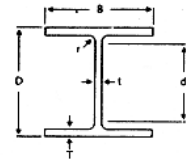
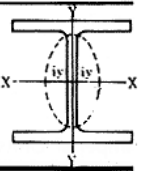


# UNIVERSAL BEAMS AND COLUMNS

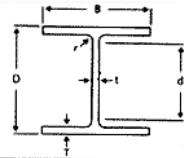


Imperial Units

Section size	Unit weight M		Section area A		Section depth D		Flange width B		Flange thickness T		Web thickness t		Corner radius r	
	lb/ft	kg/m	in <sup>2</sup>	cm <sup>2</sup>	in	mm	in	mm	in	mm	in	mm	in	mm
W4 4 x 4 (102 x 102)	13	19.35	3.83	24.71	4.16	105.7	4.06	103.1	0.345	8.76	0.28	7.11	0.25	6.35
W5 5 x 3 (127 x 76)	9	13.00	2.60	16.80	5.00	127.0	3.00	76.2	0.299	7.60	0.165	4.20	0.30	6.35
W5 5 x 5 (127 x 127)	16	23.81	4.71	30.39	5.01	127.3	5.00	127.0	0.36	9.14	0.24	6.10	0.30	7.62
	19	28.28	5.56	35.87	5.15	130.8	5.03	127.8	0.43	10.90	0.27	6.86	0.30	7.62
W6 6 x 3½ (152 x 89)	11	16.00	3.18	20.50	6.00	152.4	3.50	88.9	0.303	7.70	0.181	4.60	0.25	6.35
W6 6 x 4 (152 x 102)	9	13.39	2.68	17.29	5.90	149.9	3.94	100.1	0.215	5.46	0.17	4.32	0.25	6.35
	12	17.86	3.55	22.90	6.03	153.2	4.00	101.6	0.28	7.11	0.23	5.84	0.25	6.35
	16	23.81	4.74	30.58	6.28	159.5	4.03	102.4	0.405	10.20	0.26	6.60	0.25	6.35
W6 6 x 6 (152 x 152)	15	22.50	4.43	28.58	5.99	152.1	5.99	152.1	0.26	6.60	0.23	5.84	0.25	6.35
	15.7	23.00	4.62	29.80	6.00	152.4	6.00	152.4	0.269	6.80	0.24	6.10	0.25	6.35
	20	30.00	5.87	37.87	6.20	157.5	6.02	152.9	0.365	9.27	0.26	6.60	0.25	6.35
	25	37.20	7.34	47.35	6.38	162.1	6.08	154.4	0.455	11.50	0.32	8.13	0.25	6.35
W7 7 x 4 (178 x 102)	13	19.00	3.75	24.20	7.00	177.8	4.00	101.6	0.311	7.90	0.185	4.70	0.30	7.62
W8 8 x 4 (203 x 102)	10	14.88	2.96	19.10	7.89	200.4	3.94	100.1	0.205	5.21	0.17	4.32	0.30	7.62
	13	19.35	3.84	24.77	7.99	202.9	4.00	101.6	0.255	6.48	0.23	5.84	0.30	7.62
	15	22.32	4.44	28.65	8.11	206.0	4.015	102.0	0.315	8.00	0.245	6.22	0.30	7.62
	15.5	23.00	4.50	29.00	8.00	203.2	4.00	101.6	0.368	9.30	0.205	5.20	0.30	7.62
W8 8 x 5¼ (203 x 133)	17	25.30	5.01	32.30	8.00	203.2	5.25	133.4	0.308	7.80	0.23	5.84	0.30	7.62
	18	26.79	5.26	33.94	8.14	206.8	5.25	133.3	0.33	8.38	0.23	5.84	0.30	7.62
	20	30.00	5.89	38.00	8.14	206.8	5.268	133.8	0.378	9.60	0.248	6.30	0.30	7.62
	21	31.30	6.16	39.74	8.28	210.3	5.27	133.9	0.40	10.10	0.25	6.35	0.30	7.62
W8 8 x 6½ (203 x 165)	24	35.72	7.08	45.68	7.93	201.4	6.495	165.0	0.40	10.10	0.245	6.22	0.40	10.2
	28	41.67	8.25	53.23	8.06	204.7	6.535	166.0	0.465	11.80	0.285	7.24	0.40	10.2
W8 8 x 8 (203 x 203)	31	46.13	9.12	58.84	8.00	203.2	7.995	203.1	0.435	11.00	0.285	7.24	0.40	10.2
	35	52.09	10.3	66.45	8.12	206.2	8.02	203.7	0.495	12.50	0.31	7.87	0.40	10.2
	40	60.00	11.7	75.48	8.25	209.5	8.07	205.0	0.56	14.20	0.36	9.14	0.40	10.2
	48	71.43	14.1	90.97	8.50	215.9	8.11	206.0	0.685	17.40	0.40	10.16	0.40	10.2
	58	86.31	17.1	110.3	8.75	222.2	8.22	208.8	0.81	20.57	0.51	12.95	0.40	10.2
	67	100.0	19.7	127.1	9.00	228.6	8.28	210.3	0.935	23.75	0.57	14.48	0.40	10.2
W10 10 x 4 (254 x 102)	12	17.86	3.54	22.84	9.87	250.7	3.96	100.6	0.21	5.33	0.19	4.83	0.30	7.62
	15	22.32	4.41	28.45	9.99	253.7	4.00	101.6	0.27	6.86	0.23	5.84	0.30	7.62
	17	25.30	4.99	32.19	10.11	256.8	4.01	101.9	0.33	8.38	0.24	6.10	0.30	7.62
	19	28.28	5.62	36.26	10.24	260.1	4.02	102.1	0.395	10.00	0.25	6.35	0.30	7.62
W10 10 x 5¼ (254 x 146)	21	31.25	6.20	40.00	9.90	251.5	5.75	146.1	0.34	8.60	0.24	6.10	0.30	7.62
	22	32.74	6.49	41.87	10.17	258.3	5.75	146.0	0.36	9.14	0.24	6.10	0.30	7.62
	25	37.20	7.36	47.50	10.08	256.0	5.762	146.4	0.43	10.90	0.252	6.40	0.30	7.62
	26	38.69	7.61	49.10	10.33	262.4	5.77	146.6	0.44	11.10	0.26	6.60	0.30	7.62
	29	43.00	8.54	55.10	10.22	259.6	5.799	147.3	0.50	12.70	0.289	7.30	0.30	7.62
	30	44.80	8.85	57.10	10.47	265.9	5.819	147.8	0.51	12.90	0.30	7.62	0.30	7.62
W10 10 x 8 (254 x 203)	33	49.11	9.71	62.64	9.73	247.1	7.96	202.2	0.435	11.00	0.29	7.37	0.50	12.7
	39	58.04	11.5	74.19	9.92	252.0	7.985	202.8	0.53	13.40	0.315	8.00	0.50	12.7
	45	66.97	13.3	85.81	10.10	256.5	8.02	203.7	0.62	15.70	0.35	8.89	0.50	12.7

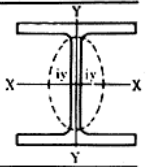


Section Size	Moment of inertia				Radius of gyration				Modulus of section			
	Ix		Iy		ix		iy		Zx		Zy	
in (mm)	in <sup>4</sup>	cm <sup>4</sup>	in <sup>4</sup>	cm <sup>4</sup>	in	cm	in	cm	in <sup>3</sup>	cm <sup>3</sup>	in <sup>3</sup>	cm <sup>3</sup>
<b>W4</b> 4 x 4 (102 x 102)	11.3	470	3.86	161	1.72	4.37	1.00	2.54	5.46	89.5	1.90	31.1
<b>W5</b> 5 x 3 (127 x 76)	11.5	477	1.30	56	2.10	5.33	0.72	1.83	4.60	75	0.90	15.0
<b>W5</b> 5 x 5 (127 x 127)	21.4	891	7.51	313	2.13	5.41	1.26	3.20	8.55	140	3.00	49.2
	26.3	1,090	9.13	380	2.17	5.51	1.28	3.25	10.2	167	3.63	59.5
<b>W6</b> 6 x 3½ (152 x 89)	20.1	838	2.20	90	2.52	6.40	0.83	2.10	6.70	110	1.20	20.0
<b>W6</b> 6 x 4 (152 x 102)	16.4	683	2.20	91.6	2.47	6.27	0.905	2.30	5.56	91.1	1.11	18.2
	22.1	920	2.99	124	2.49	6.32	0.918	2.33	7.31	120	1.50	24.6
	32.1	1,340	4.43	184	2.60	6.60	0.966	2.45	10.2	167	2.20	36.1
<b>W6</b> 6 x 6 (152 x 152)	29.1	1,210	9.32	388	2.56	6.50	1.45	3.68	9.72	159	3.11	51.0
	30.3	1,263	9.7	403	2.56	6.51	1.45	3.68	10.1	165.7	3.20	52.95
	41.4	1,720	13.3	554	2.66	6.76	1.50	3.81	13.4	220	4.41	72.3
	53.4	2,220	17.1	712	2.70	6.86	1.52	3.86	16.7	274	5.61	91.9
<b>W7</b> 7 x 4 (178 x 102)	32.6	1,357	3.30	138	2.95	7.49	0.940	2.39	9.30	153	1.60	27.0
<b>W8</b> 8 x 4 (203 x 102)	30.8	1,280	2.09	87	3.22	8.18	0.841	2.14	7.81	128	1.06	17.4
	39.6	1,650	2.73	114	3.21	8.15	0.843	2.14	9.91	162	1.37	22.4
	48.0	2,000	3.41	142	3.29	8.36	0.876	2.22	11.8	193	1.70	27.9
	50.2	2,091	3.90	163	3.34	8.49	0.93	2.37	12.6	206	2.00	32.0
<b>W8</b> 8 x 5¼ (203 x 133)	56.4	2,348	6.72	280	3.36	8.53	1.16	2.95	14.1	231	2.60	42.6
	61.9	2,580	7.97	332	3.43	8.71	1.23	3.12	15.2	249	3.04	49.8
	69.2	2,981	8.50	354	3.43	8.71	1.20	3.05	17.0	279	3.20	52.4
	75.3	3,130	9.77	407	3.49	8.86	1.26	3.20	18.2	298	3.71	60.8
<b>W8</b> 8 x 6½ (203 x 165)	82.8	3,450	18.3	762	3.42	8.69	1.61	4.09	20.9	342	5.63	92.3
	98.0	4,080	21.7	903	3.45	8.76	1.62	4.11	24.3	398	6.63	109
<b>W8</b> 8 x 8 (203 x 203)	110	4,580	37.1	1,540	3.47	8.81	2.02	5.13	27.5	451	9.27	152
	127	5,290	42.6	1,770	3.51	8.92	2.03	5.16	31.2	511	10.6	174
	146	6,080	49.1	2,040	3.53	8.97	2.04	5.18	35.5	582	12.2	200
	184	7,660	60.9	2,530	3.61	9.17	2.08	5.28	43.3	710	15.0	246
	228	9,490	75.1	3,130	3.65	9.27	2.10	5.33	52.0	852	18.3	300
	272	11,300	88.6	3,690	3.72	9.45	2.12	5.38	60.4	990	21.4	351
<b>W10</b> 10 x 4 (254 x 102)	53.8	2,240	2.18	90.7	3.90	9.91	0.785	1.99	10.9	179	1.10	18.0
	68.9	2,870	2.89	120	3.95	10.0	0.81	2.06	13.8	226	1.45	23.8
	81.9	3,410	3.56	148	4.05	10.3	0.845	2.15	16.2	265	1.78	29.2
	96.3	4,010	4.29	179	4.14	10.5	0.874	2.22	18.8	308	2.14	35.1
<b>W10</b> 10 x 5¼ (254 x 146)	106	4,425	9.7	404	4.14	10.5	1.25	3.18	21.5	352	3.40	55.7
	118	4,910	11.4	474	4.27	10.8	1.33	3.38	23.2	380	3.97	65.1
	133	5,545	12.7	529	4.26	10.8	1.31	3.33	26.4	433	4.40	72.1
	144	5,990	14.1	587	4.35	11.0	1.36	3.45	27.9	457	4.89	80.1
	157	6,548	15.2	633	4.29	10.9	1.34	3.40	30.8	505	5.20	85.2
	170	7,080	16.8	699	4.38	11.1	1.38	3.51	32.5	533	5.76	94.4
<b>W10</b> 10 x 8 (254 x 203)	170	7,080	36.6	1,520	4.19	10.6	1.94	4.93	35.0	574	9.20	151
	209	8,700	45.0	1,870	4.27	10.8	1.98	5.03	42.1	690	11.3	185
	248	10,300	53.4	2,220	4.32	11.0	2.01	5.11	49.1	805	13.3	218

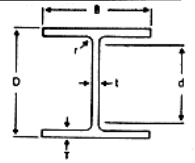


Imperial Units

Section size	Unit weight M		Section area A		Section depth D		Flange width B		Flange thickness T		Web thickness t		Corner radius r	
	lb/ft	kg/m	in <sup>2</sup>	cm <sup>2</sup>	in	mm	in	mm	in	mm	in	mm	in	mm
W10 10 x 10 (254 x 254)	49	73.00	14.4	92.9	9.98	253.5	10.00	254.0	0.56	14.20	0.34	8.64	0.50	12.7
	54	80.36	15.8	101.9	10.09	256.3	10.03	254.8	0.615	15.60	0.37	9.40	0.50	12.7
	60	89.29	17.6	113.5	10.22	259.6	10.08	256.0	0.68	17.27	0.42	10.67	0.50	12.7
	68	101.2	20.0	129.0	10.40	264.2	10.13	257.3	0.77	19.56	0.47	11.94	0.50	12.7
	72	107.0	21.2	136.6	10.50	266.7	10.17	258.3	0.808	20.50	0.51	13.00	0.50	12.7
	77	115.0	22.6	145.8	10.60	269.2	10.19	258.8	0.87	22.10	0.53	13.46	0.50	12.7
	88	131.0	25.9	167.1	10.84	275.3	10.265	260.7	0.99	25.15	0.605	15.37	0.50	12.7
	89	132.0	26.2	168.9	10.88	276.4	10.275	261.0	0.998	25.30	0.615	15.60	0.50	12.7
	100	149.0	29.4	189.7	11.11	282.2	10.34	262.6	1.12	28.45	0.68	17.27	0.50	12.7
	112	167.0	32.9	212.3	11.36	288.5	10.415	264.5	1.25	31.75	0.755	19.18	0.50	12.7
W12 12 x 4 (305 x 102)	14	20.83	4.16	26.84	11.91	302.5	3.97	100.8	0.225	5.71	0.20	5.08	0.30	7.62
	16	23.81	4.71	30.39	11.99	304.5	3.99	101.3	0.265	6.73	0.22	5.59	0.30	7.62
	16.5	25.00	4.87	31.40	12.00	304.8	4.00	101.6	0.269	6.80	0.23	5.80	0.30	7.62
	19	28.28	5.57	35.94	12.16	308.9	4.005	101.7	0.35	8.89	0.235	5.97	0.30	7.62
	22	33.00	6.48	41.81	12.31	312.7	4.03	102.4	0.425	10.80	0.26	6.60	0.30	7.62
W12 12 x 5 (305 x 127)	25	37.00	7.36	47.50	11.96	303.8	4.864	123.5	0.421	10.70	0.284	7.20	0.30	7.62
	28	42.00	8.25	53.20	12.07	306.6	4.893	124.3	0.476	12.10	0.313	8.00	0.30	7.62
	32	48.00	9.42	60.80	12.22	310.4	4.93	125.2	0.551	14.00	0.350	8.90	0.30	7.62
W12 12 x 6½ (305 x 165)	26	38.70	7.65	49.35	12.22	310.4	6.49	164.8	0.38	9.65	0.23	5.84	0.30	7.62
	27	40.00	7.98	51.50	11.96	303.8	6.50	165.1	0.40	10.20	0.24	6.10	0.30	7.62
	30	44.64	8.79	56.71	12.34	313.4	6.52	165.6	0.44	11.10	0.26	6.60	0.30	7.62
	31	46.00	9.13	58.90	12.09	307.1	6.525	165.7	0.465	11.80	0.265	6.70	0.30	7.62
	35	52.09	10.3	66.45	12.50	317.5	6.56	166.6	0.52	13.20	0.30	7.62	0.30	7.62
	36	54.00	10.6	68.40	12.24	310.9	6.565	166.8	0.54	13.70	0.305	7.70	0.30	7.62
W12 12 x 8 (305 x 203)	40	59.53	11.8	76.13	11.94	303.3	8.005	203.3	0.515	13.00	0.295	7.49	0.60	15.2
	45	66.97	13.2	85.16	12.06	306.3	8.045	204.3	0.575	14.60	0.335	8.51	0.60	15.2
	50	74.41	14.7	94.84	12.19	309.6	8.08	205.2	0.64	16.20	0.37	9.40	0.60	15.2
W12 12 x 10 (305 x 254)	53	78.87	15.6	100.6	12.06	306.3	9.995	253.9	0.575	14.60	0.345	8.76	0.60	15.2
	58	86.31	17.0	109.7	12.19	309.6	10.01	254.3	0.64	16.20	0.36	9.14	0.60	15.2
W12 12 x 12 (305 x 305)	65	97.0	19.1	123.2	12.12	307.8	12.00	304.8	0.605	15.30	0.39	9.91	0.60	15.2
	72	107.1	21.1	136.1	12.25	311.1	12.04	305.8	0.67	17.02	0.43	10.92	0.60	15.2
	79	118.0	23.2	149.7	12.38	314.5	12.08	306.8	0.735	18.67	0.47	11.94	0.60	15.2
	87	129.5	25.6	165.2	12.53	318.3	12.125	308.0	0.81	20.57	0.515	13.08	0.60	15.2
	92	137.0	27.1	174.6	12.62	320.4	12.155	308.7	0.856	21.70	0.545	13.80	0.60	15.2
	96	143.0	28.2	182.0	12.71	322.8	12.16	308.9	0.90	22.86	0.55	13.97	0.60	15.2
	106	158.0	31.2	201.3	12.89	327.4	12.22	310.4	0.99	25.15	0.61	15.49	0.60	15.2
	120	179.0	35.3	227.7	13.12	333.2	12.32	312.9	1.10	28.07	0.71	18.03	0.60	15.2
	133	198.0	39.1	252.3	13.38	339.9	12.365	314.1	1.236	31.40	0.755	19.20	0.60	15.2
	136	202.4	39.9	257.4	13.41	340.6	12.40	315.0	1.25	31.75	0.79	20.07	0.60	15.2
	152	226.2	44.7	288.4	13.71	348.2	12.48	317.0	1.40	35.56	0.87	22.10	0.60	15.2
	161	240.0	47.4	305.6	13.88	352.6	12.515	317.9	1.486	37.70	0.905	23.00	0.60	15.2
	170	253.0	50.0	322.6	14.03	356.4	12.57	319.3	1.56	39.62	0.96	24.38	0.60	15.2
	190	283.0	55.8	360.0	14.38	365.3	12.67	321.8	1.735	44.07	1.06	26.92	0.60	15.2
	210	312.5	61.8	398.7	14.71	373.6	12.79	324.9	1.90	48.26	1.18	29.97	0.60	15.2
	230	342.3	67.7	436.8	15.05	382.3	12.895	327.5	2.07	52.58	1.285	32.64	0.60	15.2
	252	375.0	74.0	477.4	15.41	391.4	13.005	330.3	2.25	57.15	1.395	35.43	0.60	15.2
278	413.7	81.9	528.4	15.85	402.6	13.14	333.8	2.47	62.74	1.53	38.86	0.60	15.2	
305	453.9	89.6	578.1	16.32	414.5	13.235	336.2	2.705	68.71	1.625	41.27	0.60	15.2	
336	500.0	98.8	637.4	16.82	427.2	13.385	340.0	2.955	75.06	1.775	45.08	0.60	15.2	
W14 14 x 5 (356 x 127)	22	33.0	6.49	41.87	13.74	349.0	5.00	127.0	0.335	8.51	0.23	5.84	0.40	10.2
	26	39.0	7.69	49.61	13.91	353.3	5.025	127.6	0.42	10.60	0.255	6.48	0.40	10.2

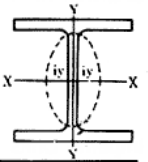


Section Size	Moment of inertia				Radius of gyration				Modulus of section			
	Ix		Iy		ix		iy		Zx		Zy	
	in <sup>4</sup>	cm <sup>4</sup>	in <sup>4</sup>	cm <sup>4</sup>	in	cm	in	cm	in <sup>3</sup>	cm <sup>3</sup>	in <sup>3</sup>	cm <sup>3</sup>
W10 10 x 10 (254 x 254)	272	11,300	93.4	3,890	4.35	11.0	2.54	6.45	54.6	895	18.7	306
	303	12,600	103	4,290	4.37	11.1	2.56	6.50	60.0	983	20.6	338
	341	14,200	116	4,830	4.39	11.2	2.57	6.53	66.7	1,090	23.0	377
	394	16,400	134	5,580	4.44	11.3	2.58	6.55	75.7	1,240	26.4	433
	421	17,510	142	5,903	4.46	11.3	2.59	6.58	80.1	1,312	27.9	457
	455	18,900	154	6,410	4.49	11.4	2.60	6.60	85.9	1,410	30.1	493
	534	22,200	179	7,450	4.54	11.5	2.63	6.68	98.5	1,610	34.8	570
	542	22,580	181	7,518	4.55	11.6	2.63	6.68	99.7	1,634	35.2	577
	624	26,000	207	8,620	4.61	11.7	2.65	6.73	112.0	1,840	40.0	655
716	29,800	236	9,820	4.66	11.8	2.68	6.81	126.0	2,060	45.3	742	
W12 12 x 4 (305 x 102)	88.6	3,690	2.36	98.2	4.62	11.7	0.753	1.91	14.9	244	1.19	19.5
	103	4,290	2.82	117	4.67	11.9	0.773	1.96	17.1	280	1.41	23.1
	105.4	4,387	2.9	120	4.65	11.8	0.770	1.96	17.6	288	1.40	23.6
	130	5,410	3.76	156	4.82	12.2	0.822	2.09	21.3	349	1.88	30.8
	156	6,490	4.66	194	4.91	12.5	0.848	2.15	25.4	416	2.31	37.9
W12 12 x 5 (305 x 127)	172	7,162	8.1	337	4.83	12.3	1.05	2.67	28.8	472	3.30	54.6
	195.6	8,143	9.3	388	4.87	12.4	1.06	2.70	32.4	531	3.80	62.5
	228.3	9,504	11.1	460	4.92	12.5	1.08	2.75	37.4	612	4.50	73.5
W12 12 x 6½ (305 x 165)	204	8,490	17.3	720	5.17	13.1	1.51	3.84	33.4	547	5.34	87.5
	204.1	8,496	16.6	691	5.06	12.8	1.44	3.66	34.1	559	5.10	83.6
	238	9,910	20.3	845	5.21	13.2	1.52	3.86	38.6	633	6.24	102
	238.4	9,924	19.8	824	5.11	12.9	1.47	3.73	39.4	646	6.10	100
	280.8	11,690	23.7	986.6	5.15	13.1	1.50	3.81	45.9	752	7.20	118
	285	11,900	24.5	1,020	5.25	13.3	1.54	3.91	45.6	747	7.47	122
W12 12 x 8 (305 x 203)	310	12,900	44.1	1,840	5.13	13.0	1.94	4.93	51.9	850	11.0	180
	350	14,600	50.0	2,080	5.15	13.1	1.94	4.93	58.1	952	12.4	203
	394	16,400	56.3	2,340	5.18	13.2	1.96	4.98	64.7	1,060	13.9	228
W12 12 x 10 (305 x 254)	425	17,700	95.8	3,990	5.23	13.3	2.48	6.30	70.6	1,160	19.2	315
	475	19,800	107	4,450	5.28	13.4	2.51	6.38	78.0	1,280	21.4	351
W12 12 x 12 (305 x 305)	533	22,200	174	7,240	5.28	13.4	3.02	7.67	87.9	1,440	29.1	477
	597	24,800	195	8,120	5.31	13.5	3.04	7.72	97.4	1,600	32.4	531
	662	27,600	216	8,990	5.34	13.6	3.05	7.75	107	1,750	35.8	587
	740	30,800	241	10,000	5.38	13.7	3.07	7.80	118	1,930	39.7	651
	789	32,840	256	10,670	5.40	13.7	3.08	7.82	125	2,084	42.2	691
	833	34,700	270	11,200	5.44	13.8	3.09	7.85	131	2,150	44.4	728
	933	38,800	301	12,500	5.47	13.9	3.11	7.90	145	2,380	49.3	808
	1,070	44,500	345	14,400	5.51	14.0	3.13	7.95	163	2,670	56.0	918
	1,221	50,840	390	16,230	5.59	14.2	3.16	8.03	183	2,991	63.1	1,034
	1,240	51,600	398	16,600	5.58	14.2	3.16	8.03	186	3,050	64.2	1,050
	1,430	59,500	454	18,900	5.66	14.4	3.19	8.10	209	3,420	72.8	1,190
	1,542	64,180	486	20,240	5.70	14.5	3.20	8.13	222	3,641	77.1	1,273
	1,650	68,700	517	21,500	5.74	14.6	3.22	8.18	235	3,850	82.3	1,350
	1,890	78,700	589	24,500	5.82	14.8	3.25	8.25	263	4,310	93.0	1,520
	2,140	89,100	664	27,600	5.89	15.0	3.28	8.33	292	4,780	104	1,700
	2,420	101,000	742	30,900	5.97	15.2	3.31	8.41	321	5,260	115	1,880
	2,720	113,000	828	34,500	6.06	15.4	3.34	8.48	353	5,780	127	2,080
	3,110	129,000	937	39,000	6.16	15.6	3.38	8.59	393	6,440	143	2,340
	3,550	148,000	1,050	43,700	6.29	16.0	3.42	8.69	435	7,130	159	2,610
4,060	169,000	1,190	49,500	6.41	16.3	3.47	8.81	483	7,910	177	2,900	
W14 14 x 5 (356 x 127)	199	8,280	7.00	291	5.54	14.1	1.04	2.64	29.0	475	2.80	45.9
	245	10,200	8.91	371	5.65	14.4	1.08	2.74	35.3	578	3.55	58.2

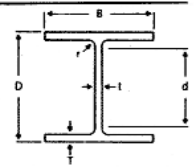


Imperial Units

Section size	Unit weight M		Section area A		Section depth D		Flange width B		Flange thickness T		Web thickness t		Corner radius r	
	lb/ft	kg/m	in <sup>2</sup>	cm <sup>2</sup>	in	mm	in	mm	in	mm	in	mm	in	mm
<b>W14 14 x 6¼ (356 x 171)</b>	30	45.0	8.85	57.10	13.84	351.5	6.73	170.9	0.385	9.78	0.27	6.86	0.40	10.2
	34	51.0	10.0	64.52	13.98	355.1	6.745	171.3	0.455	11.5	0.285	7.24	0.40	10.2
	38	57.0	11.2	72.26	14.10	358.1	6.77	172.0	0.515	13.0	0.31	7.87	0.40	10.2
	45	67.0	13.2	85.40	14.33	364.0	6.82	173.2	0.618	15.7	0.357	9.10	0.40	10.2
<b>W14 14 x 8 (356 x 203)</b>	43	63.99	12.6	81.29	13.66	347.0	7.995	203.1	0.53	13.4	0.305	7.75	0.60	15.2
	48	71.43	14.1	90.97	13.79	350.3	8.03	204.0	0.595	15.1	0.34	8.64	0.60	15.2
	53	78.87	15.6	100.6	13.92	353.6	8.06	204.7	0.66	16.7	0.37	9.40	0.60	15.2
<b>W14 14 x 10 (356 x 254)</b>	61	90.78	17.9	115.5	13.89	352.8	9.995	253.9	0.645	16.30	0.375	9.52	0.60	15.2
	68	101.2	20.0	129.0	14.04	356.6	10.035	254.9	0.723	18.36	0.415	10.54	0.60	15.2
	74	110.1	21.8	140.6	14.17	359.9	10.07	255.8	0.785	19.94	0.45	11.43	0.60	15.2
	82	122.0	24.1	155.5	14.31	363.5	10.13	257.3	0.855	21.72	0.51	12.95	0.60	15.2
<b>W14 14 x 14½ (356 x 368)</b>	87	129.0	25.6	164.9	14.00	355.6	14.50	368.3	0.688	17.50	0.42	10.70	0.60	15.2
	90	134.0	26.5	171.0	14.02	356.1	14.52	368.8	0.71	18.03	0.44	11.18	0.60	15.2
	99	147.3	29.1	187.7	14.16	359.7	14.565	370.0	0.78	19.81	0.485	12.32	0.60	15.2
	103	153.0	30.3	195.2	14.25	362.0	14.575	370.2	0.813	20.70	0.495	12.60	0.60	15.2
	109	162.2	32.0	206.5	14.32	363.7	14.605	371.0	0.86	21.84	0.525	13.33	0.60	15.2
	119	177.0	35.0	225.7	14.50	368.3	14.65	372.1	0.938	23.80	0.57	14.50	0.60	15.2
	120	179.0	35.3	227.7	14.48	367.8	14.67	372.6	0.94	23.88	0.59	14.99	0.60	15.2
	132	196.4	38.8	250.3	14.66	372.4	14.725	374.0	1.03	26.16	0.645	16.38	0.60	15.2
	136	202.0	40.0	257.9	14.75	374.7	14.74	374.4	1.063	27.00	0.66	16.80	0.60	15.2
<b>W14 14 x 16 (356 x 406)</b>	145	216.0	42.7	275.5	14.78	375.4	15.50	393.7	1.09	27.69	0.68	17.27	0.60	15.2
	158	235.0	46.5	299.8	15.00	381.0	15.55	395.0	1.188	30.20	0.73	18.50	0.60	15.2
	159	237.0	46.7	301.3	14.98	380.5	15.565	395.4	1.19	30.23	0.745	18.92	0.60	15.2
	176	262.0	51.8	334.2	15.22	386.6	15.65	397.5	1.31	33.27	0.83	21.08	0.60	15.2
	193	287.2	56.8	366.4	15.48	393.2	15.71	399.0	1.44	36.58	0.89	22.61	0.60	15.2
	211	314.0	62.0	400.0	15.72	399.3	15.80	401.3	1.56	39.62	0.98	24.89	0.60	15.2
	228	340.0	67.1	432.7	16.00	406.4	15.865	403.0	1.688	42.90	1.045	26.50	0.60	15.2
	233	347.0	68.5	441.9	16.04	407.4	15.89	403.6	1.72	43.69	1.07	27.18	0.60	15.2
	257	382.5	75.6	487.7	16.38	416.1	15.995	406.3	1.89	48.01	1.175	29.84	0.60	15.2
	264	393.0	77.6	500.9	16.50	419.1	16.025	407.0	1.938	49.20	1.205	30.60	0.60	15.2
	283	421.1	83.3	537.4	16.74	425.2	16.11	409.2	2.07	52.58	1.29	32.77	0.60	15.2
	311	463.0	91.4	589.7	17.12	434.8	16.23	412.2	2.26	57.40	1.41	35.81	0.60	15.2
	314	467.0	92.3	595.5	17.19	436.6	16.235	412.4	2.283	58.00	1.415	35.90	0.60	15.2
	342	509.0	101	651.6	17.54	445.5	16.36	415.5	2.47	62.74	1.54	39.12	0.60	15.2
	370	551.0	109	703.2	17.92	455.2	16.475	418.5	2.66	67.56	1.655	42.04	0.60	15.2
	398	592.3	117	754.8	18.29	464.6	16.59	421.4	2.845	72.26	1.77	44.96	0.60	15.2
	426	634.0	125	806.4	18.67	474.2	16.695	424.1	3.035	77.09	1.875	47.62	0.60	15.2
	455	677.1	134	864.5	19.02	483.1	16.835	427.6	3.21	81.53	2.015	51.18	0.60	15.2
	500	744.1	147	948.4	19.60	497.8	17.01	432.1	3.50	88.90	2.19	55.63	0.60	15.2
	550	818.5	162	1,045	20.24	514.1	17.20	436.9	3.82	97.03	2.38	60.45	0.60	15.2
605	900.3	178	1,148	20.92	531.4	17.415	442.3	4.16	105.6	2.595	65.91	0.60	15.2	
665	989.6	196	1,265	21.64	549.7	17.65	448.3	4.52	114.8	2.83	71.88	0.60	15.2	
730	1,086.0	215	1,387	22.42	569.5	17.89	454.4	4.91	124.7	3.07	77.98	0.60	15.2	
<b>W16 16 x 5½ (406 x 140)</b>	26	39.0	7.68	49.55	15.69	398.5	5.50	139.7	0.345	8.76	0.25	6.35	0.40	10.2
	31	46.13	9.12	58.84	15.88	403.4	5.525	140.3	0.44	11.1	0.275	6.98	0.40	10.2

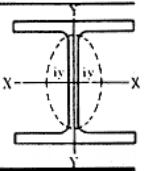


Section Size	Moment of inertia				Radius of gyration				Modulus of section			
	Ix		Iy		ix		iy		Zx		Zy	
in (mm)	in <sup>4</sup>	cm <sup>4</sup>	in <sup>4</sup>	cm <sup>4</sup>	in	cm	in	cm	in <sup>3</sup>	cm <sup>3</sup>	in <sup>3</sup>	cm <sup>3</sup>
<b>W14 14 x 6¼ (356 x 171)</b>	291	12,100	19.6	816	5.73	14.6	1.49	3.78	42.0	688	5.82	95.4
	340	14,200	23.3	970	5.83	14.8	1.53	3.89	48.6	796	6.91	113
	385	16,000	26.7	1,110	5.88	14.9	1.55	3.94	54.6	895	7.88	129
	469	19,522	32.7	1,362	5.95	15.1	1.57	3.99	65.5	1,073	9.60	157
<b>W14 14 x 8 (356 x 203)</b>	428	17,800	45.2	1,880	5.82	14.8	1.89	4.80	62.7	1,030	11.3	185
	485	20,200	51.4	2,140	5.85	14.9	1.91	4.85	70.3	1,150	12.8	210
	542	22,600	57.7	2,400	5.89	15.0	1.92	4.88	77.8	1,270	14.3	234
<b>W14 14 x 10 (356 x 254)</b>	640	26,600	107	4,450	5.98	15.2	2.45	6.22	92.2	1,510	21.5	352
	725	30,200	122	5,080	6.01	15.3	2.47	6.27	103	1,690	24.3	398
	796	33,100	134	5,580	6.04	15.3	2.48	6.30	112	1,840	26.6	436
	882	36,700	148	6,160	6.05	15.4	2.48	6.30	123	2,020	29.3	480
<b>W14 14 x 14½ (356 x 368)</b>	966	40,250	350	14,560	6.15	15.6	3.70	9.40	138	2,263	48.2	790
	999	41,600	362	15,100	6.14	15.6	3.70	9.40	143	2,340	49.9	818
	1,110	46,200	402	16,700	6.17	15.7	3.71	9.42	157	2,570	55.2	905
	1,166	48,530	420	17,470	6.21	15.8	3.72	9.45	164	2,681	57.6	944
	1,240	51,600	447	18,600	6.22	15.8	3.73	9.47	173	2,830	61.2	1,000
	1,373	57,160	492	20,470	6.26	15.9	3.75	9.52	189	3,104	67.1	1,099
	1,380	57,400	495	20,600	6.24	15.8	3.74	9.50	190	3,110	67.5	1,110
	1,530	63,700	548	22,800	6.28	16.0	3.76	9.55	209	3,420	74.5	1,220
	1,593	66,310	568	23,630	6.31	16.0	3.77	9.58	216	3,540	77.0	1,262
<b>W14 14 x 16 (356 x 406)</b>	1,710	71,200	677	28,200	6.33	16.1	3.98	10.1	232	3,800	87.3	1,430
	1,900	79,100	745	31,010	6.40	16.2	4.00	10.2	253	4,153	95.8	1,570
	1,900	79,100	748	31,100	6.38	16.2	4.00	10.2	254	4,160	96.2	1,580
	2,140	89,100	838	34,900	6.43	16.3	4.02	10.2	281	4,600	107	1,750
	2,400	99,900	931	38,800	6.50	16.5	4.05	10.3	310	5,080	119	1,950
	2,660	111,000	1,030	42,900	6.55	16.6	4.07	10.3	338	5,540	130	2,130
	2,942	122,500	1,124	46,820	6.62	16.8	4.10	10.4	368	6,028	141	2,324
	3,010	125,000	1,150	47,900	6.63	16.8	4.10	10.4	375	6,150	145	2,380
	3,400	142,000	1,290	53,700	6.71	17.0	4.13	10.5	415	6,800	161	2,640
	3,526	146,800	1,331	55,420	6.74	17.1	4.14	10.5	427	7,005	166	2,772
	3,840	160,000	1,440	59,900	6.79	17.2	4.17	10.6	459	7,520	179	2,930
	4,330	180,000	1,610	67,000	6.88	17.5	4.20	10.7	506	8,290	199	3,260
	4,399	183,100	1,631	67,910	6.90	17.5	4.20	10.7	512	8,390	201	3,294
	4,900	204,000	1,810	75,300	6.98	17.7	4.24	10.8	559	9,160	221	3,620
	5,440	226,000	1,990	82,800	7.07	18.0	4.27	10.8	607	9,950	241	3,950
	6,000	250,000	2,170	90,300	7.16	18.2	4.31	10.9	656	10,700	262	4,290
	6,600	275,000	2,360	98,200	7.26	18.4	4.34	11.0	706	11,600	283	4,640
	7,190	299,000	2,560	107,000	7.33	18.6	4.38	11.1	756	12,400	304	4,980
	8,210	342,000	2,880	120,000	7.48	19.0	4.43	11.3	838	13,700	339	5,560
9,430	392,000	3,250	135,000	7.63	19.4	4.49	11.4	931	15,300	378	6,190	
10,800	450,000	3,680	153,000	7.80	19.8	4.55	11.6	1,040	17,000	423	6,930	
12,400	516,000	4,170	174,000	7.98	20.3	4.62	11.7	1,150	18,800	472	7,730	
14,300	595,000	4,720	196,000	8.17	20.8	4.69	11.9	1,280	21,000	527	8,640	
<b>W16 16 x 5½ (406 x 140)</b>	301	12,500	9.59	399	6.26	15.9	1.12	2.84	38.4	629	3.49	57.2
	375	15,600	12.4	516	6.41	16.3	1.17	2.97	47.2	773	4.49	73.6



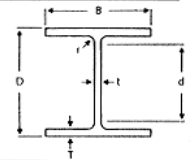
Imperial Units

Section size	Unit weight M		Section area A		Section depth D		Flange width B		Flange thickness T		Web thickness t		Corner radius r	
	lb/ft	kg/m	in <sup>2</sup>	cm <sup>2</sup>	in	mm	in	mm	in	mm	in	mm	in	mm
W16 16 x 7 (406 x 178)	36	54.0	10.6	68.39	15.86	402.8	6.985	177.4	0.43	10.90	0.295	7.49	0.40	10.2
	40	60.0	11.8	76.13	16.01	406.7	6.995	177.7	0.505	12.80	0.305	7.75	0.40	10.2
	45	67.0	13.3	85.81	16.13	409.7	7.035	178.7	0.565	14.30	0.345	8.76	0.40	10.2
	50	74.41	14.7	94.84	16.26	413.0	7.07	179.6	0.63	16.00	0.38	9.65	0.40	10.2
	57	85.0	16.8	108.4	16.43	417.3	7.12	180.8	0.715	18.16	0.43	10.92	0.40	10.2
W16 16 x 10¼ (406 x 260)	67	99.71	19.7	127.1	16.33	414.8	10.235	260.0	0.665	16.89	0.395	10.03	0.40	10.2
	77	114.6	22.6	145.8	16.52	419.6	10.295	261.5	0.76	19.30	0.455	11.56	0.40	10.2
	89	132.4	26.2	169.0	16.75	425.4	10.365	263.3	0.875	22.22	0.525	13.33	0.40	10.2
	100	148.8	29.4	189.7	16.97	431.0	10.425	264.8	0.985	25.02	0.585	14.86	0.40	10.2
W18 18 x 6 (457 x 152)	35	52.09	10.3	66.45	17.70	449.6	6.00	152.4	0.425	10.80	0.30	7.62	0.40	10.2
	40	60.00	11.8	76.13	17.90	454.7	6.015	152.8	0.525	13.30	0.315	8.00	0.40	10.2
	45	67.00	13.2	85.4	18.00	457.2	5.982	151.9	0.589	15.00	0.36	9.10	0.40	10.2
	46	68.46	13.5	87.1	18.06	458.7	6.06	153.9	0.605	15.30	0.36	9.14	0.40	10.2
	50	74.00	14.7	95.0	18.16	461.3	6.011	152.7	0.669	17.00	0.389	9.90	0.40	10.2
	55	82.00	16.2	104.5	18.31	465.1	6.042	153.5	0.744	18.90	0.42	10.70	0.40	10.2
W18 18 x 7½ (457 x 191)	45	67.0	13.2	85.4	17.86	453.6	7.476	189.9	0.50	12.70	0.334	8.50	0.40	10.2
	50	74.41	14.7	94.84	17.99	456.9	7.495	190.4	0.57	14.40	0.355	9.02	0.40	10.2
	55	82.0	16.2	104.5	18.11	460.0	7.53	191.3	0.63	16.00	0.39	9.91	0.40	10.2
	60	89.29	17.6	113.5	18.24	463.3	7.555	191.9	0.695	17.65	0.415	10.54	0.40	10.2
	65	97.0	19.1	123.2	18.35	466.1	7.59	192.8	0.75	19.05	0.45	11.43	0.40	10.2
	66	98.0	19.4	125.3	18.40	467.4	7.592	192.8	0.77	19.60	0.45	11.40	0.40	10.2
	71	106.0	20.8	134.2	18.47	469.1	7.635	193.9	0.81	20.57	0.495	12.57	0.40	10.2
W18 18 x 11 (457 x 279)	76	113.1	22.3	143.9	18.21	462.5	11.035	280.3	0.68	17.27	0.425	10.80	0.40	10.2
	86	128.0	25.3	163.2	18.39	467.1	11.09	281.7	0.77	19.56	0.48	12.19	0.40	10.2
	97	144.4	28.5	183.9	18.59	472.2	11.145	283.1	0.87	22.10	0.535	13.59	0.40	10.2
	106	157.7	31.1	200.6	18.73	475.7	11.20	284.5	0.94	23.88	0.59	14.99	0.40	10.2
	119	177.1	35.1	226.5	18.97	481.8	11.265	286.1	1.06	26.92	0.655	16.64	0.40	10.2
W21 21 x 6½ (533 x 165)	44	66.0	13.0	83.87	20.66	524.8	6.50	165.1	0.45	11.40	0.35	8.89	0.50	12.7
	50	74.41	14.7	94.84	20.83	529.1	6.53	165.9	0.535	13.50	0.38	9.65	0.50	12.7
	57	85.0	16.7	107.7	21.06	534.9	6.555	166.5	0.65	16.51	0.405	10.29	0.50	12.7
W21 21 x 8¼ (533 x 210)	55	82.0	16.2	104.4	20.80	528.3	8.216	208.7	0.52	13.20	0.376	9.60	0.50	12.7
	62	92.27	18.3	118.1	20.99	533.1	8.24	209.3	0.615	15.62	0.40	10.16	0.50	12.7
	68	101.2	20.0	129.0	21.13	536.7	8.27	210.1	0.685	17.40	0.43	10.92	0.50	12.7
	73	109.0	21.5	138.7	21.24	539.5	8.295	210.7	0.74	18.80	0.455	11.56	0.50	12.7
	82	122.0	24.1	155.8	21.44	544.6	8.342	211.9	0.84	21.30	0.502	12.80	0.50	12.7
	83	123.5	24.3	156.8	21.43	544.3	8.355	212.2	0.835	21.21	0.515	13.08	0.50	12.7
	93	138.4	27.3	176.1	21.62	549.1	8.42	213.9	0.93	23.62	0.58	14.73	0.50	12.7
W21 21 x 12¼ (533 x 311)	101	150.3	29.8	192.3	21.36	542.5	12.29	312.2	0.80	20.32	0.50	12.70	0.50	12.7
	111	165.2	32.7	211.0	21.51	546.4	12.34	313.4	0.875	22.22	0.55	13.97	0.50	12.7
	122	181.6	35.9	231.6	21.68	550.7	12.39	314.7	0.96	24.38	0.60	15.24	0.50	12.7
	132	196.4	38.8	250.3	21.83	554.5	12.44	316.0	1.03	26.29	0.65	16.51	0.50	12.7
	147	218.8	43.2	278.7	22.06	560.3	12.51	317.8	1.15	29.21	0.72	18.29	0.50	12.7
W24 24 x 7 (610 x 178)	55	82	16.2	104.5	23.57	598.7	7.005	177.9	0.505	12.83	0.395	10.03	0.50	12.7
	61	91	17.9	116.5	23.72	602.5	7.023	178.4	0.591	15.00	0.419	10.60	0.50	12.7
	62	92.27	18.2	117.4	23.74	603.0	7.040	178.8	0.59	14.99	0.43	10.92	0.50	12.7



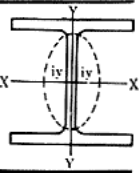
Section Size	Moment of inertia				Radius of gyration				Modulus of section			
	Ix		Iy		ix		iy		Zx		Zy	
in (mm)	in <sup>4</sup>	cm <sup>4</sup>	in <sup>4</sup>	cm <sup>4</sup>	in	cm	in	cm	in <sup>3</sup>	cm <sup>3</sup>	in <sup>3</sup>	cm <sup>3</sup>
<b>W16 16 x 7 (406 x 178)</b>	448	18,600	24.5	1,020	6.51	16.5	1.52	3.86	56.5	926	7.00	115
	518	21,600	28.9	1,200	6.63	16.8	1.57	3.99	64.7	1,060	8.25	135
	586	24,400	32.8	1,370	6.65	16.9	1.57	3.99	72.7	1,190	9.34	153
	659	27,400	37.2	1,550	6.68	17.0	1.59	4.04	81.0	1,330	10.5	172
	758	31,600	43.1	1,790	6.72	17.1	1.60	4.06	92.2	1,510	12.1	198
<b>W16 16 x 10¼ (406 x 260)</b>	954	39,700	119	4,950	6.96	17.7	2.46	6.25	117	1,920	23.2	380
	1,100	46,200	138	5,740	7.00	17.8	2.47	6.27	134	2,200	26.9	441
	1,300	54,100	163	6,780	7.05	17.9	2.49	6.32	155	2,540	31.4	515
	1,490	62,000	186	7,740	7.10	18.0	2.51	6.38	175	2,870	35.7	585
<b>W18 18 x 6 (457 x 152)</b>	510	21,200	15.3	637	7.04	17.9	1.22	3.10	57.6	944	5.12	83.9
	612	25,500	19.1	795	7.21	18.3	1.27	3.23	68.4	1,120	6.35	104
	686	28,577	21.1	878	7.20	18.3	1.26	3.21	76.3	1,250	7.00	116
	712	29,600	22.5	937	7.25	18.4	1.29	3.28	78.8	1,290	7.43	122
	779	32,435	24.3	1,012	7.28	18.5	1.28	3.26	85.8	1,406	8.10	133
	870	36,215	27.5	1,143	7.33	18.6	1.30	3.31	95.0	1,557	9.10	149
<b>W18 18 x 7¼ (457 x 191)</b>	704	29,330	31.9	1,328	7.30	18.5	1.55	3.94	78.9	1,293	8.5	139
	800	33,300	40.1	1,670	7.38	18.7	1.65	4.19	88.9	1,460	10.7	175
	890	37,000	44.9	1,870	7.41	18.8	1.67	4.24	98.3	1,610	11.9	195
	984	41,000	50.1	2,090	7.47	19.0	1.68	4.27	108	1,770	13.3	218
	1,070	44,500	54.8	2,280	7.49	19.0	1.69	4.29	117	1,920	14.4	236
	1,098	45,717	56.3	2,343	7.52	19.1	1.70	4.33	119	1,956	14.8	243
	1,170	48,700	60.3	2,510	7.50	19.0	1.70	4.32	127	2,080	15.8	259
<b>W18 18 x 11 (457 x 279)</b>	1,330	55,400	152	6,330	7.73	19.6	2.61	6.63	146	2,390	27.6	452
	1,530	63,700	175	7,280	7.77	19.7	2.63	6.68	166	2,720	31.6	518
	1,750	72,800	201	8,370	7.82	19.9	2.65	6.73	188	3,080	36.1	592
	1,910	79,500	220	9,170	7.84	19.9	2.66	6.76	204	3,340	39.4	646
	2,190	91,200	253	10,500	7.90	20.1	2.69	6.83	231	3,790	44.9	736
<b>W21 21 x 6½ (533 x 165)</b>	843	35,100	20.7	862	8.06	20.5	1.26	3.20	81.6	1,340	6.37	104
	984	41,000	24.9	1,040	8.18	20.8	1.30	3.30	94.5	1,550	7.64	125
	1,170	48,700	30.6	1,270	8.36	21.2	1.35	3.43	111	1,820	9.35	153
<b>W21 21 x 8¼ (533 x 210)</b>	1,140.7	47,490	44.0	1,832	8.40	21.3	1.65	4.19	109.7	1,798	10.7	175.4
	1,330	55,400	57.5	2,390	8.54	21.7	1.77	4.50	127	2,080	14.0	229
	1,480	61,600	64.7	2,690	8.60	21.8	1.80	4.57	140	2,290	15.7	257
	1,600	66,600	70.6	2,940	8.64	21.9	1.81	4.60	151	2,470	17.0	279
	1,830	76,200	81.4	3,390	8.67	22.0	1.83	4.65	170.8	2,799	19.5	320
	1,830.7	76,207	81.5	3,393	8.71	22.1	1.84	4.67	171	2,800	19.5	320.2
	2,070	86,200	92.9	3,870	8.70	22.1	1.84	4.67	192	3,150	22.1	362
<b>W21 21 x 12¼ (533 x 311)</b>	2,420	101,000	248	10,300	9.02	22.9	2.89	7.34	227	3,720	40.3	660
	2,670	111,000	274	11,400	9.05	23.0	2.90	7.37	249	4,080	44.5	729
	2,960	123,000	305	12,700	9.09	23.1	2.92	7.42	273	4,470	49.2	806
	3,220	134,000	333	13,900	9.12	23.2	2.93	7.44	295	4,830	53.5	877
	3,630	151,000	376	15,600	9.17	23.3	2.95	7.49	329	5,390	60.1	985
<b>W24 24 x 7 (610 x 178)</b>	1,350	56,200	29.1	1,210	9.11	23.1	1.34	3.40	114	1,870	8.30	136
	1,540	64,085	34.3	1,432	9.25	23.5	1.38	3.51	130	2,124	9.76	159.5
	1,550	64,500	34.5	1,440	9.23	23.4	1.38	3.51	131	2,150	9.80	161





Imperial Units

Section size	Unit weight M		Section area A		Section depth D		Flange width B		Flange thickness T		Web thickness t		Corner radius r	
	lb/ft	kg/m	in <sup>2</sup>	cm <sup>2</sup>	in	mm	in	mm	in	mm	in	mm	in	mm
<b>W24 24 x 9 (610 x 229)</b>	68	101.2	20.1	129.7	23.73	602.7	8.965	227.7	0.585	14.86	0.415	10.54	0.50	12.7
	76	113.1	22.4	144.5	23.92	607.6	8.99	228.3	0.680	17.27	0.44	11.18	0.50	12.7
	84	125	24.7	159.4	24.10	612.1	9.02	229.1	0.770	19.56	0.47	11.94	0.50	12.7
	94	140	27.7	178.7	24.31	617.5	9.065	230.2	0.875	22.22	0.515	13.08	0.50	12.7
<b>W24 24 x 12 (610 x 305)</b>	100	149	29.4	190.1	24.00	609.6	12.00	304.8	0.775	19.70	0.468	11.90	0.70	17.8
	120	179	35.3	227.9	24.31	617.5	12.088	307.0	0.93	23.60	0.556	14.10	0.70	17.8
	160	238	47.0	303.8	24.92	633.0	12.264	311.5	1.235	31.40	0.732	18.60	0.70	17.8
<b>W24 24 x 12½ (610 x 324)</b>	104	154.8	30.6	197.4	24.06	611.1	12.75	323.8	0.75	19.05	0.50	12.70	0.50	12.7
	117	174.1	34.4	221.9	24.26	616.2	12.80	325.1	0.85	21.59	0.55	13.97	0.50	12.7
	131	194.9	38.5	248.4	24.48	621.8	12.855	326.5	0.96	24.38	0.605	15.37	0.50	12.7
	146	217.3	43.0	277.4	24.74	628.4	12.90	327.7	1.09	27.69	0.65	16.51	0.50	12.7
	162	241.1	47.7	307.7	25.00	635.0	12.955	329.1	1.22	30.99	0.705	17.91	0.50	12.7
<b>W27 27 x 10 (686 x 254)</b>	84	125	24.8	160.0	26.71	678.4	9.96	253.0	0.64	16.26	0.46	11.68	0.60	15.2
	94	140	27.7	178.7	26.92	683.8	9.99	253.7	0.745	18.92	0.49	12.45	0.60	15.2
	102	152	30.0	193.5	27.09	688.1	10.015	254.4	0.83	21.08	0.515	13.08	0.60	15.2
	114	170	33.5	216.1	27.29	693.2	10.07	255.8	0.93	23.62	0.57	14.48	0.60	15.2
<b>W27 27 x 14 (686 x 356)</b>	146	217.3	42.9	276.8	27.38	695.5	13.965	354.7	0.975	24.76	0.605	15.37	0.60	15.2
	161	239.6	47.4	305.8	27.59	700.8	14.02	356.1	1.08	27.43	0.66	16.76	0.60	15.2
	178	264.9	52.3	337.4	27.81	706.4	14.085	357.8	1.19	30.23	0.725	18.41	0.60	15.2
<b>W30 30 x 10½ (762 x 267)</b>	99	147.3	29.1	187.7	29.65	753.1	10.45	265.4	0.67	17.02	0.52	13.21	0.65	16.5
	108	161	31.7	204.5	29.83	757.7	10.475	266.1	0.76	19.30	0.545	13.84	0.65	16.5
	116	173	34.2	220.6	30.01	762.3	10.495	266.6	0.85	21.59	0.565	14.35	0.65	16.5
	124	185	36.5	235.5	30.17	766.3	10.515	267.1	0.93	23.62	0.585	14.86	0.65	16.5
	132	197	38.9	251.0	30.31	769.9	10.545	267.8	1.00	25.40	0.615	15.62	0.65	16.5
<b>W30 30 x 15 (762 x 381)</b>	173	257.5	50.8	327.7	30.44	773.2	14.985	380.6	1.06	27.05	0.655	16.64	0.65	16.5
	191	284.2	56.1	361.9	30.68	779.3	15.04	382.0	1.18	30.10	0.71	18.03	0.65	16.5
	211	314	62.0	400.0	30.94	785.9	15.105	383.7	1.31	33.40	0.775	19.68	0.65	16.5
<b>W33 33 x 11½ (838 x 292)</b>	118	176	34.7	223.9	32.86	834.6	11.48	291.6	0.74	18.80	0.55	13.97	0.70	17.8
	130	194	38.3	247.1	33.09	840.5	11.51	292.4	0.855	21.72	0.58	14.73	0.70	17.8
	141	210	41.6	268.4	33.30	845.8	11.535	293.0	0.96	24.38	0.605	15.37	0.70	17.8
	152	226.2	44.7	288.4	33.49	850.6	11.565	293.8	1.05	26.80	0.635	16.13	0.70	17.8
<b>W33 33 x 15¾ (838 x 400)</b>	201	299.1	59.1	381.3	33.68	855.5	15.745	399.9	1.15	29.21	0.715	18.16	0.70	17.8
	221	328.9	65.0	419.4	33.93	861.8	15.805	401.4	1.27	32.38	0.775	19.68	0.70	17.8
	241	358.6	70.9	457.4	34.18	868.2	15.86	402.8	1.40	35.56	0.83	21.08	0.70	17.8
<b>W36 36 x 12 (914 x 305)</b>	135	201	39.7	256.1	35.55	903.0	11.95	303.5	0.79	20.07	0.60	15.24	0.75	19.0
	150	224	44.2	285.2	35.85	910.6	11.975	304.2	0.94	23.88	0.625	15.87	0.75	19.0
	160	238.1	47.0	303.2	36.01	914.7	12.00	304.8	1.02	25.91	0.65	16.51	0.75	19.0
	170	253	50.0	322.6	36.17	918.7	12.03	305.6	1.10	27.94	0.68	17.27	0.75	19.0
	182	271	53.6	345.8	36.33	922.8	12.075	306.7	1.18	29.97	0.725	18.41	0.75	19.0
	194	289	57.0	367.7	36.49	926.8	12.115	307.7	1.26	32.00	0.765	19.43	0.75	19.0
	210	313	61.8	398.7	36.69	931.9	12.18	309.4	1.36	34.54	0.83	21.08	0.75	19.0
<b>W36 36 x 16½ (914 x 419)</b>	230	343	67.6	436.1	35.90	911.9	16.47	418.3	1.26	32.00	0.76	19.30	0.95	24.1
	245	365	72.1	465.2	36.08	916.4	16.51	419.4	1.35	34.29	0.80	20.32	0.95	24.1
	260	388	76.5	493.5	36.26	921.0	16.55	420.4	1.44	36.58	0.84	21.34	0.95	24.1
	280	417	82.4	531.6	36.52	927.6	16.595	421.5	1.57	39.88	0.885	22.48	0.95	24.1
	300	447	88.3	569.7	36.74	933.2	16.655	423.0	1.68	42.67	0.945	24.00	0.95	24.1



Section Size	Moment of inertia				Radius of gyration				Modulus of section			
	Ix		Iy		ix		iy		Zx		Zy	
in (mm)	in <sup>4</sup>	cm <sup>4</sup>	in <sup>4</sup>	cm <sup>4</sup>	in	cm	in	cm	in <sup>3</sup>	cm <sup>3</sup>	in <sup>3</sup>	cm <sup>3</sup>
W24 24 x 9 (610 x 229)	1,830	76,200	70.4	2,930	9.55	24.3	1.87	4.75	154	2,520	15.7	257
	2,100	87,400	82.5	3,430	9.69	24.6	1.92	4.88	176	2,880	18.4	302
	2,370	98,600	94.4	3,930	9.79	24.9	1.95	4.95	196	3,210	20.9	342
	2,700	112,000	109.0	4,540	9.87	25.1	1.98	5.03	222	3,640	24.0	393
W24 24 x 12 (610 x 305)	2,987.3	124,400	203.5	8,471	10.08	25.6	2.63	6.68	248.9	4,079.5	33.9	555.6
	3,635.3	151,300	254.0	10,570	10.15	25.78	2.68	6.81	299.1	4,902.2	42.0	688.4
	4,986.3	207,571	380.5	15,838	10.28	26.1	2.84	7.22	400.2	6,559	62.0	1,017
W24 24 x 12½ (610 x 324)	3,100	129,000	259	10,800	10.1	25.7	2.91	7.39	258	4,230	40.7	667
	3,540	147,000	297	12,400	10.1	25.7	2.94	7.47	291	4,770	46.5	762
	4,020	167,000	340	14,200	10.2	25.9	2.97	7.54	329	5,390	53.0	869
	4,580	191,000	391	16,300	10.3	26.2	3.01	7.65	371	6,080	60.5	991
	5,170	215,000	443	18,400	10.4	26.4	3.05	7.75	414	6,780	68.4	1,120
W27 27 x 10 (686 x 254)	2,850	119,000	106	4,410	10.7	27.2	2.07	5.26	213	3,490	21.2	347
	3,270	136,000	124	5,160	10.9	27.7	2.12	5.38	243	3,980	24.8	406
	3,620	151,000	139	5,790	11.0	27.9	2.15	5.46	267	4,380	27.8	456
	4,090	170,000	159	6,620	11.0	27.9	2.18	5.54	299	4,900	31.5	516
W27 27 x 14 (686 x 356)	5,630	234,000	443	18,400	11.4	29.0	3.21	8.15	411	6,740	63.5	1,040
	6,280	261,000	497	20,700	11.5	29.2	3.24	8.23	455	7,460	70.9	1,160
	6,990	291,000	555	23,100	11.6	29.5	3.26	8.28	502	8,230	78.8	1,290
W30 30 x 10½ (762 x 267)	4,000	166,000	128	5,330	11.7	29.7	2.10	5.33	269	4,410	24.5	401
	4,470	186,000	146	6,080	11.9	30.2	2.15	5.46	299	4,900	27.9	457
	4,930	205,000	164	6,830	12.0	30.5	2.19	5.56	329	5,390	31.3	513
	5,360	223,000	181	7,530	12.1	30.7	2.23	5.66	355	5,820	34.4	564
	5,770	240,000	196	8,160	12.2	31.0	2.25	5.71	380	6,230	37.2	610
W30 30 x 15 (762 x 381)	8,200	341,000	598	24,900	12.7	32.3	3.43	8.71	539	8,830	79.8	1,310
	9,170	382,000	673	28,000	12.8	32.5	3.46	8.79	598	9,800	89.5	1,470
	10,300	429,000	757	31,500	12.9	32.8	3.49	8.86	663	10,900	100	1,640
W33 33 x 11½ (838 x 292)	5,900	246,000	187	7,780	13.0	33.0	2.32	5.89	359	5,880	32.6	534
	6,710	279,000	218	9,070	13.2	33.5	2.38	6.05	406	6,650	37.9	621
	7,450	310,000	246	10,200	13.4	34.0	2.43	6.17	448	7,340	42.7	700
	8,160	340,000	273	11,400	13.5	34.3	2.47	6.27	487	7,980	47.2	773
W33 33 x 15¼ (838 x 400)	11,500	479,000	749	31,200	14.0	35.6	3.56	9.04	684	11,200	95.2	1,560
	12,800	533,000	840	35,000	14.1	35.8	3.59	9.12	757	12,400	106	1,740
	14,200	591,000	932	38,800	14.1	35.8	3.63	9.22	829	13,600	118	1,930
W36 36 x 12 (914 x 305)	7,800	325,000	225	9,370	14.0	35.6	2.38	6.05	439	7,190	37.7	618
	9,040	376,000	270	11,200	14.3	36.3	2.47	6.27	504	8,260	45.1	739
	9,760	406,000	295	12,300	14.4	36.6	2.50	6.35	542	8,880	49.1	805
	10,500	437,000	320	13,300	14.5	36.8	2.53	6.43	580	9,500	53.2	872
	11,300	470,000	347	14,400	14.5	36.8	2.55	6.48	623	10,200	57.6	944
	12,100	504,000	375	15,600	14.6	37.1	2.56	6.50	664	10,900	61.9	1,010
	13,200	549,000	411	17,100	14.6	37.1	2.58	6.55	719	11,800	67.5	1,110
	15,000	624,000	490	19,100	14.9	37.8	2.73	7.04	837	13,700	79.2	1,270
W36 36 x 16½ (914 x 419)	15,000	624,000	940	39,100	14.9	37.8	3.73	9.47	837	13,700	114	1,870
	16,100	670,000	1,010	42,000	15.0	38.1	3.75	9.52	895	14,700	123	2,020
	17,300	720,000	1,090	45,400	15.0	38.1	3.78	9.60	953	15,600	132	2,160
	18,900	787,000	1,200	49,900	15.1	38.4	3.81	9.68	1,030	16,900	144	2,360
	20,300	845,000	1,300	54,100	15.2	38.6	3.83	9.73	1,110	18,200	156	2,560