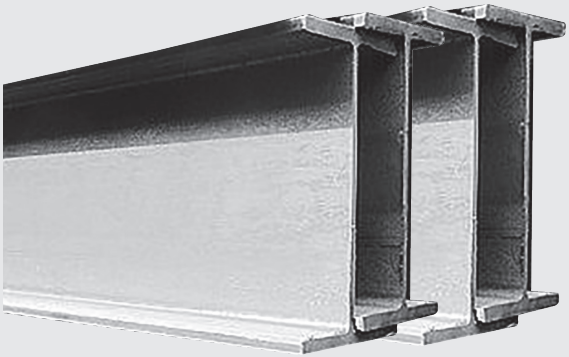
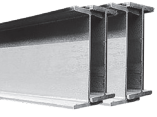
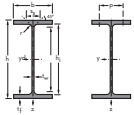
AMERICAN WIDE FLANG BEAMS



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	τ_w	t_f	r	A	h_i	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm^2	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

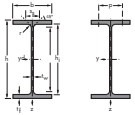


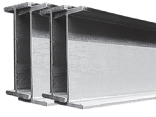


Gulf Building Material
TAURANI

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

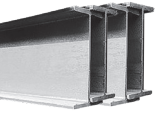
Surface		Section Proportion												
A_L	A_G	Strong Axis y - y					Weak Axis z - z							
		I_y	$Wel._y$	$W_{pl.y}$	i_y	A_{vz}	I_z	$Wel._z$	$W_{pl.z}$	i_z	S_s	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^7$
0.599	30.90	475.9	89.79	103.3	4.39	8.27	160.6	31.19	47.94	2.55	31.73	6.52	3.79
0.736	30.95	885.5	139.5	1572	5.41	9.20	311.0	48.98	74.66	3.20	33.67	8.10	10.80
0.747	26.46	1099	167.7	190.9	5.53	10.53	381.4	59.60	90.86	3.26	38.03	13.33	13.74
0.681	50.11	685.5	91.4	1024	6.29	7.21	91.8	18.36	28.26	2.30	22.35	1.74	4.79
0.692	37.86	915.9	122.1	138.6	6.33	9.69	125.9	25.37	39.29	2.36	27.47	3.86	6.68
0.704	29.40	1342	167.8	191.5	6.63	11.43	182.6	35.80	55.24	2.45	34.23	9.35	10.21
0.890	39.81	1206	158.6	176.1	6.51	9.59	386.6	50.87	77.56	3.68	26.07	4.34	20.42
0.902	30.33	1714	2184	243.9	6.73	11.17	555.5	72.62	110.5	3.83	32.23	10.16	30.28
0.913	24.59	2220	274.1	309.9	6.85	13.93	706.8	91.79	140.0	3.86	38.36	19.51	39.93
0.778	51.76	1280	128.0	145.2	8.18	9.8	86.89	17.38	27.10	2.13	24.09	1.93	8.22
0.789	40.34	1662	163.7	188.1	8.17	13.06	115,4	22.63	35.69	2.15	28.21	3.99	11.10
0.794	35.25	2004	194.5	222.8	8.36	14.14	142.0	27.85	43.72	2.22	31.59	5.97	13.87
0.914	43.00	1980	195.1	217.7	8.55	1140	251.3	37.78	58.03	3.05	27.17	3.74	24.25
0.921	34.49	2587	250.0	279.8	8.72	13.49	329.8	49.60	76.17	3.11	32.01	7.35	32.48
0.930	29.66	3139	298.9	335.3	8.87	14.87	409.6	61.13	93.76	320	36.12	12.04	40.82
1.03	28.75	3438	342.1	379.4	8.67	14.77	764.3	92.64	141.1	4.09	38.34	14.56	69.50
1.04	24.97	4088	398.8	445.6	8.77	17.21	900.5	108.5	165.5	4.12	42.56	22.39	83.95
1.19	25.78	4545	447.8	495.6	8.81	16.96	1535	151.2	229.5	5.12	40.96	22.27	141.3
1.20	22.89	5268	511.5	569.0	8.90	18.60	1784	174.9	265 5	5.18	4.4.79	32.41	166.7
1.20	20.28	6113	582.2	652.9	8.99	21.59	2040	199.1	302.8	5.19	49.26	46.86	195.4
1.22	17.07	7658	709.0	802.8	9.18	24.52	2537	246.3	374.5	5.28	56.68	82.02	250.0
1.24	14.28	9467	852.9	980.5	9.26	31.06	3138	300.3	458.2	5.33	65.87	140.8	317.8
1.25	12.59	11325	989.1	1149	9.45	35.33	3663	348.9	532.9	5.38	73.60	211.3	385.5

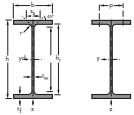




AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h_1	d	Ø	Pmix	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

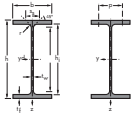


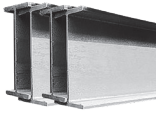


Gulf Building Material
TAURANI

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

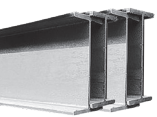
Surface		Section Proportion												
A_L	A_G	Strong Axis y - y					Weak Axis z - z							
		I_y	$Wel._y$	$W_{pl.y}$	i_y	A_{vz}	I_z	$Wel._z$	$W_{pl.z}$	i_z	S_s	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^7$
0.883	49.17	2252	179.5	207.8	9.92	13.26	91.34	18.09	28.67	2.00	24.80	2.50	13.74
0.891	39.59	2901	228.4	264.6	10.6	16.08	122.6	24.03	38.20	2.07	29.01	4.68	18.63
0.896	35.30	3430	266.9	307.5	10.30	17.06	149.2	29.25	46.20	2.15	32.27	6.77	22.95
0.902	31.74	3998	307.5	352.9	10.51	18.02	177.5	34.81	54.71	2.21	35.72	9.80	27.64
1.06	43.48	3477	274.8	307.5	10.57	13.90	325.6	44.90	69.02	3.23	27.17	4.16	49.44
1.07	32.77	4895	379.4	424.9	10.83	17.19	472.6	64.74	99.48	3.36	33.67	10.05	73.10
1.09	28.04	6014	459.1	514.1	11.05	18.89	593.7	80.77	123.90	3.47	38.37	17.03	93.24
1.10	24.34	7118	535.2	603	11.14	21.91	703.5	95.06	146.20	3.50	42.99	26.45	112.40
1.26	25.76	7069	572.4	633.9	10.63	21.77	1513	149.8	228.50	4.92	44.63	24.53	210.40
1.28	21.92	8736	693.4	770.8	10.85	24.04	1884	185.6	282.80	5.04	50.23	41.11	267.70
1.29	19.20	10360	806.6	902	11.00	27,01	2224	218.0	332.20	5.10	55.53	62.61	323.40
1.48	20.31	11290	892.1	986.1	11.02	25.78	3880	305.5	463.30	6.46	52.27	57.94	552.90
1.49	18.59	12570	982.4	1091	11.10	28.10	4314	338.3	513.30	6.50	55.83	76.15	622.90
1.50	16.75	14260	1097	1226	11.18	31.84	4841	3782	574.50	6.51	60.50	104.40	712.40
1.51	14.91	16380	1241	1398	11.27	35.73	5549	431.9	656.60	6.56	66.37	150.30	828.0
1.52	13.29	18940	1408	1599	11.38	40.43	6405	494.6	752.80	6.62	72.89	215.30	975.30
1.54	11.75	22150	1611	1847	11.52	46.39	7446	570.6	869.70	6.68	80.80	315.90	1161.0
1.56	10.47	25940	1840	2129	11.69	52.63	8622	655.7	1001.00	6.74	89.30	456.50	1384.0
1.58	9.42	30020	2078	2427	11.87	59.05	9879	745.6	1139.00	6.81	98.01	639.30	1631.0
0.986	46.74	3708	244.8	287.1	11.75	16.56	98.31	19.47	31.19	1.91	25.85	3.17	21.63
0.989	41.47	4280	280.7	328.6	11.87	18.30	115.6	22.89	36.70	1.95	28.36	4.50	25.59
1.00	35.31	5431	351.5	406.9	12.27	19.89	158.1	30.99	49.15	2.09	33.14	7.72	35.44
1.01	30.68	6507	415.8	480.9	12.47	22.22	191.9	37.62	59.63	2.14	37.57	12.36	43.61
1.24	40.25	6554	428.4	476.3	12.90	16.66	544.4	66.39	101.6	3.72	29.17	6.25	121.3
1.25	32.27	8527	550.1	611.8	13.12	19.64	726.8	88.10	134.8	3.83	34.61	12.76	163.7
1.26	28.27	9934	634.8	708.3	13.21	22.26	854.7	103.0	157.8	3.88	38.37	19.30	194.4
1.27	24.28	11851	747.7	838.5	13.32	25.81	1026	122.9	188.6	3.92	43.39	31.10	236.4

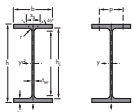




AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r		h_i	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm^2	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

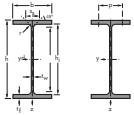


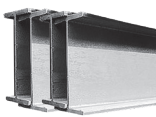


Gulf Building Material
TAURANI

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

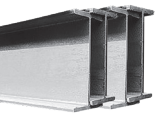
Surface		Section Proportion												
A_L	A_G	Strong Axis y - y					Weak Axis z - z							
		I_y	$Wel._y$	$W_{pl.y}$	i_y	A_{sz}	I_z	$Wel._z$	$W_{pl.z}$	i_z	S_s	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^7$
1.38	23.12	12860	848.9	940.7	13.02	27.60	1829	180.2	275.2	4.91	51.27	39.15	383.7
1.39	20.75	14510	948.4	1057	13.06	31.08	2069	202.8	310.3	4.93	55.27	54.03	438.5
1.40	18.74	16450	1061	1188	13.17	34.43	2344	228.7	350.2	4.97	59.57	74.05	504.7
1.58	20.09	17670	1155	1275	13.26	31.95	3990	314.2	477.8	6.30	55.57	65.49	846.5
1.59	18.44	19850	1280	1417	1343	33.55	4455	350.8	533.1	6.36	59 27	86 96	960.0
1.79	18.5	22240	1444	1591	13.43	35.52	7286	477.8	724.7	7.69	58.27	91.50	1559.0
1.80	16.83	24790	1594	1765	13.49	39.08	8123	530.9	805.8	7.72	62.47	122.1	1754.0
1.81	15.38	27510	1753	1949	13.56	42.68	9024	587.9	892.8	7.76	66.87	161.1	1966.0
1.82	14.01	30770	1935	2164	13.65	47.07	10040	651.9	990.9	7.80	71.87	214.5	2218.0
1.83	12.78	34760	2153	2419	13.81	50.82	11270	7294	1109	7.86	77.37	288.3	2535.0
1.84	11.68	38630	2363	2672	13.88	56.26	12470	804.8	1225	7.89	83.27	380.3	2840.0
1.86	10.39	44530	2675	3053	13.99	65.24	14380	918.7	1401	7.95	91.77	543.7	3338.0
1.88	9.26	51982	3049	3510	14.19	73.62	16588	1053	1608	8.02	101.3	782.7	3959.0
1.89	8.35	59560	3423	3975	14.36	81.65	18930	1194	1825	8.10	110.9	1089	4611.0
1.91	7.57	68230	3833	4490	14.55	91.01	21460	1346	2059	8.16	121.2	1495	5362.0
1.94	6.85	78680	4311	5098	14.78	101.5	24590	1527	2340	8.26	132.7	2062	6317.0
1.96	6.26	89560	4789	5716	14.98	114.1	27700	1705	2617	8.33	14.4.2	2742	7329.0
1.99	5.78	100510	5262	6334	15.16	125.1	31020	1892	2907	8.42	155.4	3552	8392.0
1.18	35.96	8258	473.2	541.5	14.07	22.31	291.0	45.82	71.8	2.64	34.52	8.65	84.11
1.19	30.38	10231	579.7	661.5	14.33	25.25	375.0	58.6	91.6	2.74	39.62	15.04	109.6
1.36	30.24	12140	690.1	777.0	14.57	26.29	817.9	95.66	147.7	3.78	38.18	16.10	239.1
1.36	26.88	14130	796.3	894.5	14.80	28.04	968.1	113.2	174.4	3.87	42.16	23.92	285.0
1.37	24.21	16040	896.2	1009	14.91	30.73	1113	1294	199.5	3.93	45.82	33.46	330.4
1.46	22.93	17830	1027	1141	14.80	31.66	1885	185.7	284.3	4.81	52.27	43.21	523.4
1.47	20.61	20100	1149	1282	14.86	35.26	2140	209.8	321.6	4.85	56.37	59.71	599.1
1.48	18.72	22650	1280	1433	14.98	38.67	2416	235.7	361.6	4.89	60.57	80.7	685.7

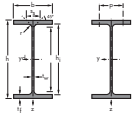




AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	τ_w	t_f	r	A	h_1	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm^2	mm	mm		mm	mm
								$x10^2$					
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

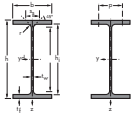


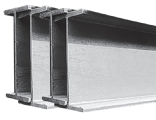


Gulf Building Material
TAURANI

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

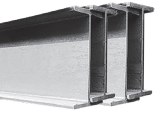
Surface		Section Proportion													
A_L	A_G	Strong Axis y - y					Weak Axis z - z								
		I_y	$Wel._y$	$W_{pl.y}$	i_y	A_{vz}	I_z	$Wel._z$	$W_{pl.z}$	i_z	S_S	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^7$
1.68	18.47	26690	1512	1676	15.19	38.83	4483	353.0	537.8	6.23	59.87	91.18	1269
1.69	16.67	30150	1689	1880	15.29	42.98	5062	397.0	605.5	6.27	64.67	125.3	1450
1.70	15.39	33090	1838	2055	15.36	46.67	5570	435.2	664.2	6.30	68.77	160.3	1609
1.71	13.99	36530	2013	2266	15.35	52.81	6147	478.4	732.0	6.30	73.97	211.8	1788
2.14	15.98	41510	2332	2562	15.60	45.19	15080	817.3	1237	9.40	64.77	168.8	4305
2.15	14.58	46290	2572	2838	15.70	49.72	16720	903.9	1369	9.43	69.47	223.7	4836
2.16	13.34	51540	2832	3139	15.81	53.98	18560	1001	1516	9.49	74.47	295.5	5432
2.17	12.12	57440	3122	3482	15.86	60.72	20680	1109	1683	9.52	80.37	393.8	6119
2.18	11.10	63630	3421	3837	15.94	66.50	22860	1222	1856	9.56	86.37	517.1	6829
2.27	10.48	71140	3794	4262	16.07	70.32	28250	1434	2176	10.13	90.27	637.3	8515
2.28	9.64	78780	4146	4686	16.18	77.10	31040	1572	2387	10.16	96.87	825.5	9489
2.30	8.75	89410	4620	5260	16.35	86.55	35020	1760	2676	10.23	105.3	1116	10940
2.31	8.04	99710	5074	5813	16.50	93.46	38780	1944	2957	10.29	113.4	1464	12300
2.33	7.42	110200	5525	6374	16.62	103.3	42600	2125	3236	10.33	121.7	1870	13740
2.35	6.77	124900	6140	7139	16.81	113.9	48090	2380	3629	10.43	132.2	2510	15850
2.37	6.20	141300	6794	7965	17.03	126.0	53620	2641	4031	10.49	143.4	3326	18130
2.39	5.68	159600	7510	8880	17.24	139.9	60080	2938	4489	10.58	155.6	4398	20800
2.42	5.23	180200	8283	9878	17.48	154.3	67040	3254	4978	10.66	168.2	5735	23850
2.45	4.81	204500	9172	11030	17.75	170.6	75400	3625	5552	10.78	182.1	7513	27630
2.47	4.49	226100	9939	12050	17.95	184.9	82490	3947	6051	10.85	194.8	9410	30870
2.50	4.22	250200	10760	13140	18.20	200.3	90170	4284	6574	10.93	207.2	11560	34670
2.52	3.98	274200	11570	14220	18.42	214.0	98250	4634	7117	11.03	219.4	14020	38570
2.55	3.76	299500	12400	15350	18.62	231.9	106900	4994	7680	11.13	231.8	16790	42920
2.59	3.48	342100	13740	17170	19.00	256.1	119900	5552	8549	11.25	251.0	21840	49980
2.63	3.21	392200	15260	19260	19.39	283.3	135500	6203	9561	11.40	272.1	28510	58650
2.67	2.96	450200	16960	21620	19.79	313.8	153300	6938	10710	11.55	295.5	37350	68890
2.72	2.75	518900	18870	24280	20.27	349.2	173400	7739	11960	11.72	319.5	48210	81530
2.77	2.55	595700	20940	27210	20.73	385.8	196200	8645	13380	11.90	345.6	62290	96080

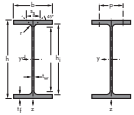




AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	t_w	t_f	r	A	h_i	d	Ø	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

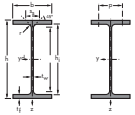


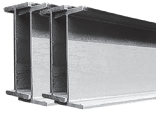


Gulf Building Material
TAURANI

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

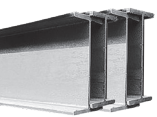
Surface		Section Proportion												
A_L	A_G	Strong Axis y - y					Weak Axis z - z							
		I_y	$Wel._y$	$W_{pl.y}$	i_y	A_{vz}	I_z	$Wel._z$	$W_{pl.z}$	i_z	S_S	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^7$
1.33	34.03	12620	632.6	727.8	15.93	27.4	403.5	57.65	90.55	2.85	35.67	11.17	153.2
1.33	28.91	15550	771.9	883.6	16.26	30.49	513.6	73.37	114.9	2.95	41.11	19.25	196.6
1.48	27.76	18600	922.9	1045	16.54	32.41	1009	114.0	176.6	3.85	41.01	2275	387.2
1.49	25.10	21570	1060	1194	16.87	33.77	1205	135.4	209.0	3.99	45.02	32.81	467.4
1.50	22.29	24530	1196	1354	16.91	38.39	1379	154.1	238.6	4.01	49.28	46.9	538.5
1.51	20.19	27460	1330	1510	16.98	42.37	1559	173.2	268.7	4.05	53.37	63.79	612.8
1.52	17.87	31530	1512	1725	17.06	48.05	1803	199.3	310.1	4.08	59.04	93.24	715.2
1.83	18.41	39760	1916	2129	17.70	44.05	4954	381.1	581.4	6.25	55.52	99.70	1961
1.84	16.10	46140	2197	2456	17.79	51.2	5725	438.7	670.9	6.27	61.92	149.4	2296
1.86	14.07	53830	2533	2850	17.89	58.87	6739	512.5	785.4	6.33	69.42	227.1	2730
1.88	12.56	61840	2870	3247	18.04	66.35	7765	586.1	899.8	6.39	76.62	324.1	3195
1.48	28.37	21200	942.0	1088	17.89	36.4	634.0	83.43	131.5	3.09	40.92	21.24	304.8
1.49	25.01	25480	1120	1284	18.33	38.85	796.1	104.1	163.1	3.24	46.32	33.58	387.2
1.50	21.88	29680	1293	1487	18.44	44.31	940.5	122.1	192.1	3.28	51.62	51.07	461.2
1.62	27.06	25380	1128	1286	18.23	38.59	1217.5	128.8	200.5	3.99	41.42	26.02	586.0
1.63	24.33	29470	1298	1473	18.56	40.91	1454.4	153.1	237.5	4.12	45.62	37.46	706.8
1.64	22.08	33260	1456	1650	18.75	43.67	1661	174.8	271.0	4.19	49.74	52.03	811.4
1.65	20.10	37000	1608	1829	18.83	48.06	1862	195.0	303.0	4.22	53.63	69.55	915.7
1.66	18.52	40960	1769	2013	18.96	51.33	2093	218.0	338.8	4.29	57.66	91.36	1035
1.66	17.17	44680	1917	2189	19.02	55.76	2282	237.8	370.4	4.31	61.35	113.9	1137
1.67	15.83	48790	2081	2385	19.04	61.34	2515	259.2	405.3	4.32	65.49	146.6	1260

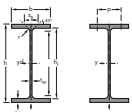




AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	τ_w	t_f	r	A	h_i	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm^2	mm	mm		mm	mm
								$x10^2$					
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

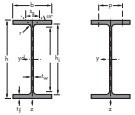


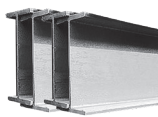


Gulf Building Material
TAURANI

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

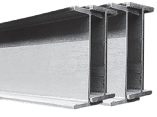
Surface		Section Proportion												
A_L	A_G	Strong Axis y - y					Weak Axis z - z							
		I_y	$Wel._y$	$W_{pl.y}$	i_y	A_{vz}	I_z	$Wel._z$	$W_{pl.z}$	i_z	S_S	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^7$
2.01	17.76	55600	2402	2673	19.65	52.45	6335	452.5	691.3	6.63	57.12	118.8	3143
2.02	15.74	63690	2728	3049	19.73	59.32	7333	520,1	795.9	6.70	63.11	172.6	3666
2.03	14.06	72600	3076	3454	19.86	66.42	8358	590.7	905.5	6.74	69.51	245.5	4224
2.04	12.95	79620	3346	3774	19.91	73.41	9137	643.5	988.7	6.75	74.51	314.1	4662
2.06	11.60	91040	3777	4282	20.07	81.97	10510	743.7	1131	6.82	82.16	445.2	5431
2.06	10.65	102400	4186	4754	20.39	84.90	11540	815.5	1253	6.85	89.72	607.3	6055
2.08	9.76	114300	4619	5272	20.54	92.94	12950	908.7	1398	6.91	97.22	803.3	6882
2.09	8.90	127300	5083	5839	20.63	103.80	14450	1007	1554	6.95	105.5	1059	7775
2.11	8.12	143700	5646	6525	20.83	114.8	16300	1128	1743	7.01	115.1	1423	8922
1.67	25.40	35100	1337	1563	20.47	50.13	857.3	103.9	166.2	3.20	46.93	33.29	562.9
1.68	22.47	41100	1554	1810	20.77	54.98	1042	125.5	200.3	3.31	52.13	49.2	688.6
1.69	19.96	48580	1816	2105	21.22	59.15	1264	152.2	241.8	3,42	58.23	74.55	845.5
1.86	20.13	55240	2073	2362	21.67	58.07	2379	227.7	354.8	4.50	56.59	76.96	1589
1.87	18.41	61760	2300	2623	21.85	62.72	2692	256.4	399.9	4.56	60.95	102.9	1813
1.88	17.23	66730	2476	2826	21.93	66.47	2951	279.7	436.5	4.61	64.39	127.4	1991
1.89	15.32	76100	2798	3208	22.02	75.34	3377	318.6	499.2	4.64	70.71	182.3	2300
1.90	13.74	86160	3139	3617	22.10	84.98	3870	361.7	569.1	4.68	77.16	254.0	2660
2.28	15.18	100900	3716	4148	22.93	73.11	10290	659.3	1010	7.32	68.53	218.2	7019
2.29	13.87	111000	4066	4556	22.95	80.55	11360	725.8	1113	7.34	73.63	286.2	7782
2.30	12.71	123600	4486	5042	23.10	87.84	12730	808.1	1241	7.41	79.23	377.6	8812
2.31	11.79	134000	4839	5459	23.14	95.36	13850	876.7	1349	7.44	84.33	474.6	9629
2.33	10.65	151100	5396	6116	23.27	106.2	15680	986.0	1520	7.50	91.93	649.7	11020
2.34	9.49	177500	6219	7063	23.77	112.4	18000	1143	1759	7.57	103.2	985.6	12930
2.36	8.68	197300	6840	7814	23.87	125.0	20190	1270	1959	7.63	111.5	1293	14660
2.38	7.94	220800	7548	8672	24.05	137.8	22450	1408	2176	7.67	121.1	1718	16550
1.87	22.80	56030	1871	2199	23.17	63.40	1209	135.8	218.3	3.40	50.83	50.58	1034
1.88	20.34	64680	2145	2515	23.45	69.44	1441	161.0	258.5	3.50	56.13	72.81	1239

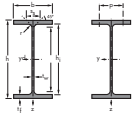




AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	τ_w	t_f	r		h_i	d	Ø	Pmix	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

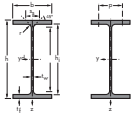


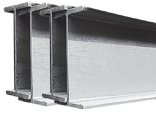


Gulf Building Material
TAURANI

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

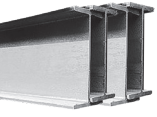
Surface		Section Proportion												
A_L	A_G	Strong Axis y - y					Weak Axis z - z							
		I_y	Wel_y	W_{pl-y}	i_y	A_{sy}	I_z	Wel_z	W_{pl-z}	i_z	S_y	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^7$
2.07	20.36	76470	2536	2905	24.27	67.31	2950	258.8	404.4	4.77	55.57	79.88	2545
2.08	18.37	87570	2881	3290	24.62	71.99	3425	300.5	468.8	4.87	61.01	113.3	2981
2.09	16.71	98650	3224	3679	24.86	77.28	3932	343.4	535.6	4.96	66.37	156.0	3442
2.11	15.03	111990	3630	4150	25.05	85.02	4514	392.5	613.1	5.03	72.71	220.0	3982
2.12	13.74	125200	4019	4602	25.29	91.66	4998	436.5	682.4	5.05	79.03	297.5	4457
2.47	15.95	129000	4222	4728	25.57	81.57	10780	666.0	1022	7.39	65.93	197.7	9437
2.48	14.24	147200	4778	5362	25.74	90.28	12370	761.0	1170	7.46	72.43	283.2	10920
2.50	12.77	167900	5398	6074	25.95	99.83	14240	871.0	1340	7.56	79.43	400.9	12700
2.51	11.53	190800	6076	6848	26.21	107.7	16310	995.0	1531	7.67	87.13	564.6	14680
2.53	10.62	214200	6746	7605	26.57	112.8	18430	1120	1721	7.79	94.33	758.6	16780
2.53	9.69	235990	7363	8349	26.63	125.6	19850	1214	1871	7.72	102.2	998.1	18250
2.55	8.92	260700	8059	9175	26.78	136.7	22060	1341	2071	7.79	110.0	1295	20480
2.58	7.59	318300	9630	11070	27.09	163.4	27090	1627	2522	7.90	127.4	2153	25720
2.63	6.33	399800	11780	13690	27.48	199.9	34300	2030	3160	8.05	150.9	3824	33470
2.65	5.84	444520	12903	15093	27.72	218.5	38090	2241	3496	8.11	163.0	4948	37770
2.68	5.37	494700	14150	16670	27.92	241.1	42580	2483	3885	8.19	176.3	6420	42850
2.71	4.92	557510	15682	18599	28.18	267.2	48400	2790	4377	8.30	192.0	8525	49570
2.32	18.47	116480	3495	4009	27.22	84.24	4410	348.6	545.5	5.25	61.87	119.4	4816
2.33	16.69	136070	3979	4549	27.64	90.07	5174	407.4	636.4	5.39	67.77	168.4	5709
2.34	15.39	150600	4378	5002	27.88	95.63	5777	454.9	710.3	5.46	72.87	221.4	6408
2.36	13.86	169930	4904	5618	28.02	106.1	6618	517.0	809.3	5.53	79.27	306.7	7393
2.36	12.35	197900	5639	6457	28.49	114.8	7643	601.8	941.0	5.60	88.87	463.2	8657
2.51	17.06	166100	4411	5110	29.76	105.4	5289	399.2	630.8	5.31	67.12	161.5	7141
2.52	15.72	186060	4909	5666	30.17	111.0	6070	456.6	719.7	5.45	72.32	211.7	8259
2.53	14.58	205800	5402	6218	30.49	116.4	6873	514.9	809.9	5.57	77.52	273.6	9391
2.54	13.74	223000	5821	6691	30.76	121.1	7510	562.5	883.9	5.65	82.02	336.7	10320
2.55	12.96	240300	6241	7174	30.95	127.3	8175	610.1	958.8	5.71	86.32	408.9	11290
2.56	11.62	278200	7143	8198	31.48	136.3	9440	709.9	1113	5.80	96.42	609.0	13200

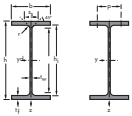




AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	τ_w	t_f	r	A	h_i	d	Ø	Pmix	Pmax
			mm	mm	mm	mm	mm	mm^2	mm	mm		mm	mm
								$x10^2$					
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	288.0	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

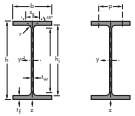


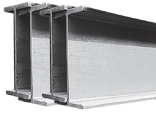


Gulf Building Material
TAURANI

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

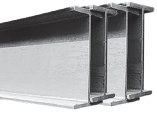
Surface		Section Proportion												
A_L	A_G	Strong Axis y - y					Weak Axis z - z							
		I_y	$Wel._y$	$W_{pl.y}$	i_y	A_{vz}	I_z	$Wel._z$	$W_{pl.z}$	i_z	S_x	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^6
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^7$
2.78	15.79	246400	5901	6816	33.15	123.8	7823	535.8	843.6	5.91	72.69	226.9	12990
2.79	14.40	278400	6630	7627	33.60	130.9	9029	618.5	971.3	6.05	79.19	309.9	15070
2.80	13.29	310700	7346	8430	34.02	138.1	10260	700.2	1098	6.18	85.29	409.0	17260
2.81	12.42	340100	7992	9163	34.32	145.1	11380	774.3	1213	6.28	90.79	517.5	19280
2.82	11.25	386500	8999	10304	34.79	154.7	12900	883.6	1383	6.36	100.1	737.6	22050
2.96	14.70	325200	7203	8356	35.61	144.9	9442	621.2	982.3	6.07	77.66	298.0	18340
2.97	13.26	376800	8273	9540	36.32	1532	11220	738.5	1163	6.27	85.96	426.8	22020
2.98	12.53	406400	8883	10229	36.59	159.6	12290	805.6	1267	6.36	90.56	518.8	24200
2.99	11.80	437500	9520	10963	36.79	167.9	13370	873.6	1375	6.43	95.36	630.9	26450
3.00	11.06	471600	10218	11783	36.91	178.8	14520	945.8	1491	6.48	100.7	775.0	28840
3.01	10.45	504500	10884	12566	37.04	188.9	15640	1016	1603	6.52	105.7	929.8	31210
3.03	9.67	548200	11765	13629	37.10	205.6	17040	1103	1748	6.54	112.4	1171	34160
3.42	9.98	624900	13700	15450	37.85	190.1	39010	1867	2882	9.46	111.4	1193	75410
3.43	9.40	670500	14640	16520	38.00	200.4	42120	2011	3106	9.52	117.0	1446	81730
3.44	8.88	718300	15600	17630	38.17	210.9	45280	2156	3332	9.58	122.6	1734	88370
3.46	8.27	787600	16970	19210	38.46	223.9	50070	2373	3668	9.70	130.4	2200	98540
3.47	7.76	846800	18150	20600	38.56	239.1	53980	2552	3951	9.73	137.5	2685	106740
3.48	7.13	935390	19860	22615	38.80	259.3	59010	2797	4336	9.75	148.0	3514	117890
3.50	6.56	1031000	21710	24830	38.94	284.8	65560	3085	4796	9.82	158.7	4542	132070
3.52	6.02	1143090	23814	27363	39.16	312.0	72770	3408	5310	9.88	170.9	5932	148220
3.56	5.45	1292000	26590	30730	39.41	348.7	83050	3854	6022	9.99	186.6	8124	171280
3.62	4.62	1593000	31980	37340	39.95	417.6	103300	4728	7424	10.18	216.8	13730	218490
3.70	3.83	2033000	39540	46810	40.64	517.1	133900	6003	9486	10.43	257.9	24930	292450

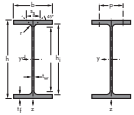




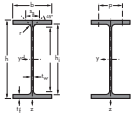
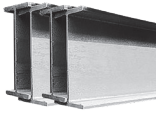
AMERICAN WIDE FLANGE BEAMS
DIMENSIONS ACCORDING TO ASTM A6 / A6M - 03
TOLERANCES : ASTM A6 / A6M - 03

Designation	G		Dimensions					A	Dimensions for Detailing				
	lbs/ft	kg/m	h	h	τ_w	t_f	r	A	h_i	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





Gulf Building Material
TAURANI

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

Surface		Section Proportion												
A_L	A_G	Strong Axis y - y					Weak Axis z - z							
		I_y	$Wel._y$	$W_{pl.y}$	i_y	A_{vz}	I_z	$Wel._z$	$W_{pl.z}$	i_z	S_S	I_t	I_w
m^2/m	m^2/t	mm^4	mm^3	mm^3	mm	mm^2	mm^4	mm^3	mm^3	mm	mm	mm^4	mm^3
		$x10^4$	$x10^3$	$x10^3$	x10	$x10^2$	$x10^4$	$x10^3$	$x10^3$	x10		$x10^4$	$x10^3$
3.06	13.77	407700	8405	9803	37.97	172.2	9546	636	1020	5.81	93.35	406	21370
3.08	12.37	481100	9818	11350	38.97	180.7	11750	784	1245	6.09	103.6	584.4	26620
3.10	11.37	553800	11190	12820	39.96	184.6	14000	934	1470	6.35	113.6	822.4	32070
3.11	9.90	644200	12880	14850	40.11	213.4	16230	1082	1713	6.37	126.0	1252	37540
3.13	8.96	723000	14350	16590	40.30	236.0	18460	1223	1941	6.44	136.2	1701	43020
3.14	8.01	807700	15900	18540	40.18	271.3	20500	1353	2168	6.40	147.3	2332	48080
3.15	7.60	853100	16728	19571	40.17	288.6	21710	1428	2298	6.41	153.1	2713	51080
3.17	7.24	909800	17740	20770	40.41	300.9	23360	1532	2464	6.47	160.1	3200	55290
3.19	6.47	1028000	19845	23413	40.42	344.5	26820	1736	2818	6.53	174.1	4433	64010
3.24	5.56	1246100	23600	28039	40.93	403.2	33430	2130	3475	6.70	199.1	7230	81240
3.48	11.76	618700	12600	14220	40.52	181.5	28850	1443	2235	8.75	105.6	762.6	65900
3.50	10.89	696400	14070	15800	41.27	184.6	33120	1656	2555	9.00	113.6	1021	76030
3.51	9.47	812100	16240	18330	41.48	212.5	38480	1924	2976	9.03	126.1	1575	89440
3.53	8.58	909800	18050	20440	41.66	235.0	43410	2160	3348	9.10	136.1	2134	101460
3.53	7.99	966510	19101	21777	41.41	261.8	45500	2264	3529	8.98	142.5	2545	106740
3.55	7.36	1067480	20931	23923	41.66	282.7	50710	2510	3919	9.08	152.5	3311	119900
3.58	6.64	1202540	23350	26824	41.83	316.4	57630	2832	4436	9.16	165.7	4546	137550
3.59	6.47	1232000	23880	27500	41.79	328.0	59100	2897	4547	9.15	168.6	4860	141330
3.60	6.10	1331040	25597	29530	42.05	346.3	64010	3130	4916	9.22	177.9	5927	154330
3.62	5.65	1450590	27683	32097	42.12	379.6	70280	3412	5379	9.27	189.1	7440	170670
3.67	4.91	1731940	32433	37881	42.62	438.9	85110	4082	6459	9.45	214.1	11670	210650
3.74	4.23	2096420	38396	45265	43.16	516.5	104970	4952	7874	9.66	244.6	18750	265670
3.71	10.83	867400	15920	18060	44.58	206.5	33120	1656	2568	8.71	103.4	1037	92710
3.73	9.55	1005000	18280	20780	44.98	230.6	38480	1924	2988	8.80	115.4	1564	108680
3.75	8.66	1126000	20320	23160	45.19	254.4	43410	2160	3362	8.87	125.4	2130	123500
3.77	7.56	1294000	23150	26600	45.14	300.4	49980	2468	3870	8.87	139.4	3135	143410