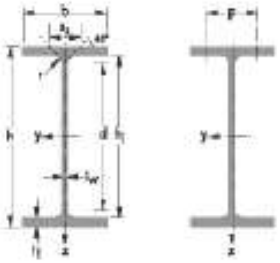
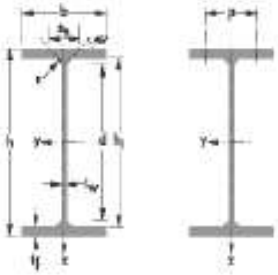


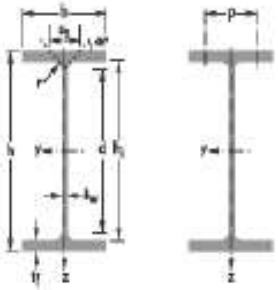
UNIVERSAL BEAMS - DIMENSIONS AND PROPERTIES
To BS 4 : Part 1993 : 1

Designation	Mass per Metre	Depth of Section h	Width of Section b	Thickness Web s	Thickness Flange t	Root Radius r	Depth Between Fillets d	Ratios for Local Buckling	
								Flange b/2t	Web d/s
	kg/m	mm	mm	mm	mm	mm	mm		
127x 76x 13	13.0	127.0	76.0	4.0	7.6	7.6	96.6	5.00	24.1
152x 89x 16	16.0	152.4	88.7	4.5	7.7	7.6	121.8	5.76	27.1
178x 102x 19	19.0	177.8	101.2	4.8	7.9	7.6	146.8	6.41	30.6
203x 102x 23	23.1	203.2	101.8	5.4	9.3	7.6	169.4	5.47	31.4
203x 133x 25	25.1	203.2	133.2	5.7	7.8	7.6	172.4	8.54	30.2
203x 133x 30	30.0	206.8	133.9	6.4	9.6	7.6	172.4	6.97	26.9
254x 102x 22	22.0	254.0	101.6	5.7	6.8	7.6	225.2	7.47	39.5
254x 102x 25	25.2	257.2	101.9	6.0	8.4	7.6	225.2	6.07	37.5
254x 102x 28	28.3	260.4	102.2	6.3	10.0	7.6	225.2	5.11	35.7
254x 146x 31	31.1	251.4	146.1	6.0	8.6	7.6	219.0	8.49	36.5
254x 146x 37	37.0	256.0	146.4	6.3	10.9	7.6	219.0	6.72	34.8
254x 146x 43	43.0	259.6	147.3	7.2	12.7	7.6	219.0	5.80	30.4
305x 102x 25	24.8	305.1	101.6	5.8	7.0	7.6	275.9	7.26	47.6
305x 102x 28	28.2	308.7	101.8	6.0	8.8	7.6	275.9	5.78	46.0
305x 102x 33	32.8	312.7	102.4	6.6	10.8	7.6	275.9	4.74	41.8
305x 127x 37	37.0	304.4	123.3	7.1	10.7	8.9	265.2	5.77	37.4
305x 127x 42	41.9	307.2	124.3	8.0	12.1	8.9	265.2	5.14	33.2
305x 127x 48	48.1	311.0	125.3	9.0	14.0	8.9	265.2	4.47	29.5
305x 165x 40	40.3	303.4	165.0	6.0	10.2	8.9	265.2	8.09	44.2
305x 165x 46	46.1	306.6	165.7	6.7	11.8	8.9	265.2	7.02	39.6
305x 165x 54	54.0	310.4	166.9	7.9	13.7	8.9	265.2	6.09	33.6
356x 127x 33	33.1	349.0	125.4	6.0	8.5	10.2	311.6	7.38	51.9
356x 127x 39	39.1	353.4	126.0	6.6	10.7	10.2	311.6	5.89	47.2



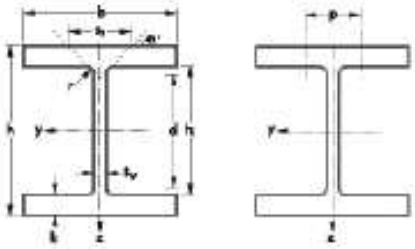
UNIVERSAL BEAMS - DIMENSIONS AND PROPERTIES
To BS 4 : Part 1 : 1993

Designation	Mass per Metre	Depth of Section h	Width of Section b	Thickness Web s	Thickness Flange t	Root Radius r	Depth Between Fillets d	Ratios for Local Buckling	
								Flange b/2t	Web d/s
	kg/m	mm	mm	mm	mm	mm	mm		
356x 171x 45	45.0	351.4	171.1	7.0	9.7	10.2	311.6	8.82	44.5
356x 171x 51	51.0	355.0	171.5	7.4	11.5	10.2	311.6	7.46	42.1
356x 171x 57	57.0	358.0	172.2	8.1	13.0	10.2	311.6	6.62	38.5
356x 171x 67	67.1	363.4	173.2	9.1	15.7	10.2	311.6	5.52	34.2
406x 140x 39	39.0	398.0	141.8	6.4	8.6	10.2	360.4	8.24	56.3
406x 140x 46	46.0	403.2	142.2	6.8	11.2	10.2	360.4	6.35	53.0
406x 178x 54	54.1	402.6	177.7	7.7	10.9	10.2	360.4	8.15	46.8
406x 178x 60	60.1	406.4	177.9	7.9	12.8	10.2	360.4	6.95	45.6
406x 178x 67	67.1	409.4	178.8	8.8	14.3	10.2	360.4	6.25	41.0
406x 178x 74	74.2	412.8	179.5	9.5	16.0	10.2	360.4	5.61	37.9
457x 152x 52	52.3	449.8	152.4	7.6	10.9	10.2	407.6	6.99	53.6
457x 152x 60	59.8	454.6	152.9	8.1	13.3	10.2	407.6	5.75	50.3
457x 152x 67	67.2	458.0	153.8	9.0	15.0	10.2	407.6	5.13	45.3
457x 152x 74	74.2	462.0	154.4	9.6	17.0	10.2	407.6	4.54	42.5
457x 152x 82	82.1	465.8	155.3	10.5	18.9	10.2	407.6	4.11	38.8
457x 191x 67	67.1	453.4	189.9	8.5	12.7	10.2	407.6	7.48	48.0
457x 191x 74	74.3	457.0	190.4	9.0	14.5	10.2	407.6	6.57	45.3
457x 191x 82	82.0	460	191.3	9.9	16.0	10.2	407.6	5.98	41.2
457x 191x 89	89.3	463.4	191.9	10.5	17.7	10.2	407.6	5.42	38.8
457x 191x 98	98.3	467.2	192.8	11.4	19.6	10.2	407.6	4.92	35.8
533x 210x 82	82.2	528.3	208.8	9.6	13.2	12.7	476.5	7.91	49.6
533x 210x 92	92.1	533.1	209.3	10.1	15.6	12.7	476.5	6.71	47.2
533x 210x 101	101.0	536.7	210.0	10.8	17.4	12.7	476.5	6.03	44.1
533x 210x 109	109.0	539.5	210.8	11.6	18.8	12.7	4755	5.61	41.1
533x 210x 122	122.0	544.5	211.9	12.7	21.3	12.7	476.5	4.97	37.5
610x 229x 101	101.2	602.6	227.6	10.5	14.8	12.7	547.6	7.69	52.2
610x 229x 113	113.0	607.6	228.2	11.1	17.3	12.7	547.6	6.60	49.3
610x 229x 125	125.1	612.2	229.0	11.9	19.6	12.7	547.6	5.84	46.0
610x 229x 140	139.9	617.2	230.2	13.1	22.1	12.7	547.6	5.21	41.8



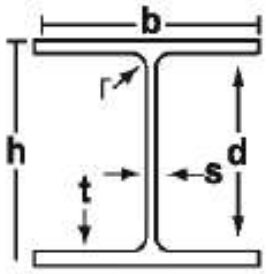
UNIVERSAL BEAMS - DIMENSIONS AND PROPERTIES
To BS 4 : Part 1 : 1993

Designation	Mass per Metre	Depth of Section h	Width of Section b	Thickness Web s	Thickness Flange t	Root Radius r	Depth Between Fillets d	Ratios for Local Bucking	
								Flange b/2t	Web d/s
	kg/m	mm	mm	mm	mm	mm	mm		
610x 305x 149	149.1	612.4	304.8	11.8	19.7	16.5	540.0	7.74	45.8
610x 305x 179	179.0	620.2	307.1	14.1	23.6	16.5	540.0	6.51	38.3
610x 305x 238	238.1	635.8	311.4	18.4	31.4	16.5	540.0	4.96	29.3
686x 254x 125	125.2	677.9	253.0	11.7	16.2	15.2	615.1	7.81	52.6
686x 254x 140	140.1	683.5	253.7	12.4	19.0	15.2	615.1	6.68	49.6
686x 254x 152	152.4	687.5	254.5	13.2	21.0	15.2	615.1	6.06	46.6
686x 254x 170	170.2	692.9	255.8	14.5	23.7	15.2	615.1	5.40	42.4
762x 267x 134	133.9	750.0	264.4	12.0	15.5	16.5	686.0	8.53	57.2
762x 267x 147	146.9	754.0	265.2	12.8	17.5	16.5	686.0	7.58	53.6
762x 267x 173	173.0	762.2	266.7	14.3	21.6	16.5	686.0	6.17	48.0
762x 267x 197	196.8	769.8	268.0	15.6	25.4	16.5	686.0	5.28	44.0
838x 292x 176	175.9	834.9	291.7	14.0	18.8	17.8	761.7	7.76	54.4
838x 292x 194	193.8	840.7	292.4	14.7	21.7	17.8	761.7	6.74	51.8
838x 292x 226	226.5	850.9	293.8	16.1	26.8	17.8	761.7	5.48	47.3
914x 305x 201	200.9	903.0	303.3	15.1	20.2	19.1	824.4	7.51	54.6
914x 305x 224	224.2	910.4	304.1	15.9	23.9	19.1	824.4	6.36	51.8
914x 305x 253	253.4	918.4	305.5	17.3	27.9	19.1	824.4	5.47	47.7
914x 305x 289	289.1	926.6	307.7	19.5	32.0	19.1	824.4	4.81	42.3
914x 419x 343	343.3	911.8	418.5	19.4	32.0	24.1	799.6	6.54	41.2
914x 419x 388	388.0	921.0	420.5	21.4	36.6	24.1	799.6	5.74	37.4
1016x 305x 222	222.0	970.3	300.0	16.0	21.1	30.0	867.8	7.11	54.4
1016x 305x 249	249.0	980.2	300.0	16.5	26.0	30.0	868.0	5.77	52.7
1016x 305x 272	272.0	990.1	300.0	16.5	31.0	30.0	868.0	4.84	52.7
1016x 305x 314	314.0	1000.0	300.0	19.1	35.9	30.0	868.2	4.18	45.6
1016x 305x 349	349.0	1008.1	302.0	21.1	40.0	30.0	868.0	3.78	41.2
1016x 305x 393	393.0	1016.0	303.0	24.4	43.9	30.0	868.2	3.45	35.7
1016x 305x 438	438.0	1025.9	305.4	26.9	49.0	30.0	868.0	3.12	32.3
1016x 305x 487	487.0	1036.1	308.5	30.0	54.1	30.0	867.8	2.85	29.0



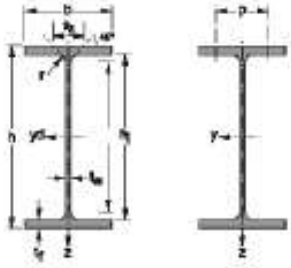
UNIVERSAL COLUMNS - DIMENSIONS AND PROPERTIES
To BS 4 : Part 1 : 1993

Designation	Mass per Metre	Depth of Section h	Width of Section b	Thickness Web s	Thickness Flange t	Root Radius r	Depth Between Fillets d	Ratios for Local Bucking	
								Flange b/2t	Web d/s
	kg/m	mm	mm	mm	mm	mm	mm		
152 x 152 x 23	23.0	152.4	152.2	5.8	6.8	7.6	123.6	11.2	21.3
152 x 152 x 30	30.0	157.6	152.9	6.5	9.4	7.6	123.6	8.13	19.0
152 x 152 x 37	37.0	161.8	154.4	8.0	11.5	7.6	123.6	6.71	15.4
203 x 203 x 46	46.1	203.2	203.6	7.2	11.0	10.2	160.8	9.25	22.3
203 x 203 x 52	52.0	206.2	204.3	7.9	12.5	10.2	160.8	8.17	20.4
203 x 203 x 60	60.0	209.6	205.8	9.4	14.2	10.2	160.8	7.25	17.1
203 x 203 x 71	71.0	215.8	206.4	10.0	17.3	10.2	160.8	5.97	16.1
203 x 203 x 86	86.1	222.2	209.1	12.7	20.5	10.2	160.8	5.10	12.7
254 x 254 x 73	73.1	254.1	254.6	8.6	14.2	12.7	200.3	8.96	23.3
254 x 254 x 89	88.9	260.3	256.3	10.3	17.3	12.7	200.3	7.41	19.4
254 x 254 x 107	107.1	266.7	258.8	12.8	20.5	12.7	200.3	6.31	15.6
254 x 254 x 132	132.0	276.3	261.3	15.3	25.3	12.7	200.3	5.16	13.1
254 x 254 x 167	167.1	289.1	265.2	19.2	31.7	12.7	200.3	4.18	10.4
305 x 305 x 97	96.9	307.9	305.3	9.9	15.4	15.2	246.7	9.91	24.9
305 x 305 x 118	117.9	314.5	307.4	12.0	18.7	15.2	246.7	8.22	20.6
305 x 305 x 137	136.9	320.5	309.2	13.8	21.7	15.2	246.7	7.12	17.9
305 x 305 x 158	158.1	327.1	311.2	15.8	25.0	15.2	246.7	6.22	15.6
305 x 305 x 198	198.1	339.9	314.5	19.1	31.4	15.2	246.7	5.01	12.9
305 x 305 x 240	240.0	352.5	318.4	23.0	37.7	15.2	246.7	4.22	10.7
305 x 305 x 283	282.9	365.3	322.2	26.8	44.1	15.2	246.7	3.65	9.21
356 x 368 x 129	129.0	355.6	368.6	10.4	17.5	15.2	290.2	6.94	17.6
356 x 368 x 153	152.9	362.0	370.5	12.3	20.7	15.2	290.2	7.83	20.2
356 x 368 x 177	177.0	368.2	372.6	14.4	23.8	15.2	290.2	8.95	23.6
356 x 368 x 202	201.9	374.6	374.7	16.5	27.0	15.2	290.2	10.5	27.9
356 x 406 x 235	235.1	381.0	394.8	18.4	30.2	15.2	290.2	6.54	15.8
356 x 406 x 287	287.1	393.6	399.0	22.6	36.5	15.2	290.2	5.47	12.8
356 x 406 x 340	339.9	406.4	403.0	26.6	42.9	15.2	290.2	4.70	10.9
356 x 406 x 393	393.0	419.0	407.0	30.6	49:2	15.2	290.2	4.14	9.48
356 x 406 x 467	467.0	436.6	412.2	35.8	58.0	15.2	290.2	3.55	8.11
356 x 406 x 551	551.0	455.6	418.5	42.1	67.5	15.2	290.2	3.10	6.89
356 x 406 x 634	633.9	474.6	424.0	47.6	77.0	15.2	290.2	2.75	6.10



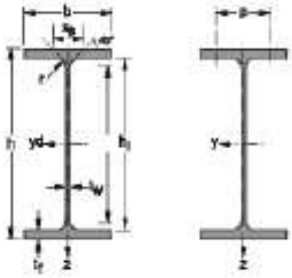
UNIVERSAL BEAMS - DIMENSIONS AND PROPERTIES
To BS 4 : Part 1 : 1993

Designation	Mass per Metre	Depth of Section h	Width of Section b	Thickness Web s	Thickness Flange t	Root Radius r	Depth between fillets d	Ratios for Local Budding	
								Flange	Web
	kg/m	mm	mm	mm	mm	mm	mm	b/2t	d/s
356 x 368 x 174	173.9	361.4	378.5	20.3	20.4	15.2	290.2	9.28	14.3
356 x 368 x 152	152.0	356.4	376.0	17.8	17.9	15.2	290.2	10.5	16.3
356 x 368 x 133	133.0	352.0	373.8	15.6	15.7	15.2	290.2	11.9	18.6
356 x 368 x 109	108.9	346.4	371.0	12.8	12.9	15.2	290.2	14.4	22.7
305 x 305 x 223	222.9	337.9	325.7	30.3	30.4	15.2	246.7	5.36	8.14
305 x 305 x 186	186.0	328.3	320.9	25.5	25.6	15.2	246.7	6.27	9.67
305 x 305 x 149	149.1	318.5	316.0	20.6	20.7	15.2	246.7	7.63	12.0
305 x 305 x 126	126.1	312.3	312.9	17.5	17.6	15.2	246.7	8.89	14.1
305 x 305 x 110	110.0	307.9	310.7	15.3	15.4	15.2	246.7	10.1	16.1
305 x 305 x 95	94.9	303.7	308.7	13.3	13.3	15.2	246.7	11.6	18.5
305 x 305 x 88	88.0	301.7	307.8	12.4	12.3	15.2	246.7	12.5	19.9
305 x 305 x 79	78.9	299.3	306.4	11.0	11.1	15.2	246.7	13.8	22.4
254 x 254 x 85	85.1	254.3	260.4	14.4	14.3	12.7	200.3	9.10	13.9
254 x 254 x 71	71.0	249.7	258.0	12.0	12.0	12.7	200.3	10.8	16.7
254 x 254 x 63	63.0	247.1	256.6	10.6	10.7	12.7	200.3	12.0	18.9
203 x 203 x 54	53.9	204.0	207.7	11.3	1t4	10.2	160.8	9.11	14.2
203 x 203 x 45	44.9	200.2	205.9	9.5	9.5	10.2	160.8	10.8	16.9



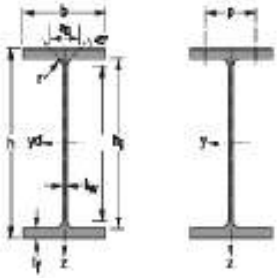
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03, To BS 4 : Part 1 : 1993

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h_1	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm²	mm	mm		mm	mm
W 4 x 4	13	19.3	106	103	7.1	8.8	6	24.70	88.4	764	-	-	-
W 5 x 5	16	23.8	127	127	6.1	9.1	8	30.40	108.8	92.8	M12	60	70
W 5 x 5	19	28.1	131	128	6.9	10.9	8	35.90	109.2	932	512	62	70
W 6 x4	9	13.5	150	100	4.3	5.5	6	17.30	139.0	127.0	-	-	-
W 6 x 4	12	18.0	153	102	5.8	7.1	6	22.90	138.4	126.4	-	-	-
W 6 x 4	16	24.0	160	102	6.6	10.3	6	30.60	139.4	127.4	-	-	-
W 6 x 6	15	22.5	152	152	5.8	6.6	6	28 60	138.8	126.8	516	70	82
W 6 x 6	20	29.8	157	153	6.6	9.3	6	37.90	138.4	126.4	516	72	84
W 6 x 6	25	37.1	162	154	8.1	11.6	6	47.40	138.8	126.8	516	74	84
W 8 x 4	10	156	200	100	4.3	5.2	8	19.10	189.6	173.6	-	-	-
W 8 x 4	13	19.3	203	102	5.8	6.5	8	24.80	190.0	174.0	-	-	-
W 8 x 4	15	22.5	206	102	6.2	8.0	8	28.60	190.0	174.0	-	-	-
W 8 x 5.25	14	216	203	133	5.0	6.4	8	27.08	190.2	174.2	512	62	76
W 8 x 5.25	18	26.6	207	133	5.8	8.4	8	33.90	190.2	174.2	512	62	76
W 8 x 5.25	21	31.3	210	134	6.4	10.2	8	39.70	1896	173.6	M12	64	75
W 8 x 6.5	24	35.9	201	165	6.2	10.2	10	45.70	180.6	160.6	516	78	96
W 8 x 6.5	28	41.7	205	166	7.2	11.8	10	5320	1814	1614	516	80	96
W 8 x 8	31	46.1	203	203	7.2	11.0	10	58.90	181.0	16.10	M24	94	110
W 8 x 8	35	52.0	206	204	7.9	12.6	10	66.50	180.8	160.8	M24	94	110
W 8 x 8	40	59.0	210	205	9.1	14.2	10	75.50	181.6	161.6	M24	96	112
W 8 x 8	48	71.0	216	206	10.2	174	10	91.00	181.2	161.2	M24	98	112
W 8 x 8	58	86.0	222	209	13.0	20.6	10	110.0	180.8	160.8	M24	100	116
W 8 x 8	67	100	229	210	14.5	231	10	127.0	181.6	161.6	M24	102	116



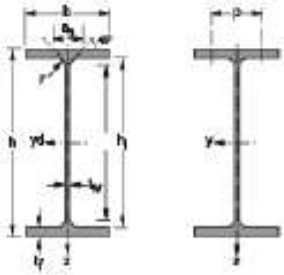
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h_i	d	Ø	Pmin	Pmax
			mm	mm	mm	mm	mm	mm^2	mm	mm		mm	mm
W 10 x 4	12	17.9	251	101	4.8	5.3	8	22.80	240.4	224.4	-	-	-
W 10 x 4	15	22.3	254	102	5.8	6.9	8	28.50	240.2	224.2	-	-	-
W 10 x 4	17	25.3	257	102	6.1	8.4	8	3220	240.2	224.2	-	-	-
W 10 x 4	19	28.4	260	102	64	10.0	8	36.30	240.0	224.0	-	-	-
W 10 x 5.75	16	24.0	253	145	5.0	6.4	8	31.12	240.2	224.2	M16	72	76
W 10 x 5.75	22	32.7	258	146	6.1	9.1	8	41.90	239.8	223.8	M16	72	76
W 10 x 5.75	26	38.5	262	147	6.6	11.2	8	49.10	239.6	223.6	M16	74	78
W 10 x 5.75	30	44.8	266	148	7.6	13.0	8	57.00	240.0	224.0	M16	74	78
W 10 x 8	33	49.1	247	202	7.4	11.0	13	62.60	225.0	199.0	M27	90	112
W 10 x 8	39	58.0	252	203	8.0	13.5	13	7420	225.0	199.0	M27	90	113
W 10 x 8	45	67.0	257	204	8.9	15.7	13	85.80	225.6	199.6	M27	90	114
W 10 x 10	49	73.0	253	254	8.6	14.2	13	92.90	224.6	198.6	M27	102	148
W 10 x 10	54	80.0	256	255	94	15.6	13	102.0	224.8	198.8	M27	102	150
W 10 x 10	60	89.0	260	256	10.7	17.3	13	114.0	2254	199.4	M27	104	150
W 10 x 10	68	101	264	257	11.9	19.6	13	129.0	224.8	198.8	M27	106	152
W 10 x 10	77	115	269	259	13.5	22.1	13	146.0	224.8	198.8	M27	106	154
W 10 x 10	88	131	275	261	15.4	25.1	13	167.0	224.8	198.8	M27	108	156
W 10 x 10	100	149	282	263	17.3	28.4	13	190.0	225.2	199.2	M27	110	158
W 10 x 10	112	167	289	265	19.2	31.8	13	212.0	2254	199.4	M27	112	160
W 12 x4	14	21.0	303	101	5.1	5.7	8	26.80	291.6	275.6	-	-	-
W 12 x 4	16	23.8	305	101	5.6	6.7	8	30.40	291.6	275.6	-	-	-
W 12 x 4	19	28.3	309	102	6.0	8.9	8	35.90	291.2	2752	-	-	-
W 12 x 4	22	32.7	313	102	6.6	10.8	8	41.80	291.4	275.4	-	-	-
W 12 x 6.5	21	31.0	306	164	5.0	7.4	8	39.38	291.2	275.2	M20	78	82
W 12 x 6.5	26	38.7	310	165	5.8	9.7	8	49.40	290.6	274.6	M20	80	84
W 12 x 6.5	30	44.5	313	166	6.6	112	8	56.70	290.6	274.6	M20	80	84
W 12 x 6.5	35	52.0	317	167	7.6	13.2	8	66.50	290.6	274.6	M20	82	86



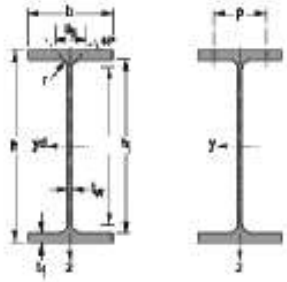
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm²	mm	mm		mm	mm
W 12 x 8	40	60	303	203	7.5	13.1	15	76.10	276.8	246.8	M27	90	113
W 12 x 8	45	67	306	204	8.5	14.6	15	65.20	276.8	246.8	M27	90	114
W 12 x 8	50	74	310	205	9.4	16.3	15	94.80	277.4	247.4	M27	90	115
W 12 x 10	53	79	306	254	8.8	14.6	15	101.0	276.8	246.8	M27	90	164
W 12 x 10	58	86	310	254	9.1	16.3	15	110.0	277.4	2474	M27	90	164
W 12 x 12	65	97	308	305	9.9	15.4	15	123.0	277.2	247.2	M27	102	200
W 12 x 12	72	107	311	306	10.9	17.0	15	136.0	277.0	247.0	M27	104	200
W 12 x 12	79	117	314	307	11.9	18.7	15	1500	276.6	246.6	M27	106	202
W 12 x 12	87	129	318	308	13.1	20.6	15	165.0	276.8	246.8	M27	106	202
W 12 x 12	96	143	323	309	14.0	22.9	15	182.0	277.2	247.2	M27	108	204
W 12 x 12	106	158	327	310	15.5	25.1	15	201.0	276.8	246.8	M27	108	204
W 12 x 12	120	179	333	313	18.0	28.1	15	228.0	276.8	246.8	M27	112	208
W 12 x 12	136	202	341	315	20.1	31.8	15	257.0	277.4	247.4	M27	114	210
W 12 x 12	152	226	348	317	22.1	35.6	15	288.0	276.8	246.8	M27	116	212
W12 x 12	170	253	356	319	244	39.6	15	323.0	276.8	246.8	M27	118	214
W 12 x 12	190	283	365	322	26.9	44.1	15	360.0	276.8	246.8	M27	120	216
W 12 x 12	210	313	374	325	30.0	48.3	15	399.0	2774	247.4	M27	124	220
W 12 x 12	230	342	382	328	32 6	52.6	15	437.0	276.8	246 8	M27	126	222
W 14 x 5	22	32.9	349	127	5.8	8.5	10	41.90	332.0	312.0	M12	62	70
W 14 x 5	26	39.0	353	128	6.5	10.7	10	49.60	331.6	311.6	M12	64	70
W 14 x 6.75	30	44.6	352	171	6.9	9.8	10	57.10	332.4	312.4	M22	82	84
W 14 x 6.75	34	51.0	355	171	7.2	11.6	10	64,50	331.8	311.8	M22	84	84
W 14 x 6.75	38	58.0	358	172	7.9	13.1	10	72,30	331.8	311.8	M22	84	84
W 14 x 8	43	64.0	347	203	7.7	13.5	15	81.30	320.0	290.0	M27	90	113
VV 14 x 8	48	72.0	350	204	8.6	15.1	15	50.00	319.8	289.8	M27	90	114
W 14 x 8	53	79.0	354	205	9.4	16.8	15	101.00	320.4	290.4	M27	90	115



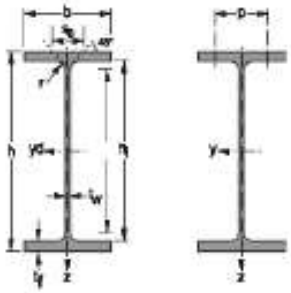
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm²	mm	mm		mm	mm
								x10²					
W 14 x 10	61	91	353	254	9.5	16.4	15	115.0	320.2	290.2	M27	90.0	164
W 14 x 10	68	101	357	255	10.5	18.3	15	129.0	320.4	290.4	M27	90.5	165
W 14 x 10	74	110	360	256	11.4	19.9	15	141.0	320.2	290.2	M27	91.4	166
W 14 x 10	82	122	363	257	13.0	21.7	15	155.0	319.6	289.6	M27	93.0	167
W 14 x 14.5	90	134	356	369	11.2	18.0	95	171.0	320.0	290.0	M27	100	264
W 14 x 14.5	99	147	360	370	12.3	19.8	15	188.0	320.4	290.4	M27	100	264
W 14 x 14.5	109	162	364	371	13.3	21.8	15	206.0	320.4	290.4	M27	102	266
W 14 x 14.5	120	179	368	373	15.0	23.9	15	228.0	320.2	290.2	M27	104	268
W 14 x 14.5	132	196	372	374	16.4	26.2	15	250.0	319.6	289.6	M27	104	268
W 14 x 16	145	216	375	394	17.3	27.7	15	275.0	319.6	289.6	M27	106	288
W 14 x 16	159	237	380	395	18.9	30.2	15	301.0	319.6	289.6	M27	108	290
W 14 x 16	176	262	387	398	21.1	33.3	15	334.0	320.4	290.4	M27	110	292
W 14 x 16	193	287	393	399	22.6	36.6	15	366.0	319.8	289.8	M27	112	294
W 14 x 16	211	314	399	401	24.9	39.6	15	400.0	319.8	289.8	M27	114	296
W 14 x 16	233	347	407	404	27.2	43.7	15	442.0	319.6	289.6	M27	116	298
W 14 x 16	257	382	416	406	29.8	48.0	15	488.0	320.0	290.0	M27	118	300
W 14 x 16	283	421	425	409	32.8	52.6	15	537.0	319.8	289.8	M27	122	304
W 14 x 16	311	463	435	412	35.8	57.4	15	590.0	320.2	290.2	M27	124	306
W 14 x 16	342	509	446	416	39.1	62.7	15	652.0	320.6	290.6	M27	128	310
W 14 x 16	370	551	455	418	42.0	67.6	15	703.0	319.8	289.8	M27	132	312
W 14 x 16	398	592	465	421	45.0	72.3	15	755.0	320.4	290.4	M27	134	316
W 14 x 16	426	634	474	424	47.6	77.1	15	806.0	319.8	289.8	M27	140	312
W 14 x 16	455	677	483	428	51.2	81.5	15	865.0	320.0	290.0	M27	144	316
W 14 x 16	500	744	498	432	55.6	88.9	15	948.0	320.2	290.2	M27	148	320
W 14 x 16	550	818	514	437	60.5	97.0	15	1050.0	320.0	290.0	M27	154	326
W 14 x 16	605	900	531	442	65.9	106.0	15	1150.0	319.0	289.0	M27	158	330
W 14 x 16	665	990	550	448	71.9	115.0	15	1260.0	320.0	290.0	M27	164	336
W 14 x 16	730	1086	569	454	78.0	125.0	15	1390.0	319.0	289.0	M27	170	342



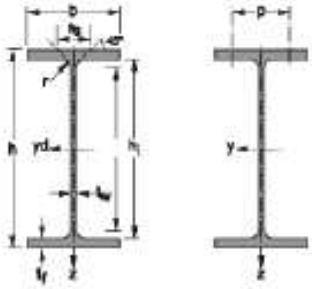
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm^2	mm	mm		mm	mm
								$x10^{2}$					
W 16 x 5.5	26	38.8	399	140	6.4	8.8	10	49.50	381.4	361.4	M12	68	82
W 16 x 5.5	31	46.1	403	140	7.0	11.2	10	58.80	380.6	360.6	M12	68	82
W 16 x 7	36	53.0	403	177	7.5	10.9	10	68.40	381.2	361.2	M22	86	90
W 16 x 7	40	60.0	407	178	7.7	12.8	10	76.10	381.4	361.4	M22	86	90
W 16 x 7	45	67.0	410	179	8.8	14.4	10	85.80	381.2	361.2	M22	86	92
W 16 x 7	50	75.0	413	180	9.7	16.0	10	94.80	381.0	361.0	M22	88	92
W 16 x 7	57	85.0	417	181	10.9	18.2	10	108.0	380.6	360.6	M22	90	94
W 16 x 10.25	67	100.0	415	260	10.0	16.9	10	127.0	381.2	361.2	M27	90	170
W 16 x 10.25	77	114.0	420	261	11.6	19.3	10	146.0	381.4	361.4	M27	91.6	171
W 16 x 10.25	89	132.0	425	263	13.3	22.2	10	169.0	380.6	360.6	M27	913	173
W 16 x 10.25	100	149.0	431	265	14.9	25.0	10	190.0	381.0	361.0	M27	94.9	175
W 18 x 6	35	52.0	450	152	7.6	10.8	10	66.50	428.4	408.4	M16	76	82
W 18 x 6	40	60.0	455	153	8.0	13.3	10	76.10	428.4	408.4	M16	76	84
W 18 x 6	46	68.0	459	154	9.1	15.4	10	87.10	428.2	408.2	M16	78	84
W 18 x 7.5	41	61.0	450	189	8.1	10.8	10	76.40	428.4	408.4	M24	92	96
W 18 x 7.5	45	67.0	454	190	8.5	12.7	10	85.50	428.6	408.6	M24	92	96
W 18 x 7.5	50	74.0	457	190	9.0	14.5	10	94.80	428.0	408.0	M24	92	96
W 18 x 7.5	55	82.0	460	191	9.9	16.0	10	105.0	428.0	408.0	M24	92	98
W 18 x 7.5	60	89.0	463	192	10.5	17.7	10	114.0	427.6	407.6	M24	94	98
W 18 x 7.5	65	97.0	466	193	11.4	19.0	10	123.0	427.8	407.8	M24	94	100
W 18 x 7.5	71	106.0	469	194	12.6	20.6	10	134.0	427.8	407.8	M24	96	100



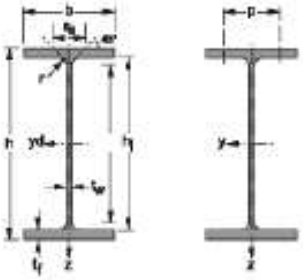
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm²	mm	mm		mm	mm
								x10²					
W 18 x 11	76	113	463	280	10.8	17.3	10	144.0	428.4	408.4	M27	90.0	174
W 18 x 11	86	128	467	282	12.2	19.6	10	163.0	427.8	407.8	M27	90.0	176
W 18 x 11	97	144	472	283	13.6	22.1	10	184.0	427.8	407.8	M27	92.0	178
W 18 x 11	106	158	476	284	15.0	23.9	10	201.0	428.2	408.2	M27	94.0	178
W 18 x 11	119	177	482	286	16.6	26.9	10	226.0	428.2	408.2	M27	94.0	180
W 18 x 11	130	193	489	283	17.0	30.5	10	247.0	428.0	408..	M27	97.0	193
W 18 x 11	143	213	495	285	18.5	33.5	10	271.0	428.0	408.0	M27	98.5	195
W 18 x 11	158	235	501	287	20.6	36.6	10	299.0	427.8	407.8	M27	100.6	197
W 18 x 11	175	260	509	289	22.6	40.4	10	331.0	428.2	408.2	M27	102.6	199
W 21 x 6.5	44	66.0	525	165	8.9	11.4	13	83.90	502.2	476.2	M22	88.9	93
W 21 x 6.5	50	74.0	529	166	9.7	13.6	13	94.80	501.8	475.8	M22	89.7	94
W 21 x 6.5	57	85.0	535	166	10.3	16.5	13	108.0	502.0	476.0	M22	90.3	94
W 21 x 8.25	62	92.0	533	209	10.2	15.6	13	118.0	501.8	475.8	M27	94.0	104
W 21 x 8.25	68	101	537	210	10.9	17.4	13	129.0	502.2	476.2	M27	94.0	104
W 21 x 8.25	73	109	539	211	11.6	18.8	13	139.0	501.4	475.4	M27	96.0	106
W 21 x 8.25	83	123	544	212	13.1	21.2	13	157.0	501.6	475.6	M27	96.0	106
W 21 x 8.25	93	138	549	214	14.7	23.6	13	176.0	501.8	475.8	M27	98.0	108
W 21 x 12.25	101	150	543	312	12.7	20.3	13	192.0	502.4	476.4	M27	92.7	222
W 21 x 12.25	111	165	546	313	14.0	22.2	13	211.0	501.6	475.6	M27	94.0	223
W 21 x 12.25	122	182	551	315	15.2	24.4	13	232.0	502.2	476.2	M27	95.2	225
W 21 x 12.25	132	196	554	316	16.5	26.3	13	250.0	501.4	475.4	M27	96.5	226
W 21 x 12.25	147	219	560	318	18.3	29.2	13	279.0	501.6	475.6	M27	98.3	228
W 21 x 12.25	166	248	571	315	19.0	34.5	13	315.0	502.0	476.0	M27	99.0	225
W 21 x 12.25	182	272	577	318	21.1	37.6	13	346.0	501.8	475.8	M27	101.1	228
W 21 x 12.25	201	300	585	319	23.1	41.4	13	382.0	502.2	476.2	M27	103.1	229
W 24 x 7	55	82.0	599	178	10.0	12.8	13	105.0	573.4	547.4	M24	90.0	100
W 24 x 7	62	92.0	603	179	10.9	15	13	117.0	573.0	547.0	M24	90.9	101



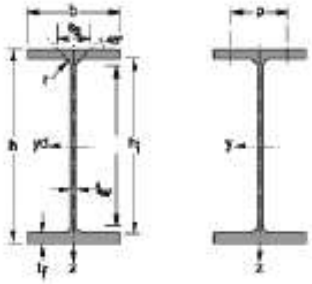
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Ignation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h	d	Ø	Pmin	Pmax
			mm	mm	mm	mm	mm	mm^2	mm	mm		mm	mm
								$x10^2$					
W 24 x 9	68	101	603	228	10.5	14.9	13	130.0	573.2	547.2	M27	94	122
W 24 x 9	76	113	608	228	11.2	17.3	13	145.0	573.4	547.4	M27	94	122
W 24 x 9	84	125	612	229	11.9	19.6	13	159.0	572.8	546.8	M27	96	124
W 24 x 9	94	140	617	230	13.1	22.2	13	179.0	5726	546.6	M27	96	124
W 24 x 9	103	153	623	229	14	24.9	13	196.0	573.2	547.2	M27	94	139
W 24 x 12.75	104	155	611	324	12.7	19.0	13	197.0	573.0	547.0	M27	96	218
W 24 x 12.75	117	174	616	325	14	21.6	13	222.0	572.8	546.8	M27	98	220
W 24 x 12.75	131	195	622	327	15.4	24.4	13	248.0	573.2	547.2	M27	98	222
W 24 x 12.75	146	217	628	328	16.5	27.7	13	277.0	572.6	546.6	M27	100	222
W 24 x 12.75	162	241	635	329	17.1	31.0	13	308.0	573.0	547.0	M27	100	224
W 24 x 12.75	176	262	641	327	19	34.0	13	333.0	573.0	547.0	M27	102	222
W 24 x 12.75	192	285	647	329	20.6	37.1	13	361.0	572.8	546.8	M27	104	224
W 24 x 12.75	229	341	661	333	24.4	43.9	13	434.0	573.2	547.2	M27	108	228
W 24 x 12.75	279	415	679	338	29.5	53.1	13	529.0	572.8	546.8	M27	114	232
W 24 x 12.75	306	455	689	340	32	57.9	13	579.0	573.2	547.2	M27	116	234
W 24 x 12.75	335	498	699	343	35.1	63.0	13	635.0	573.0	547.0	M27	120	238
W 24 x 12.75	370	551	711	347	38.6	69.1	13	702.0	572.8	546.8	M27	122	242
W 27 x 10	84	125	678	253	11.7	16.3	15	160.0	645.4	615.4	M27	100	148
W 27 x 10	94	140	684	254	12.4	18.9	15	179.0	646.2	616.2	M27	100	148
W 27 x 10	102	152	688	254	13.1	21.1	15	194.0	645.8	615.8	M27	102	148
W 27 x 10	114	170	693	256	14.5	23.6	15	216.0	645.8	615.8	M27	102	150
W 27 x 10	129	192	702	254	15.5	27.9	15	244.0	646.2	616.2	M27	104	148
W 30 x 10.5	99	147	753	265	13.2	17.0	17	188.0	719.0	685.0	M27	106	160
W 30 x 10.5	108	161	758	266	13.8	19.3	17	205.0	719.4	685.4	M27	106	160
W 30 x 10.5	116	173	762	267	14.4	21.6	17	221.0	718.8	684.8	M27	106	162
W 30 x 10.5	124	185	766	267	14.9	23.6	17	235.0	718.8	684.8	M27	106	162
W 30 x 10.5	132	196	770	268	15.6	25.4	17	251.0	719.2	685.2	M27	108	162
W 30 x 10.5	148	220	779	266	16.5	30.0	17	281.0	719.0	685.0	M27	108	160



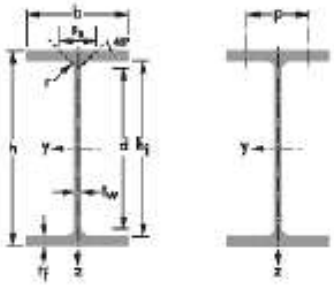
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t	r	A	h	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm²	mm	mm		mm	mm
								x10²					
W 33 x 11.05	118	176	835	292	14	18.8	18	224.0	797.4	761.4	M27	108	186
W 33 x 11.05	130	193	840	292	14.7	21.7	18	247.0	796.6	760.6	M27	108	186
W 33 x 11.05	141	210	846	293	15.4	24.4	18	268.0	797.2	761.2	M27	110	188
W 33 x 11.05	152	226	851	294	16.1	26.8	18	28&0	797.4	761.4	M27	110	188
W 33 x 11.05	169	251	859	292	17.0	31.0	18	319.0	797	761.0	M27	112	186
W 36 x 12	135	201	903	304	15.2	20.1	19	256.0	862.8	824.8	M27	112	198
W 36 x 12	150	223	911	304	15.9	23.9	19	285.0	863.2	825.2	M27	112	198
W 36 x 12	160	238	915	305	16.5	25.9	19	303.0	863.2	825.2	M27	112	200
W 36 x 12	170	253	919	306	17.3	27.9	19	323.0	863.2	825.2	M27	114	200
W 36 x 12	182	271	923	307	18.4	30.0	19	346.0	863	825	M27	114	202
W 36 x 12	194	289	927	308	19.4	32.0	19	368.0	863	825	M27	116	202
W 36 x 12	210	313	932	309	21.1	34.5	19	399.0	863	825	M27	118	204
W 36 x 16.5	230	342	912	418	19.3	32.0	24	436.0	848	800	M27	126	312
W 36 x 16.5	245	365	916	419	20.3	34.3	24	465.0	847.4	799.4	M27	128	314
W 36 x 16.5	260	387	921	420	21.3	36.6	24	494.0	847.8	799.8	M27	128	314
W 36 x 16.5	280	417	928	422	22.5	39.9	24	532.0	848.2	800.2	M27	130	316
W 36 x 16.5	300	446	933	423	24	42.7	24	570.0	847.6	799.6	M27	130	318
W 36 x 16.5	328	488	942	422	25.9	47.0	24	622.0	848	800	M27	132	316
W 36 x 16.5	359	534	950	425	28.4	51.1	24	680.0	847.8	799.8	M27	136	320
W 36 x 16.5	393	585	960	427	31.0	55.9	24	716.0	848.2	800.2	M27	138	322
VV 36 x 16.5	439	653	972	431	34.5	62.0	24	832.0	848	800	M27	144	320
W 36 x 16.5	527	784	996	437	40.9	73.9	24	998.0	848.2	800.2	M27	152	326
W 36 x 16.5	650	967	1028	446	50	89.9	24	1232	848.2	800.2	M27	160	334



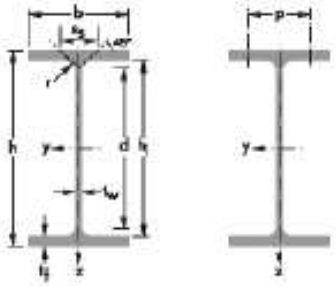
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm^2	mm	mm		mm	mm
								$x10^2$					
W 40 x 12	149	222	970	300	16	21.1	30	282	928	868	M27	134	194
W 40 x 12	167	249	980	300	16.5	26	30	317	928	868	M27	134	194
W 40 x 12	183	272	990	300	16.5	31	30	346	928	868	M27	134	194
W 40 x 12	211	314	1000	300	19.1	35.9	30	400	928	868	M27	136	194
W 40 x 12	235	350	1008	302	21.1	40	30	446	928	868	M27	140	196
W 40 x 12	264	393	1016	303	24.4	43.9	30	501	928	868	M27	142	198
W 40 x 12	278	415	1020	304	26	46	30	528	928	868	M27	144	198
W 40 x 12	294	438	1026	305	27	49	30	556	928	868	M27	137	215
W 40 x 12	331	494	1036	309	31	54	30	629	928	868	M27	148	204
W 40 x12	392	584	1056	314	36	64	30	744	928	868	M27	154	208
W 40 x 16	199	296	982	400	16.5	27.1	30	377	928	868	M27	134	294
W 40 x 16	215	321	990	400	16.5	31	30	408	928	868	M27	134	294
W 40 x 16	249	371	1000	400	19	36.1	30	473	928	868	M27	136	294
W 40 x16	277	412	1008	402	21.1	40	30	525	928	868	M27	140	296
W 40 x 16	297	443	1012	402	23.6	41.9	30	564	928.2	868.2	M27	142	296
W 40 x 16	324	483	1020	404	25.4	46	30	615	928	868	M27	144	298
W 40 x 16	362	539	1030	407	28.4	51.1	30	687	927.8	867.2	M27	146	302
W 40 x 16	372	554	1032	408	29.5	52	30	706	928	868	M27	150	296
W 40 x 16	397	591	1040	409	31	55.9	30	753	928.2	868.2	M27	148	304
W 40 x 16	431	642	1048	412	34	60	30	818	928	868	M27	154	300
W 40 x 16	503	748	1068	417	39	70	30	953	928	868	M27	160	306
W 40 x 16	593	883	1092	424	45.5	82	30	1125	928	868	M27	166	312
W 44 x16	230	343	1090	400	18	31	20	436	1028	988	M27	116	294
W 44 x 16	262	390	1100	400	20	36	20	497	1028	988	M27	118	294
W 44 x 16	290	433	1108	402	22	40	20	551	1028	988	M27	120	296
W 44 x16	335	499	1118	405	26	45	20	635	1028	988	M27	124	300



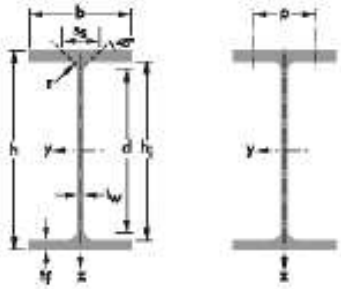
EUROPEAN SPECIFICATION BEAMS WITH PARALLEL FLANGES IN ACCORDANCE WITH EURONORM 53-62

Designation	Weight per Metre G	Depth of Section h	Depth of Section b	Thickness of Web t_w	Thickness of Web t_f	Radius of the Roof Fillet r	Area of Section A	Inner Depth Between Flanges h_i	Depth of Straight Portion of Web h_1
	kg/m	mm	mm	mm	mm	mm	cm^2	mm	mm
HE 100 AA	12.2	91	100	4.2	5.5	12	15.6	80	56
HE 100 A	16.7	96	100	5.0	8.0	12	21.2	80	56
HE 100 B	20.4	100	100	6.0	10.0	12	26.0	80	56
HE 120 AA	14.6	109	120	4.2	5.5	12	18.6	98	74
HE 120 A	19.9	114	120	5.0	8.0	12	25.3	98	74
HE 120 B	26.7	120	120	6.5	11.0	12	34.0	98	74
HE 140 AA	18.1	128	140	4.3	6.0	12	23.0	116	92
HE 140A	24.7	133	140	5.5	8.5	12	31.4	116	92
HE 140 B	33.7	140	140	7.0	12.0	12	43.0	116	92
HE 160 AA	23.8	148	160	4.5	7.0	15	30.4	134	104
HE 160 A	30.4	152	160	6.0	9.0	15	38.8	134	104
HE 160 B	42.6	160	160	8.0	13.0	15	54.3	134	104
HE 160 M	76.2	180	166	14.0	23.0	15	97.1	134	104
HE 180 AA	28.7	167	180	5.0	7.5	15	36.5	152	122
HE 180 A	35.5	171	180	6.0	9.5	15	45.3	152	122
HE 180 B	51.2	180	180	8.5	14.0	15	65.3	152	122
HE 180 M	88.9	200	186	14.5	24.0	15	113	152	122
HE 200 AA	34.6	186	200	5.5	8.0	18	44.1	170	134
HE 200 A	42.3	190	200	6.5	10.0	18	53.8	170	134
HE 200 B	61.3	200	200	9.0	15.0	18	78.1	170	134
HE 200 M	103	220	206	15.0	25.0	18	131	170	134
HE 220 AA	40.4	205	220	6.0	8.5	18	51.5	188	152
HE 220 A	50.5	210	220	7.0	11.0	18	64.3	188	152
HE 220 B	71.5	220	220	9.5	16.0	18	91.0	188	152
HE 220 M	117	240	226	15.5	26.0	18	149	188	152
HE 240 M	47.4	224	240	6.5	9.0	21	60.4	206	164
HE 240 A	60.3	230	240	7.5	12.0	21	76.8	206	164
HE 240 13	83.2	240	240	10.0	17.0	21	106	206	164
HE 240 M	157	270	248	18.0	32.0	21	200	206	164
HE 260 AA	54.1	244	260	6.5	9.5	24	69.0	225	177
HE 260 A	68.2	250	260	7.5	12.5	24	86.8	225	177
HE 260 B	93.0	260	260	10.0	17.5	24	118	225	177
HE 260 M	172	290	268	18.0	32.5	24	220	225	177



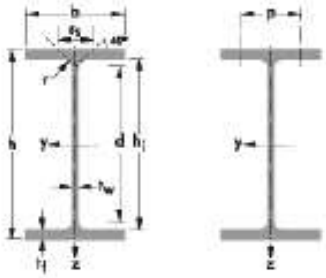
EUROPEAN SPECIFICATION BEAMS WITH PARALLEL FLANGES IN ACCORDANCE WITH EURONORM 53-62

Designation	Weight per Metre G	Depth of Section h	Depth of Section b	Thickness of Web t_w	Thickness of Web t_f	Radius of the Roof Fillet r	Area of Section A	Inner Depth Between Flanges h_1	Depth of Straight Portion of Web d
	kg/m	mm	mm	mm	mm	mm	cm²	mm	mm
HE 280 AA	61.2	264	280	7.0	10.0	24	78	244	196
HE 280 A	76.4	270	280	8.0	13.0	24	97.3	244	196
HE 280 B	103	280	280	10.5	18.0	24	131	244	196
HE 280 M	189	310	288	18.5	33.0	24	240	244	196
HE 300 AA	69.8	283	300	7.5	10.5	27	88.9	262	208
HE 300 A	88.3	290	300	8.5	14.0	27	113	262	208
HE 300 B	117	300	300	11.0	19.0	27	149	262	208
HE 300 C	177	320	305	16.0	29.0	27	225	262	208
HE 300 M	238	340	310	21.0	39.0	27	303	262	208
HE 320 AA	74.2	301	300	8.0	11.0	27	94.6	279	225
HE 320 A	97.6	310	300	9.0	15.5	27	124	279	225
HE 320 B	127	320	300	11.5	20.5	27	161	279	225
HE 320 M	245	359	309	21.0	40.0	27	312	279	225
HE 340 AA	78.9	320	300	8.5	11.5	27	101	297	243
HE 340 A	105	330	300	9.5	16.5	27	133	297	243
HE 340 B	134	340	300	12.0	21.5	27	171	297	243
HE 340 M	248	377	309	21.0	40.0	27	316	297	243
HE 360 AA	83.7	339	300	9.0	12.0	27	107	315	261
HE 360 A	112	350	300	10.0	17.5	27	143	315	261
HE 360 B	142	360	300	12.5	22.5	27	181	315	261
HE 360 M	250	395	308	21.0	40.0	27	319	315	261
HE 400 AA	92.4	378	300	9.5	13.0	27	118	352	298
HE 400 x 107	107	384	297	10.0	16.0	27	136	352	298
HE 400 A	125	390	300	11.0	19.0	27	159	352	298
HE 400 B	155	400	300	13.5	24.0	27	198	352	298
HE 400 M	256	432	307	21.0	40.0	27	326	352	298
HE 450 AA	100	425	300	10.0	13.5	27	127	398	344
HE 450 x 123	123	435	300	10.2	18.5	27	158	398	344
HE 450 A	140	440	300	11.5	21.0	27	178	398	344
HE 450 B	171	450	300	14.0	26.0	27	218	398	344
HE 450 M	263	478	307	21.0	40.0	27	335	398	344
HE 500 AA	107	472	300	10.5	14.0	27	137	444	390
HE 500 A	155	490	300	12.0	23.0	27	198	444	390
HE 500 B	187	500	300	14.5	28.0	27	239	444	390
HE 500 M	270	524	306	21.0	40.0	27	344	444	390



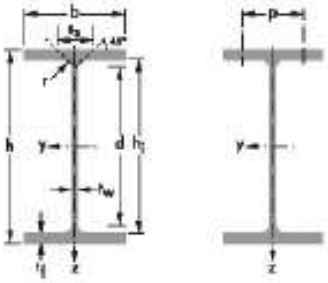
EUROPEAN SPECIFICATION BEAMS WITH PARALLEL FLANGES IN ACCORDANCE WITH EURONORM 53-62

Designation	Weight per Metre G	Depth of Section h	Depth of Section b	Thickness of Web t_w	Thickness of Web t_f	Radius of the Roof Fillet r	Area of Section A	Inner Depth Between Flanges h_1	Depth of Straight Portion of Web h_2
	kg/m	mm	mm	mm	mm	mm	cm^2	mm	mm
HE 550 AA	120	522	300	11.5	15.0	27	153	492	438
HE 550 A	166	540	300	12.5	24.0	27	212	492	438
HE 550 B	199	550	300	15.0	29.0	27	254	492	438
HE 550 M	278	572	306	21.0	40.0	27	354	492	438
HE 600 AA	129	571	300	12.0	15.5	27	164	540	486
HE 600 x 137	137	575	300	11.8	17.5	27	175	540	486
HE 600 x 151	151	582	300	11.6	20.6	27	193	540	486
HE 600 x 174	174	588	300	13.6	23.9	27	223	540	486
HE 600 A	178	590	300	13.0	25.0	27	226	540	486
HE 600 B	212	600	300	15.5	30.0	27	270	540	486
HE 600 M	285	620	305	21.0	40.0	27	364	540	486
HE 650 AA	138	620	300	12.5	16.0	27	176	588	534
HE 650 A	190	640	300	13.5	26.0	27	242	588	534
HE 650 B	225	650	300	16.0	31.0	27	286	588	534
HE 650 M	293	668	305	21.0	40.0	27	374	588	534
HE 700 AA	150	670	300	13.0	17.0	27	191	636	582
HE 700 x 166	166	678	300	12.5	21.0	27	212	636	582
HE 700 A	204	690	300	14.5	27.0	27	260	636	582
HE 700 B	241	700	300	17.0	32.0	27	306	636	582
HE 700 M	301	716	304	21.0	40.0	27	383	636	582
HE 800 AA	172	770	300	14.0	18.0	30	218	734	674
HE 800 A	224	790	300	15.0	28.0	30	286	734	674
HE 800 B	262	800	300	17.5	33.0	30	334	734	674
HE 800 M	317	814	303	21.0	40.0	30	404	734	674
HE 900 AA	198	870	300	15.0	20.0	30	252	830	770
HE 900 A	252	890	300	16.0	30.0	30	321	830	770
HE 900 B	291	900	300	18.5	35.0	30	371	830	770
HE 900 M	333	910	302	21.0	40.0	30	424	830	770
HE 1000 AA	222	970	300	16.0	21.0	30	282	928	868
HE 1000 A	272	990	300	16.5	31.0	30	347	928	868
HE 1000 B	314	1000	300	19.0	36.0	30	400	928	868
HE 1000 M	349	1008	302	21.0	40.0	30	444	928	868



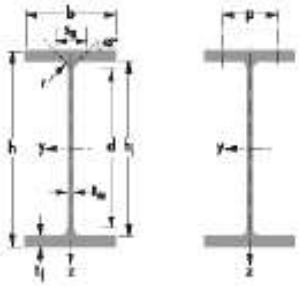
EUROPEAN SPECIFICATION BEAMS WITH PARALLEL FLANGES IN ACCORDANCE WITH EURONORM 53-62

Designation	G	h	b	t_w	t_f	r	A	h_i	d
	kg/m	mm	mm	mm	mm	mm	cm²	mm	mm
IPE 100A	6.89	98	55	3.6	4.7	7	8.78	88.6	74.6
IPE 100	8.10	100	55	4.1	5.7	7	10.3	88.6	74.6
IPE 120A	8.66	118	64	3.8	5.1	7	11.0	107.4	93.4
IPE 120	10.4	120	64	4.4	6.3	7	13.2	107.4	93.4
IPE 140 A	10.5	138	73	3.8	5.6	7	13.4	126.2	112.2
IPE 140	12.9	140	73	4.7	6.9	7	16.4	126.2	112.2
IPE 140 R	14.4	142	72	5.3	7.8	7	18.4	126.4	112.4
IPE 160A	12.7	157	82	4.0	5.9	9	16.2	145.2	127.2
IPE 160	15.8	160	82	5.0	7.4	9	20.1	145.2	127.2
IPE 160 R	17.7	162	81	5.6	8.5	9	22.6	145.0	127.0
IPE 180 A	15.4	177	91	4.3	6.5	9	19.6	164.0	146.0
IPE 180	18.8	180	91	5.3	8.0	9	23.9	164.0	146.0
IPE 180 0	21.3	182	92	6.0	9.0	9	27.1	164.0	146.0
IPE 180 R	22.1	183	89	6.4	9.5	9	28.1	164.0	146.0
IPE 200 A	18.4	197	100	4.5	7.0	12	23.5	183.0	159.0
IPE 200	22.4	200	100	5.6	8.5	12	28.5	183.0	159.0
IPE 200 0	25.1	202	102	6.2	9.5	12	32.0	183.0	159.0
IPE 200 R	26.6	204	98	6.6	10.5	12	33.9	183.0	159.0
IPE 220 A	22.2	217	110	5.0	7.7	12	28.3	201.6	177.6
IPE 220	26.2	220	110	5.9	9.2	12	33.4	201.6	177.6
IPE 220 0	29.4	222	112	6.6	10.2	12	37.4	201.6	177.6
IPE 220 R	31.6	225	108	6.7	11.8	12	40.2	201.4	177.4
IPE 240 A	26.2	237	120	5.2	8.3	15	33.3	220.4	190.4
IPE 240	30.7	240	120	6.2	9.8	15	39.1	220.4	190.4
IPE 240 0	34.3	242	122	7.0	10.8	15	43.7	220.4	190.4
IPE 240 R	37.3	245	118	7.5	12.3	15	47.5	220.4	190.4



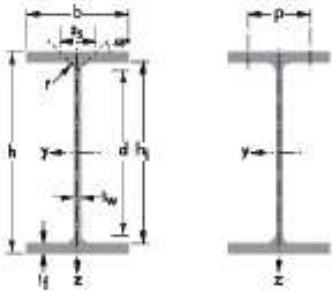
EUROPEAN SPECIFICATION BEAMS WITH PARALLEL FLANGES IN ACCORDANCE WITH EURONORM 53-62

Designation	G	h	b	t_w	t_f	r	A	h_i	d
	kg/m	mm	mm	mm	mm	mm	cm^2	mm	mm
IPE 270 A	30.7	267	135	5.5	8.7	15	39.1	249.6	219.6
IPE 270	36.1	270	135	6.6	10.2	15	45.9	249.6	219.6
IPE 270 0	42.3	274	136	7.5	12.2	15	53.8	249.6	219.6
IPE 270 R	44.0	276	133	7.7	13.1	15	56.0	249.8	219.8
IPE 300 A	36.5	297	150	6.1	9.2	15	46.5	278.6	248.6
IPE 300	42.2	300	150	7.1	10.7	15	53.8	278.6	248.6
IPE 300 0	49.3	304	152	8.0	12.7	15	62.8	278.6	248.6
IPE 300 R	51.7	306	147	8.5	13.7	15	65.9	278.6	248.6
IPE 330 A	43.0	327	160	6.5	10.0	18	54.7	307.0	271.0
IPE 330	49.1	330	160	7.5	11.5	18	62.6	307.0	271.0
IPE 330 0	57.0	334	162	8.5	13.5	18	72.6	307.0	271.0
IPE 330 R	60.3	336	158	9.2	14.5	18	76.8	307.0	271.0
IPE 360 A	50.2	357.6	170	6.6	11.5	18	64.0	334.6	298.6
IPE 360	57.1	360	170	8.0	12.7	18	72.7	334.6	298.6
IPE 360 0	66.0	364	172	9.2	14.7	18	84.1	334.6	298.6
IPE 360 R	70.3	366	168	9.9	16.0	18	89.6	334.0	298.0
IPE 400 A	57.4	397	180	7.0	12.0	21	73.1	373.0	331.0
IPE 400	66.3	400	180	8.6	13.5	21	84.5	373.0	331.0
IPE 400 0	75.7	404	182	9.7	15.5	21	96.4	373.0	331.0
IPE 400 R	81.5	407	178	10.6	17.0	21	104	373.0	331.0
IPE 400 V	84.0	408	182	10.6	17.5	21	107	373.0	331.0
IPE 450 A	67.2	447	190	7.6	13.1	21	85.5	420.8	378.8
IPE 450	77.6	450	190	9.4	14.6	21	98.8	420.8	378.8
IPE 450 0	92.4	456	192	11.0	17.6	21	118	420.8	378.8
IPE 450 R	95.2	458	188	11.3	18.6	21	121	420.8	378.8
IPE 450 V	104	460	194	12.4	19.6	21	132	420.8	378.8



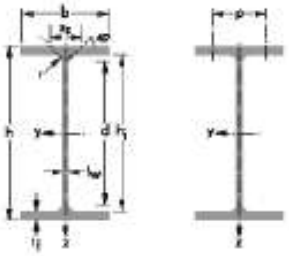
EUROPEAN SPECIFICATION BEAMS WITH PARALLEL FLANGES IN ACCORDANCE WITH EURONORM 53-62

Designation	G	h	b	t_w	t_f	r	A	h	d
	kg/m	mm	mm	mm	mm	mm	cm²	mm	mm
IPE 500A	79.4	497	200	8.4	14.5	21	101	468.0	426.0
IPE 500	90.7	500	200	10.2	16.0	21	116	468.0	426.0
IPE 500 0	107	506	202	12.0	19.0	21	137	468.0	426.0
IPE 500 R	111	508	198	12.6	20.0	21	142	468.0	426.0
IPE 500V	129	514	204	14.2	23.0	21	164	468.0	426.0
IPE 550 A	92.1	547	210	9.0	15.7	24	117	515.6	467.6
IPE 550	105	550	210	11.1	17.2	24	134	515.6	467.6
IPE 550 0	123	556	212	12.7	20.2	24	156	515.6	467.6
IPE 550 R	134	560	210	14.0	22.2	24	170	515.6	467.6
IPE 550V	159	566	216	17.1	25.2	24	202	515.6	467.6
IPE 600 A	108	597	220	9.8	17.5	24	137	562.0	514.0
IPE 600	122	600	220	12.0	19.0	24	156	562.0	514.0
IPE 600 0	154	610	224	15.0	24.0	24	197	562.0	514.0
IPE 600 R	144	608	218	14.0	23.0	24	184	562.0	514.0
IPE 600V	184	618	228	18.0	28.0	24	234	562.0	514.0
IPE 750 x 137	137	753	263	11.5	17.0	17	175	719.0	685.0
IPE 750 x 147	147	753	265	13.2	17.0	17	187	719.0	685.0
IPE 750 x 161	160	758	266	13.8	19.3	17	204	719.4	685.4
IPE 750 x 173	173	762	267	14.4	21.6	17	221	718.8	684.8
IPE 750 x 185	185	766	267	14.9	23.6	17	236	718.8	684.8
IPE 750 x 196	196	770	268	15.6	25.4	17	251	719.2	685.2
IPE 750 x 210	210	775	268	16.0	28.0	17	268	719.0	685.0
IPE 750 x 222	222	778	269	17.0	29.5	17	283	719.0	685.0



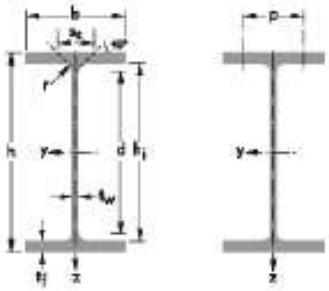
JIS WIDE FLANGE SHAPE

Size	Weight	Depth of Section (A)	Flange Width (B)	Thickness		Corner Radius (r)	Sectional Area	Moment of Inertia		Radius of Gyration		Modulus of Section	
				Web (t_1)	Flange (t_2)			Jx	Jy	ix	iy	Zx	Zy
mm	kg/m	mm	mm	mm	mm	mm	cm	cm^4	cm^4	cm	cm	cm^3	cm^3
100 x 50	9.30	100	50	5	7	8	11.85	187	14.8	3.98	1.12	37.5	5.91
100 x 100	17.2	100	100	6	8	10	21.90	383	134	4.18	2.47	76.5	26.7
125 x 60	13.2	125	60	6	8	9	16.84	413	29.2	4.95	1.32	66.1	9.73
125 x 125	23.8	125	125	6.5	9	10	30.31	847	293	5.29	3.11	136	47.0
150 x 75	14.0	150	75	5	7	8	17.85	666	49.5	6.11	1.66	88.8	13.2
150 x 100	21.1	148	100	6	9	11	26.84	1.020	151	6.17	2.37	138	30.1
150 x 150	31.5	150	150	7	10	11	40.14	1.640	563	6.39	3.75	219	75.1
175 x 90	18.1	175	90	5	8	9	23.04	1210	97.5	7.26	2.06	139	21.7
175 x 175	40.2	175	175	7.5	11	12	51.21	2880	984	7.50	4.38	330	112
200 x 100	18.2	198	99	4.5	7	11	23.18	1580	114	8.26	2.21	160	23.0
	21.3	200	100	5.5	8	11	27.16	1840	134	8.24	2.22	184	26.8
200 x 150	30.6	194	150	6	9	13	39.01	2690	507	8.30	3.61	277	67.6
200 x 200	49.9	200	200	8	12	13	63.53	4720	1600	8.62	5.02	472	160
	56.2	200	204	12	12	13	71.53	4980	1700	8.35	4.88	498	167
	65.7	208	202	10	16	13	83.69	6530	2200	8.8-3	5.13	628	218
250 x 125	25.7	248	124	5	8	12	32.68	3540	255	10.4	2.79	285	411
	29.6	250	125	6	9	12	37.66	4050	294	10.4	2.79	324	47.0
250 x 175	44.1	244	175	7	11	16	56.24	6120	984	10.4	4.18	502	113
250 x 250	644	244	252	11	11	16	82.06	8790	2940	10.3	5.98	720	233
	66.5	248	249	8	13	16	84.70	9930	3350	10.8	6.29	801	269
	72.4	250	250	9	14	16	92.18	10800	3650	10.8	6.29	867	292
	82.2	250	255	14	14	16	104.7	11500	3880	10.5	6.09	919	304
300 x 150	32.0	298	149	5.5	8	13	40.80	6320	442	12.4	3.29	424	59.3
	36.7	300	150	6.5	9	13	46.38	7210	508	12.4	3.29	481	67.7
300 x 200	56.8	294	200	8	12	18	72.38	11300	1600	12.5	4.71	771	160
	65.4	298	201	9	14	18	82.36	13300	1900	12.6	4.77	893	189



JIS WIDE FLANGE SHAPE

Size	Weight	Depth of Section (A)	Flange Width (B)	Thickness		Corner Radius (r)	Sectional Area	Moment of Inertia		Radius of Gyration		Modulus of Section	
				Web (t_1)	Flange (t_2)			cm^4	Jy	Ix	Iy	Zx	Zy
mm	kg/m	mm	mm	mm	mm	mm	cm	Jx	cm^4	cm	cm	cm^3	cm^3
300 x 300	84.5	294	302	12	12	18	107.7	16900	5520	12.5	7.16	1150	365
	87.0	298	299	9	14	18	110.8	18800	6240	13.0	7.51	1270	417
	94.0	300	300	10	15	18	119.8	20400	6750	13.1	7.51	1360	450
	106	300	305	15	15	18	134.8	21500	7100	12.6	7.26	1440	466
	106	304	301	11	17	18	134.8	23400	7730	13.2	7.57	1540	514
350 x 175	41.4	346	174	6	9	14	52.7	11100	792	14.5	3.88	641	91.0
	49.6	350	175	7	11	14	63.1	13600	984	14.7	3.95	775	112
350 x 250	69.2	336	249	8	12	20	88.1	18500	3090	14.5	5.92	1100	248
	79.7	340	250	9	14	20	101.5	21700	3650	14.6	6.00	1280	292
350 x 350	106	338	351	13	13	20	135.3	28200	9,380	14.4	8.33	1,670	534
	115	344	348	10	16	20	146.0	33,300	11,200	15.1	8.78	1,940	646
	131	344	354	16	16	20	166.6	35,300	11,800	14.6	8.43	2,050	669
	137	350	350	12	19	20	173.9	40,300	13,600	15.2	8.84	2,300	776
	156	350	357	19	19	20	198.4	42,800	14,400	14.7	8.53	2,450	809
	159	356	352	14	22	20	202.0	47,600	16,000	15.3	8.90	2,670	909
400 x 200	56.6	396	199	7	11	16	72.16	20,000	1,450	16.7	4.48	1,010	145
	66.0	400	200	8	13	16	84.12	23,700	1,740	16.8	4.54	1,190	174
400 x 300	94.3	386	299	9	14	22	120.1	33,700	6,240	16.7	7.81	1,740	418
	107	390	300	10	16	22	136.0	38,700	7,210	16.9	7.28	1,980	481
400 x 400	140	388	402	15	15	22	178.5	49,000	16,300	16.6	9.54	2,520	809
	147	394	398	11	18	22	186.8	56,100	18,900	17.3	10.1	2,850	951
	168	394	405	18	18	22	214.4	59,700	20,000	16.7	9.65	3,030	985
	172	400	400	13	21	22	218.7	66,600	22,400	17.5	10.1	3,330	1,120
	197	400	408	21	21	22	250.7	70,900	23,800	16.8	9.75	3,540	1,170
	200	406	403	16	24	22	254.9	78,000	26,200	17.5	10.1	3,840	1,300
	232	414	405	18	28	22	295.4	92,800	31,000	17.7	10.2	4,480	1,530
	283	428	407	20	35	22	360.7	119,000	39,400	18.2	10.4	5,570	1,930
	415	458	417	30	50	22	528.6	187,000	60,500	18.8	10.7	8,170	2,900
	605	498	432	45	70	22	770.1	298,000	94,400	19.7	11.1	12,000	4,370
450 x 200	66.2	446	199	8	12	18	84.3	28,700	1,580	18.5	4.33	1,290	159
	76.0	450	200	9	14	18	96.76	33,500	1,870	18.6	4.40	1,490	187



JIS WIDE FLANGE SHAPE

Size	Weight	Depth of Section (A)	Flange Width (B)	Thickness		Corner Radius (r)	Sectional Area	Moment of Inertia		Radius of Gyration		Modulus of Section	
				Web (t_1)	Flange (t_2)			cm^4	Jy	ix	iy	Zx	Zy
mm	kg/m	mm	mm	mm	mm	mm	cm	Jx	cm^4	cm	cm	cm^3	cm^3
450X300	106	434	299	10	15	24	135.0	46,800	6,690	18.6	7.04	2,160	448
	124	440	300	11	18	24	157.4	56,100	8,110	18.9	7.18	2,550	541
500X200	79.5	496	199	9	14	20	101.3	41,900	1,840	20.3	4.27	1,690	185
	89.6	500	200	10	16	20	114.2	47,800	2,140	20.5	4.33	1,910	214
	103	506	201	11	19	20	131.3	56,500	2,580	20.7	4.43	2,230	257
500X300	114	482	300	11	15	26	145.5	60,400	6,760	20.4	6.82	2,500	451
	128	488	300	11	18	26	163.5	71,000	8,110	20.8	7.04	2,910	541
600X200	94.6	596	199	10	15	22	120.5	68,700	1,980	23.9	4.05	2,310	199
	106	600	200	11	17	22	134.4	77,600	2280	24.0	4.12	2,590	228
	120	606	201	12	20	22	152.5	90,400	2,720	24.3	4.22	2,980	271
	134	612	202	13	23	22	107.7	103,000	3,180	24.6	4.31	3,380	314
600X300	137	582	300	12	17	28	174.5	103,000	7,670	24.3	6.63	3,530	511
	151	588	300	12	20	28	192.5	118,000	9,020	24.8	6.85	4,020	601
	175	594	302	14	23	28	222.4	137,000	10,600	24.9	6.90	4,620	701
700X300	166	692	300	13	20	28	211.5	172,000	9,020	28.6	6.53	4,980	602
	185	700	300	13	24	28	235.5	201,000	10,800	29.3	6.78	5,760	722
	215	708	302	15	28	28	273.6	237,000	12,900	29.4	6.86	6,700	853
800X300	191	792	300	14	22	28	243.4	254,000	9,930	32.3	6.39	6,410	662
	210	800	300	14	26	28	267.4	292,000	11,700	33.0	6.62	7,290	782
	241	808	302	16	30	28	307.6	339,000	13,800	33.2	6.70	8,400	915
900X300	213	890	299	15	23	28	270.9	345,000	10,300	35.7	6.16	7,760	688
	243	900	300	16	28	28	309.8	411,000	12,600	36.4	6.39	9,140	843
	286	912	302	18	34	28	364.0	498,000	15,700	37.0	6.56	10,900	1,040