54.2	50.3
5	80.7	76.7	62.4	67.4	62.2	57.0	52.1	47.1	52.8	48.1	43.3	40.3
6	67.3	63.9	52.0	56.2	51.8	47.5	43.4	39.2	44.0	40.1	36.1	33.6
7	57.6	54.8	44.6	48.1	44.4	40.7	37.2	33.6	37.7	34.3	31.0	28.8
8	50.5	48.0	39.0	42.1	38.9	35.6	32.6	29.4	33.0	30.0	27.1	25.2
9	44.9	42.6	34.7	37.5	34.6	31.6	28.9	26.1	29.3	26.7	24.1	22.4
10	40.4	38.4	31.2	33.7	31.1	28.5	26.0	23.5	26.4	24.0	21.7	20.1
11	36.7	34.9	28.4	30.6	28.3	25.9	23.7	21.4	24.0	21.8	19.7	18.3
12	33.6	32.0	26.0	28.1	25.9	23.7	21.7	19.6	22.0	20.0	18.1	16.8
13	31.0	29.5	24.0	25.9	23.9	21.9	20.0	18.1	20.3	18.5	16.7	15.5
14	28.8	27.4	22.3	24.1	22.2	20.3	18.6	16.8	18.8	17.2	15.5	14.4
15	26.9	25.6	20.8	22.5	20.7	19.0	17.4	15.7	17.6	16.0	14.4	13.4
16	25.2	24.0	19.5	21.1	19.4	17.8	16.3	14.7	16.5	15.0	13.5	12.6
17	23.7	22.6	18.4	19.8	18.3	16.8	15.3	13.8	15.5	14.1	12.7	11.8
18	22.4	21.3	17.3	18.7	17.3	15.8	14.5	13.1	14.7	13.3	12.0	11.2
19	21.2	20.2	16.4	17.7	16.4	15.0	13.7	12.4	13.9	12.6	11.4	10.6
20	20.2	19.2	15.6	16.9	15.5	14.2	13.0	11.8	13.2	12.0	10.8	10.1
21	19.2	18.3	14.9	16.1	14.8	13.6	12.4	11.2				
22	18.3	17.4	14.2	15.3	14.1	12.9	11.8	10.7				
23	17.5	16.7	13.6									
24	16.8	16.0	13.0									
25	16.1	15.3	12.5									
26	15.5	14.8	12.0									

ILLINOIS STEEL COMPANY

**AMERICAN STANDARD
AND
SPECIAL LIGHT STRUCTURAL BEAMS**

BEAMS—SAFE LOADS UNIFORMLY DISTRIBUTED IN THOUSANDS OF POUNDS

Span in feet	Section Number									
	B 12			B 13				B 14		
	Depth in Inches									
	8			7				6		
	Pounds per Foot									
	25.5	23	20.5	18.4	20	17.5	15.3	17.25	14.75	12.5
1								55.8		
2	85.1	70.6	55.8		63.0	48.3		46.3	41.2	27.6
3	60.5	57.0	53.5	43.2	42.6	39.6	35.0	30.8	28.2	25.8
4	45.4	42.8	40.2	37.9	32.0	29.7	27.6	23.1	21.2	19.4
5	36.3	34.2	32.1	30.3	25.6	23.7	22.1	18.5	16.9	15.5
6	30.2	28.5	26.8	25.3	21.3	19.8	18.4	15.4	14.1	12.9
7	25.9	24.4	22.9	21.7	18.3	17.0	15.8	13.2	12.1	11.1
8	22.7	21.4	20.1	19.0	16.0	14.8	13.8	11.6	10.6	9.7
9	20.2	19.0	17.9	16.9	14.2	13.2	12.3	10.3	9.4	8.6
10	18.1	17.1	16.1	15.2	12.8	11.9	11.0	9.3	8.5	7.7
11	16.5	15.6	14.6	13.8	11.6	10.8	10.0	8.4	7.7	7.0
12	15.1	14.3	13.4	12.6	10.7	9.9	9.2	7.7	7.1	6.5
13	14.0	13.2	12.4	11.7	9.8	9.1	8.5	7.1	6.5	6.0
14	13.0	12.2	11.5	10.8	9.1	8.5	7.9	6.6	6.1	5.5
15	12.1	11.4	10.7	10.1	8.5	7.9	7.4			
16	11.3	10.7	10.0	9.5	8.0	7.4	6.9			
17	10.7	10.1	9.5	8.9						
18	10.1	9.5	8.9	8.4						

ILLINOIS STEEL COMPANY

**AMERICAN STANDARD
AND
SPECIAL LIGHT STRUCTURAL BEAMS**

BEAMS—SAFE LOADS UNIFORMLY DISTRIBUTED IN THOUSANDS OF POUNDS

Span in Feet	Section Number									
	B 15			B 16				B 17		
	Depth in Inches									
	5			4				3		
	Pounds per Foot									
	14.75	12.25	10.00	10.50	9.50	8.50	7.70	7.50	6.50	5.70
1	49.4	34.7		32.0	26.1	20.2		20.9		10.2
2	32.1	28.8	21.0	18.9	17.8	16.8	15.2	20.5	15.1	8.8
3	21.4	19.2	17.2	12.6	11.9	11.2	10.6	10.3	9.5	8.8
4	16.1	14.4	12.9	9.4	8.9	8.4	8.0	6.8	6.3	5.9
5	12.8	11.5	10.3	7.6	7.1	6.7	6.4	5.1	4.7	4.4
6	10.7	9.6	8.6	6.3	6.0	5.6	5.3	4.1	3.8	3.5
7	9.2	8.2	7.4	5.4	5.1	4.8	4.5	3.4	3.2	2.9
8	8.0	7.2	6.4	4.7	4.5	4.2	4.0	2.9	2.7	2.5
9	7.1	6.4	5.7	4.2	4.0	3.7	3.5	2.6	2.4	2.2
10	6.4	5.8	5.2	3.8	3.6	3.4	3.2			
11	5.8	5.2	4.7							
12	5.4	4.8	4.3							

Safe loads are based upon a maximum bending stress of 16,000 pounds per square inch and include the weight of the beam. Beams to be secured against lateral deflection. Figures above upper horizontal lines indicate maximum loads for web resistance. Loads

below lower horizontal lines produce a deflection exceeding $\frac{1}{360}$ of span, the allowable deflection for plastered ceilings.

