

Wide Flange Beam Conversion Factors



Member Size	W/D Value	Metric Designation	M/D Value	Hp/A Value	Square Ft. / Lin. Foot	Square M. / Lin. Meter	
W44 x 335	2.52	W1120 x 498	148.7	53.2	11.1	3.38	
	290		432	129.8	60.9	11.0	3.35
	262		390	118.0	67.0	10.9	3.32
	230		342	104.4	75.7	10.8	3.29
W40 x 593	4.56	W1000 x 883	269.0	29.4	10.8	3.29	
	503		748	231.9	34.1	10.7	3.26
	431		641	201.8	39.2	10.5	3.20
	397		591	185.9	42.5	10.5	3.20
	392		583	199.4	39.6	9.67	2.95
	372		554	175.8	45.0	10.4	3.17
	362		539	171.1	46.2	10.4	3.17
	331		493	171.1	46.2	9.5	2.90
	327		487	170.5	46.4	9.42	2.87
	324		482	154.0	51.3	10.3	3.14
	297		442	142.2	55.6	10.3	3.14
	278		414	146.3	54.0	9.33	2.84
	277		412	132.8	59.5	10.3	3.14
	264		393	139.2	56.8	9.33	2.84
	249		371	119.2	66.3	10.3	3.14
	235		350	123.9	63.8	9.33	2.84
	215		321	103.8	76.1	10.2	3.11
	211		314	112.1	70.5	9.25	2.82
	199		296	96.8	81.7	10.1	3.08
	183		272	97.9	80.7	9.17	2.80
	167		249	90.3	87.6	9.08	2.77
149	222	80.8	97.8	9.08	2.77		
W36 x 798	6.09	W920 x 1188	359.3	22.0	10.9	3.32	
	650		967	299.7	26.4	10.7	3.26
	527		784	249.0	31.7	10.4	3.17
	439		653	210.6	37.5	10.3	3.14
	393		585	191.8	41.2	10.1	3.08
	359		534	175.2	45.1	10.1	3.08
	328		488	161.1	49.1	10.0	3.05
	300		446	147.5	53.6	10.0	3.05
	280		417	138.7	57.0	9.92	3.02
	260		387	128.6	61.5	9.92	3.02
	256		381	139.8	56.5	9	2.74
	245		365	122.7	64.4	9.83	3.00
	232		345	126.9	62.3	9	2.74
	230		342	115.1	68.7	9.83	3.00

The W/D ratios and Square foot factors herein were obtained from the AISC Manual of Steel Construction – Load and Resistance Factor Design – Third Edition.

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Member Size	W/D Value	Metric Designation	M/D Value	Hp/A Value	Square Ft. / Lin. Foot	Square M. / Lin. Meter
W36 x 210	1.96	W920 x 313	115.6	68.4	8.92	2.72
194	1.81	289	106.8	74.0	8.92	2.72
182	1.72	271	101.5	77.9	8.83	2.69
170	1.6	253	94.4	83.7	8.83	2.69
160	1.51	238	89.1	88.7	8.83	2.69
150	1.43	223	84.4	93.7	8.75	2.67
135	1.29	201	76.1	103.9	8.75	2.67
W33 x 387	3.31	W840 x 576	195.3	40.5	9.75	2.97
354	3.05	527	180.0	43.9	9.67	2.95
318	2.77	473	163.4	48.4	9.58	2.92
291	2.55	433	150.5	52.5	9.50	2.90
263	2.33	392	137.5	57.5	9.42	2.87
241	2.13	359	125.7	62.9	9.42	2.87
221	1.97	329	116.2	68.0	9.33	2.84
201	1.79	299	105.6	74.9	9.33	2.84
169	1.7	251	100.3	78.8	8.30	2.53
152	1.53	226	90.3	87.6	8.28	2.52
141	1.43	210	84.4	93.7	8.20	2.50
130	1.32	193	77.9	101.5	8.19	2.50
118	1.21	176	71.4	110.7	8.15	2.48
W30 x 391	3.59	W760 x 582	211.8	37.3	9.08	2.77
357	3.31	531	195.3	40.5	9.00	2.74
326	3.05	484	180.0	43.9	8.92	2.72
292	2.73	434	161.1	49.1	8.92	2.72
261	2.46	389	145.1	54.5	8.83	2.69
235	2.24	350	132.2	59.8	8.75	2.67
211	2.01	314	118.6	66.7	8.75	2.67
191	1.85	284	109.2	72.4	8.58	2.62
173	1.66	257	97.9	80.7	8.67	2.64
148	1.64	220	96.8	81.7	7.53	2.30
132	1.47	196	86.7	91.1	7.46	2.27
124	1.39	185	82.0	96.4	7.44	2.27
116	1.3	173	76.7	103.1	7.43	2.26
108	1.21	161	71.4	110.7	7.41	2.26
99	1.12	147	66.1	119.6	7.38	2.25
90	1.02	134	60.2	131.4	7.33	2.23
W27 x 539	5.08	W690 x 802	299.7	26.4	8.83	2.69
368	3.64	548	214.8	36.8	8.42	2.57

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W27 x 336	3.36	W690 x 500	198.2	39.9	8.33	2.54
307	3.11	457	183.5	43.1	8.23	2.51
281	2.86	418	168.7	46.8	8.18	2.49
258	2.64	384	155.8	50.8	8.14	2.48
235	2.43	350	143.4	55.1	8.05	2.45
217	2.26	323	133.3	59.3	8.00	2.44
194	2.03	289	119.8	66.0	7.97	2.43
178	1.87	265	110.3	71.6	7.92	2.41
161	1.7	240	100.3	78.8	7.88	2.40
146	1.55	217	91.5	86.4	7.86	2.40
129	1.56	192	92.0	85.9	6.90	2.10
114	1.39	170	82.0	96.4	6.86	2.09
102	1.24	152	73.2	108.1	6.84	2.08
94	1.15	140	67.9	116.5	6.79	2.07
84	1.03	125	60.8	130.1	6.77	2.06
W24 x 370	3.98	W610 x 551	234.8	33.7	7.74	2.36
335	3.66	498	215.9	36.6	7.63	2.33
306	3.37	455	198.8	39.8	7.57	2.31
279	3.11	415	183.5	43.1	7.48	2.28
250	2.81	372	165.8	47.7	7.42	2.26
229	2.6	341	153.4	51.5	7.34	2.24
207	2.36	307	139.2	56.8	7.30	2.23
192	2.2	285	129.8	60.9	7.26	2.21
176	2.03	262	119.8	66.0	7.21	2.20
162	1.88	241	110.9	71.3	7.19	2.19
146	1.7	217	100.3	78.8	7.15	2.18
131	1.54	195	90.9	87.0	7.11	2.17
117	1.38	174	81.4	97.1	7.04	2.15
104	1.24	155	73.2	108.1	7.01	2.14
103	1.4	153	82.6	95.7	6.13	1.87
94	1.28	140	75.5	104.7	6.13	1.87
84	1.15	125	67.9	116.5	6.10	1.86
76	1.05	113	62.0	127.6	6.04	1.84
68	0.94	101	55.5	142.5	6.02	1.83
62	0.93	92	54.9	144.1	5.53	1.69
55	0.82	82	48.4	163.4	5.53	1.69
W21 x 201	2.5	W530 x 300	147.5	53.6	6.71	2.05
182	2.28	272	134.5	58.8	6.67	2.03

The W/D ratios and Square foot factors herein were obtained from the AISC Manual of Steel Construction – Load and Resistance Factor Design – Third Edition.

Wide Flange Beam Conversion Factors



Member Size	W/D Value	Metric Designation	M/D Value	Hp/A Value	Square Ft. / Lin. Foot	Square M. / Lin. Meter
W21 x 166	2.09	W530 x 248	123.3	64.1	6.63	2.02
147	1.87	219	110.3	71.6	6.56	2.00
132	1.68	196	99.1	79.8	6.54	1.99
122	1.57	182	92.6	85.3	6.49	1.98
111	1.43	165	84.4	93.7	6.45	1.97
101	1.3	150	76.7	103.1	6.45	1.97
93	1.4	138	82.6	95.7	5.53	1.69
83	1.26	123	74.3	106.3	5.48	1.67
73	1.11	109	65.5	120.7	5.46	1.66
68	1.04	101	61.4	128.8	5.43	1.66
62	0.95	92	56.1	141.0	5.43	1.66
57	0.95	85	56.1	141.0	4.99	1.52
55	0.85	82	50.2	157.6	5.37	1.64
50	0.83	74	49.0	161.4	4.98	1.52
48	0.75	72	44.3	178.6	5.33	1.62
44	0.74	66	43.7	181.1	4.92	1.50
W18 x 175	2.46	W460 x 260	145.1	54.5	5.93	1.81
158	2.24	235	132.2	59.8	5.88	1.79
143	2.05	213	121.0	65.4	5.82	1.77
130	1.88	193	110.9	71.3	5.78	1.76
119	1.72	177	101.5	77.9	5.77	1.76
106	1.55	158	91.5	86.4	5.72	1.74
97	1.42	144	83.8	94.4	5.68	1.73
86	1.27	128	74.9	105.5	5.65	1.72
76	1.13	113	66.7	118.6	5.61	1.71
71	1.22	106	72.0	109.8	4.83	1.47
65	1.13	97	66.7	118.6	4.80	1.46
60	1.04	89	61.4	128.8	4.79	1.46
55	0.96	82	56.6	139.6	4.76	1.45
50	0.88	74	51.9	152.3	4.73	1.44
46	0.87	68	51.3	154.0	4.37	1.33
40	0.76	60	44.8	176.3	4.34	1.32
35	0.67	52	39.5	200.0	4.34	1.32
W16 x 100	1.59	W410 x 149	93.8	84.3	5.23	1.59
89	1.43	132	84.4	93.7	5.20	1.58
77	1.25	114	73.8	107.2	5.13	1.56
67	1.09	100	64.3	122.9	5.12	1.56
57	1.09	85	64.3	122.9	4.34	1.32
50	0.96	74	56.6	139.6	4.33	1.32
45	0.87	67	51.3	154.0	4.31	1.31

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Member Size	W/D Value	Metric Designation	M/D Value	Hp/A Value	Square Ft. / Lin. Foot	Square M. / Lin. Meter
W16 x 40	0.78	W410 x 60	46.0	171.8	4.28	1.30
36	0.7	53	41.3	191.4	4.28	1.30
31	0.66	46	38.9	203.0	3.91	1.19
26	0.55	39	32.5	243.6	3.88	1.18
W14 x 808	8.75	W360 x 1202	516.3	15.3	7.69	2.34
730	8.08	1086	476.7	16.6	7.53	2.30
665	7.49	990	441.9	17.9	7.40	2.26
605	6.96	900	410.6	19.3	7.24	2.21
550	6.43	818	379.4	20.8	7.13	2.17
500	5.95	744	351.1	22.5	7.00	2.13
455	5.53	677	326.3	24.2	6.86	2.09
426	5.21	634	307.4	25.7	6.82	2.08
398	4.93	592	290.9	27.2	6.73	2.05
370	4.63	551	273.2	28.9	6.66	2.03
342	4.32	509	254.9	31.0	6.59	2.01
311	3.98	463	234.8	33.7	6.51	1.98
283	3.66	421	215.9	36.6	6.44	1.96
257	3.36	382	198.2	39.9	6.38	1.94
233	3.08	347	181.7	43.5	6.30	1.92
211	2.81	314	165.8	47.7	6.27	1.91
193	2.6	287	153.4	51.5	6.19	1.89
176	2.38	262	140.4	56.3	6.18	1.88
159	2.16	237	127.4	62.0	6.13	1.87
145	1.99	216	117.4	67.3	6.06	1.85
132	1.89	196	111.5	70.9	5.83	1.78
120	1.71	179	100.9	78.4	5.84	1.78
109	1.57	162	92.6	85.3	5.80	1.77
99	1.43	147	84.4	93.7	5.77	1.76
90	1.31	134	77.3	102.3	5.73	1.75
82	1.45	122	85.6	92.4	4.71	1.44
74	1.32	110	77.9	101.5	4.68	1.43
68	1.22	101	72.0	109.8	4.64	1.41
61	1.1	91	64.9	121.8	4.64	1.41
53	1.06	79	62.5	126.4	4.15	1.26
48	0.97	72	57.2	138.1	4.13	1.26
43	0.87	64	51.3	154.0	4.10	1.25
38	0.8	57	47.2	167.5	3.92	1.19
34	0.72	51	42.5	186.1	3.91	1.19
30	0.64	45	37.8	209.3	3.88	1.18
26	0.62	39	36.6	216.1	3.45	1.05
22	0.53	33	31.3	252.8	3.43	1.05

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W12 x 336	4.85	W310 x 500	286.2	27.6	5.78	1.76
305	4.49	454	264.9	29.8	5.66	1.73
279	4.19	415	247.2	32.0	5.55	1.69
252	3.84	375	226.6	34.9	5.48	1.67
230	3.55	342	209.5	37.7	5.39	1.64
210	3.27	313	192.9	41.0	5.35	1.63
190	3	283	177.0	44.7	5.28	1.61
170	2.72	253	160.5	49.3	5.22	1.59
152	2.45	225	144.6	54.7	5.18	1.58
136	2.23	202	131.6	60.1	5.08	1.55
120	1.99	179	117.4	67.3	5.03	1.53
106	1.77	158	104.4	75.7	4.99	1.52
96	1.61	143	95.0	83.2	4.98	1.52
87	1.47	129	86.7	91.1	4.93	1.50
79	1.34	117	79.1	100.0	4.90	1.49
72	1.23	107	72.6	108.9	4.86	1.48
65	1.11	97	65.5	120.7	4.86	1.48
58	1.1	86	64.9	121.8	4.39	1.34
53	1.02	79	60.2	131.4	4.33	1.32
50	1.06	74	62.5	126.4	3.92	1.19
45	0.97	67	57.2	138.1	3.85	1.17
40	0.86	60	50.7	155.8	3.88	1.18
35	0.81	52	47.8	165.4	3.60	1.10
30	0.69	45	40.7	194.2	3.58	1.09
26	0.61	39	36.0	219.6	3.54	1.08
22	0.62	33	36.6	216.1	2.94	0.90
19	0.54	28	31.9	248.1	2.93	0.89
16	0.45	24	26.6	297.7	2.92	0.89
14	0.4	21	23.6	335.0	2.88	0.88
W10 x 112	2.17	W250 x 167	128.0	61.7	4.29	1.31
100	1.97	149	116.2	68.0	4.23	1.29
88	1.74	131	102.7	77.0	4.21	1.28
77	1.54	115	90.9	87.0	4.16	1.27
68	1.38	101	81.4	97.1	4.09	1.25
60	1.22	89	72.0	109.8	4.09	1.25
54	1.11	80	65.5	120.7	4.05	1.23
49	1.01	73	59.6	132.7	4.03	1.23
45	1.06	67	62.5	126.4	3.55	1.08
39	0.92	58	54.3	145.6	3.50	1.07
33	0.78	49	46.0	171.8	3.50	1.07
30	0.8	45	47.2	167.5	3.09	0.94

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W10 x 26	0.7	W10 x 39	41.3	191.4	3.06	0.93
22	0.6	33	35.4	223.3	3.03	0.92
19	0.6	28	35.4	223.3	2.61	0.80
17	0.54	25	31.9	248.1	2.61	0.80
15	0.48	22	28.3	279.1	2.58	0.79
12	0.39	18	23.0	343.5	2.55	0.78
W8 x 67	1.65	W200 x 100	97.4	81.2	3.39	1.03
58	1.44	86	85.0	93.0	3.35	1.02
48	1.21	71	71.4	110.7	3.31	1.01
40	1.03	59	60.8	130.1	3.25	0.99
35	0.9	52	53.1	148.9	3.22	0.98
31	0.8	46	47.2	167.5	3.22	0.98
28	0.81	42	47.8	165.4	2.85	0.87
24	0.7	36	41.3	191.4	2.84	0.87
21	0.67	31	39.5	200.0	2.59	0.79
18	0.58	27	34.2	231.0	2.58	0.79
15	0.55	22	32.5	243.6	2.27	0.69
13	0.48	19	28.3	279.1	2.24	0.68
10	0.37	15	21.8	362.1	2.23	0.68
W6 x 25	0.83	W150 x 37	49.0	161.4	2.48	0.76
20	0.67	30	39.5	200.0	2.46	0.75
16	0.68	24	40.1	197.0	1.95	0.59
15	0.52	22	30.7	257.7	2.40	0.73
12	0.52	18	30.7	257.7	1.90	0.58
9	0.39	14	23.0	343.5	1.88	0.57
8.5	0.37	13	21.8	362.1	1.89	0.58
W5 x 19	0.77	W130 x 28	45.4	174.0	2.04	0.62
16	0.66	24	38.9	203.0	2.01	0.61
W4 x 13	0.67	W100 x 19	39.5	200.0	1.62	0.49

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