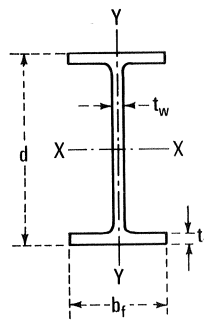


WIDE FLANGE SHAPES



Theoretical Dimensions and Properties for Designing

Section Number and Nominal Size	Weight per Foot	Area of Section	Depth of Section	Flange		Web Thickness	Axis X-X		
				Width	Thickness		I	S	r
				b _f	t _f				
in.	lb	in. ²	in.	in.	in.	in.	in. ⁴	in. ³	in.
W10 x	112	32.9	11.38	10.415	1.248	0.755	719	126	4.67
B10B	100	29.4	11.12	10.345	1.118	0.685	625	112	4.61
10 x 10	89	26.2	10.88	10.275	0.998	0.615	542	99.7	4.55
	77	22.7	10.62	10.195	0.868	0.535	457	86.1	4.49
	72	21.2	10.50	10.170	0.808	0.510	421	80.1	4.46
	66	19.4	10.38	10.117	0.748	0.457	382	73.7	4.44
	60	17.7	10.25	10.075	0.683	0.415	344	67.1	4.41
	54	15.9	10.12	10.028	0.618	0.368	306	60.4	4.39
	49	14.4	10.00	10.000	0.558	0.340	273	54.6	4.35
W10 x	45	13.2	10.12	8.022	0.618	0.350	249	49.1	4.33
B10A	39	11.5	9.94	7.990	0.528	0.318	210	42.2	4.27
10 x 8	33	9.71	9.75	7.964	0.433	0.292	171	35.0	4.20
W10 x	29	8.54	10.22	5.799	0.500	0.289	158	30.8	4.30
B10	25	7.36	10.08	5.762	0.430	0.252	133	26.5	4.26
10 x 5 1/2	21	6.20	9.90	5.750	0.340	0.240	107	21.5	4.15
W10 x	19	5.61	10.25	4.020	0.394	0.250	96.3	18.8	4.14
B10L^a	17	4.99	10.12	4.010	0.329	0.240	81.9	16.2	4.05
10 x 4	15	4.41	10.00	4.000	0.269	0.230	68.9	13.8	3.95
	11.5	3.39	9.87	3.950	0.204	0.180	52.0	10.5	3.92
W8 x	67	19.7	9.00	8.287	0.933	0.575	272	60.4	3.71
B8B	58	17.1	8.75	8.222	0.808	0.510	227	52.0	3.65
8 x 8	48	14.1	8.50	8.117	0.683	0.405	184	43.2	3.61
	40	11.8	8.25	8.077	0.558	0.365	146	35.5	3.53
	35	10.3	8.12	8.027	0.493	0.315	126	31.1	3.50
	31	9.12	8.00	8.000	0.433	0.288	110	27.4	3.47
W8 x	28	8.23	8.06	6.540	0.463	0.285	97.8	24.3	3.45
B8A	24	7.06	7.93	6.500	0.398	0.245	82.5	20.8	3.42
8 x 6 1/2									
W8 x	20	5.89	8.14	5.268	0.378	0.248	69.4	17.0	3.43
B8	17	5.01	8.00	5.250	0.308	0.230	56.6	14.1	3.36
8 x 5 1/2									

Weight per Foot	Axis Y-Y			r _T	d A _f	b _f 2t _f	d t _w	Torsional Constant	Warping Constant	Plastic Modulus	
	I	S	r							Z _x	Z _y
	in. ⁴	in. ³	in.					in. ⁴	in. ⁶	in. ³	in. ³
112	235	45.2	2.67	2.94	0.876	4.17	15.1	15.0	6040	148	69.1
100	207	39.9	2.65	2.91	0.961	4.63	16.2	10.8	5170	130	61.0
89	181	35.2	2.63	2.88	1.06	5.15	17.7	7.74	4410	114	53.6
77	153	30.1	2.60	2.85	1.20	5.87	19.9	5.11	3650	97.8	45.8
72	142	27.9	2.59	2.84	1.28	6.29	20.6	4.17	3330	90.6	42.4
66	129	25.5	2.58	2.82	1.37	6.76	22.7	3.27	3000	82.8	38.8
60	116	23.1	2.57	2.80	1.49	7.38	24.7	2.49	2670	75.0	35.1
54	104	20.7	2.56	2.78	1.63	8.11	27.5	1.84	2350	67.1	31.4
49	93.0	18.6	2.54	2.77	1.79	8.96	29.4	1.38	2070	60.3	28.2
45	53.2	13.3	2.00	2.21	2.04	6.49	28.9	1.50	1200	54.9	20.2
39	44.9	11.2	1.98	2.19	2.36	7.57	31.3	0.971	995	46.9	17.1
33	36.5	9.16	1.94	2.16	2.83	9.20	33.4	0.580	792	38.8	14.0
29	16.3	5.61	1.38	1.57	3.52	5.80	35.4	0.579	384	34.7	8.62
25	13.7	4.76	1.37	1.56	4.07	6.70	40.0	0.373	320	29.6	7.30
21	10.8	3.75	1.32	1.53	5.06	8.46	41.3	0.210	246	24.1	5.77
19	4.28	2.13	0.874	1.05	6.47	5.10	41.0	0.232	104	21.6	3.35
17	3.55	1.77	0.844	1.03	7.67	6.09	42.2	0.155	85.1	18.6	2.80
15	2.88	1.44	0.809	1.00	9.29	7.43	43.5	0.104	68.2	16.0	2.29
11.5	2.10	1.06	0.787	0.975	12.2	9.68	54.8	0.049	49.1	12.2	1.68
67	88.6	21.4	2.12	2.33	1.16	4.44	15.7	5.05	1440	70.2	32.7
58	74.9	18.2	2.10	2.31	1.32	5.09	17.2	3.32	1180	59.7	27.8
48	60.9	15.0	2.08	2.27	1.53	5.94	21.0	1.96	931	49.0	22.8
40	49.0	12.1	2.04	2.24	1.83	7.24	22.6	1.12	725	39.8	18.5
35	42.5	10.6	2.03	2.22	2.05	8.14	25.8	0.768	618	34.7	16.1
31	37.0	9.24	2.01	2.21	2.31	9.24	27.8	0.534	529	30.4	14.0
28	21.6	6.61	1.62	1.80	2.66	7.06	28.3	0.533	312	27.1	10.1
24	18.2	5.61	1.61	1.78	3.07	8.17	32.4	0.343	259	23.1	8.54
20	9.22	3.50	1.25	1.42	4.09	6.97	32.8	0.245	139	19.1	5.37
17	7.44	2.83	1.22	1.40	4.95	8.52	34.8	0.147	110	15.9	4.36

All shapes on this page have parallel-faced flanges.
^aBethlehem designation for 11.5 lb section was BJ10.