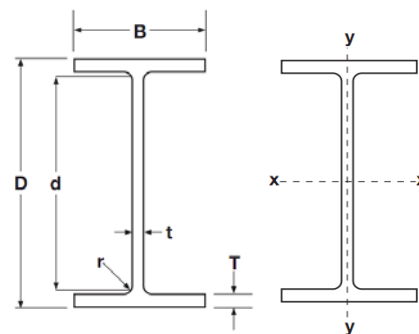


# RAINHAM STEEL

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## Universal Beams

Material to EN 10025-2:2003  
Dimensions and properties to BS4-1:1993



Designation	Mass Per Metre Kg/m	Depth of Section D mm	Width of Section B mm	Thickness of Web t mm	Thickness of Flange T mm	Root Radius r mm	Depth Between Fillets d mm	Ratios for Local Buckling		Second moment Of Area	
								Flange B/2T	Web d/t	Axis x-x cm <sup>4</sup>	Axis y-y cm <sup>4</sup>
Serial Size											
1016x305x487	486.6	1036.1	308.5	30.0	54.1	30.0	867.9	2.85	28.9	1021400	26720
1016x305x437	436.9	1025.9	305.4	26.9	49.0	30.0	867.9	3.12	32.3	909900	23450
1016x305x393	392.7	1016.0	303.0	24.4	43.9	30.0	868.2	3.045	35.6	807700	20500
1016x305x349	349.4	1008.1	302.0	21.1	40.0	30.0	868.1	3.78	41.1	723100	18460
1016x305x314	314.3	1000.0	300.0	19.1	35.9	60.0	868.2	4.18	45.5	644200	16230
1016x305x272	272.3	990.1	300.0	16.5	31.0	30.0	868.1	4.84	52.6	554000	14000
1016x305x249	248.7	980.2	300.0	16.5	26.0	30.0	868.2	5.77	52.6	481300	11750
1016x305x222	222.0	970.3	300.0	16.0	21.1	30.0	868.1	7.11	54.3	408000	9546
914x419x388	388.0	921.0	420.5	21.4	36.6	24.1	799.6	5.74	37.4	719600	45440
914x419x343	343.3	911.8	418.5	19.4	32.0	24.1	799.6	6.54	41.2	625800	39160
914x305x289	289.1	926.6	307.7	19.5	32.0	19.1	824.4	4.81	42.3	504200	15600
914x305x253	253.4	918.4	305.5	17.3	27.9	19.1	824.4	5.47	47.7	436300	13300
914x305x224	224.2	910.4	304.1	15.9	23.9	19.1	824.4	6.36	51.8	376400	11240
914x305x201	200.9	903.0	303.3	15.1	20.2	19.1	824.4	7.51	54.6	325300	9423
838x292x226	226.5	850.9	293.8	16.1	26.8	17.8	761.7	5.48	47.3	339700	11360
838x292x194	193.8	840.7	292.4	14.7	21.7	17.8	761.7	6.74	51.8	279200	9066
838x292x176	175.9	834.9	291.7	14.0	18.8	17.8	761.7	7.76	54.4	246000	7799
762x267x197	196.8	769.8	268.0	15.6	25.4	16.5	686.0	5.28	44.0	240000	8175
762x267x173	173.0	762.2	266.7	14.3	21.6	16.5	686.0	6.17	48.0	205300	6850
762x267x147	146.9	754.0	265.2	12.8	17.5	16.5	686.0	7.58	53.6	168500	5455
762x267x134	133.9	750.0	264.4	12.0	15.5	16.5	686.0	8.53	57.2	150700	4788
686x254x170	170.2	692.9	255.8	14.5	23.7	15.2	615.1	5.40	42.4	170300	6630
686x254x152	152.4	687.5	254.5	13.2	21.0	15.2	615.1	6.06	46.6	150400	5784
686x254x140	140.1	683.5	253.7	12.4	19.0	15.2	615.1	6.68	49.6	136300	5183
686x254x125	125.2	677.9	253.0	11.7	16.2	15.2	615.1	7.81	52.6	118000	4383
610x305x238	238.1	635.8	311.4	18.4	31.4	16.5	540.0	4.96	29.3	209500	15840
610x305x179	179.0	620.2	307.1	14.1	23.6	16.5	540.0	6.51	38.3	153000	11410
610x305x149	149.2	612.4	304.8	11.8	19.7	16.5	540.0	7.74	45.8	125900	9308
610x229x140	139.9	617.2	230.2	13.1	22.1	12.7	547.6	5.21	41.8	111800	4505
610x229x125	125.1	612.2	229.0	11.9	19.6	12.7	547.6	5.84	46.0	98610	3932
610x229x113	113.0	607.6	228.2	11.1	17.3	12.7	547.6	6.60	49.3	87320	3434
610x229x101	101.2	602.6	227.6	10.5	14.8	12.7	547.6	7.69	52.2	75780	2915

Designation								Ratios for Local Buckling		Second moment Of Area	
Serial	Mass Per Metre Kg/m	Depth of Section D mm	Width of Section B mm	Thickness of Web t mm	Thickness of Flange T mm	Root Radius r mm	Depth Between Fillets d mm	Flange B/2T	Web d/t	Axis x-x cm <sup>4</sup>	Axis y-y cm <sup>4</sup>
533x210x122	122.0	544.5	211.9	12.7	21.3	12.7	476.5	4.97	37.5	76040	3388
533x210x109	109.0	539.5	210.8	11.6	18.8	12.7	476.5	5.61	41.1	66820	2943
533x210x101	101.0	536.7	210.0	10.8	17.4	12.7	476.5	6.03	44.1	61520	2692
533x210x92	92.1	533.1	209.3	10.1	15.6	12.7	476.5	6.71	47.2	55230	2389
533x210x82	82.2	528.3	208.8	9.6	13.2	12.7	476.5	7.91	49.6	47540	2007
457x191x98	98.3	467.2	192.8	11.4	19.6	10.2	407.6	4.92	35.8	45730	2347
457x191x89	89.3	463.4	191.9	10.5	17.7	10.2	407.6	5.42	38.8	41020	2089
457x191x82	82.0	460.0	191.3	9.9	16.0	10.2	407.6	5.98	41.2	37050	1871
457x191x74	74.3	457.0	190.4	9.0	14.5	10.2	407.6	6.57	45.3	33320	1671
457x191x67	67.1	453.4	189.9	8.5	12.7	10.2	407.6	7.48	48.0	29380	1452
457x152x82	82.1	465.8	155.3	10.5	18.9	10.2	407.6	4.11	38.8	36590	1185
457x152x74	74.2	462.0	154.4	9.6	17.0	10.2	407.6	4.54	42.5	32670	1047
457x152x67	67.2	458.0	153.8	9.0	15.0	10.2	407.6	5.13	45.3	28930	913
457x152x60	59.8	454.6	152.9	8.1	13.3	10.2	407.6	5.75	50.3	25500	795
457x152x52	52.3	449.8	152.4	7.6	10.9	10.2	407.6	6.99	53.6	21370	645
406x178x74	74.2	412.8	179.5	9.5	16.0	10.2	360.4	5.61	37.9	27310	1545
406x178x67	67.1	409.4	178.8	8.8	14.3	10.2	360.4	6.25	41.0	24330	1365
406x178x60	60.1	406.4	177.9	7.9	12.8	10.2	360.4	6.95	45.6	21600	1203
406x178x54	54.1	402.6	177.7	7.7	10.9	10.2	360.4	8.15	46.8	18720	1021
406x140x46	46.0	403.2	142.2	6.8	11.2	10.2	360.4	6.35	53.0	15690	538
406x140x39	39.0	398.0	141.8	6.4	8.6	10.2	360.4	8.24	56.3	12510	410
356x171x67	67.1	363.4	173.2	9.1	15.7	10.2	311.6	5.52	34.2	19460	1362
356x171x57	57.0	358.0	172.2	8.1	13.0	10.2	311.6	6.62	38.5	16040	11.8
356x171x51	51.0	355.0	171.5	7.4	11.5	10.2	311.6	7.46	42.1	14140	968
356x171x45	45.0	351.4	171.1	7.0	9.7	10.2	311.6	8.82	44.5	12070	811
356x127x39	39.1	353.4	126.0	6.6	10.7	10.2	311.6	5.89	47.2	10170	358
356x127x33	33.1	349.0	125.4	6.0	8.5	10.2	311.6	7.38	51.9	8249	280
305x165x54	54.0	310.4	166.9	7.9	13.7	8.9	265.2	6.09	33.6	11700	1063
305x165x46	46.1	306.6	165.7	6.7	11.8	8.9	265.2	7.02	39.6	9899	896
305x165x40	40.3	303.4	165.0	6.0	10.2	8.9	265.2	8.09	44.2	8503	764
305x127x48	48.1	311.0	125.3	9.0	14.0	8.9	265.2	4.48	29.5	9575	461
305x127x42	41.9	307.2	124.3	8.0	12.1	8.9	265.2	5.14	33.2	8196	389
305x127x37	37.0	304.4	123.4	7.1	10.7	8.9	265.2	5.77	37.4	7171	336
305x102x33	32.8	312.7	102.4	6.6	10.8	7.6	275.9	4.74	41.8	6501	194
305x102x28	28.2	308.7	101.8	6.0	8.8	7.6	275.9	5.78	46.0	5366	155
305x102x25	24.8	305.1	101.6	5.8	7.0	7.6	275.9	7.26	47.6	4455	123
254x146x43	43.0	259.6	147.3	7.2	12.7	7.6	219.0	5.80	30.4	6544	677
254x146x37	37.0	256.0	146.4	6.3	10.9	7.6	219.0	6.72	34.8	5537	571
254x146x31	31.1	251.4	146.1	6.0	8.6	7.6	219.0	8.49	36.5	4413	448
254x102x28	28.3	260.4	102.2	6.3	10.0	7.6	225.2	5.11	35.7	4005	179
254x102x25	25.2	257.2	101.9	6.0	8.4	7.6	225.2	6.07	37.5	3415	149
254x102x22	22.0	254.0	101.6	5.7	6.8	7.6	225.2	7.47	39.5	2841	119
203x133x30	30.0	206.8	133.9	6.4	9.6	7.6	172.4	6.97	26.9	2896	385
203x133x25	25.1	203.2	133.2	5.7	7.8	7.6	172.4	8.54	30.2	2340	308
203x102x23	23.1	203.2	101.8	5.4	9.3	7.6	169.4	5.47	31.4	2105	164
178x102x19	19.0	177.8	101.2	4.8	7.9	7.6	146.8	6.41	30.6	1356	137
152x89x16	16.0	152.4	88.7	4.5	7.7	7.6	121.8	5.76	27.1	834	89.8
127x76x13	13.0	127.0	76.0	4.0	7.6	7.6	96.6	5.00	24.2	473	55.7

Designation		Area of Section cm <sup>2</sup>	Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter u	Torsional Index x	Warping Constant H dm <sup>6</sup>	Torsional Constant J cm <sup>4</sup>
Serial Size	Mass per metre Kg/m		Axis x-x cm	Axis y-y cm	Axis x-x cm <sup>3</sup>	Axis y-y cm <sup>3</sup>	Axis x-x cm <sup>3</sup>	Axis y-y cm <sup>3</sup>				
1016x305x487	486.6	620	40.6	6.57	19720	1732	23200	2800	0.867	21.1	64.4	4299
1016x305x437	436.9	557	40.4	6.49	17740	1535	60760	2469	0.868	23.1	55.9	3185
1016x305x393	392.7	500	40.2	6.40	15900	1353	18540	2168	0.868	25.5	48.4	2330
1016x305x349	349.4	445	40.3	6.44	14350	1223	16590	1941	0.872	27.9	43.3	1718
1016x305x314	314.3	400	40.1	6.37	12880	1082	14850	1713	0.872	30.7	37.7	1264
1016x305x272	272.3	347	40.0	6.35	11190	934	12830	1470	0.873	35.0	32.2	835
1016x305x249	248.7	317	39.0	6.09	9821	784	11350	1245	0.861	39.9	26.8	582
1016x305x222	222.0	283	38.0	5.81	8409	636	9807	1020	0.850	45.7	21.5	390
914x419x388	388.0	494	38.2	9.59	15630	2161	17670	3341	0.885	26.7	88.9	1734
914x419x343	343.3	437	37.8	9.46	13730	1871	15480	2890	0.883	30.1	75.8	1193
914x305x289	289.1	368	37.0	6.51	10880	1014	12570	1601	0.867	31.9	31.2	926
914x305x253	253.4	323	36.8	6.42	9501	871	10940	1371	0.866	36.2	26.4	626
914x305x224	224.2	286	36.3	6.27	8269	739	9535	1163	0.861	41.3	22.1	422
914x305x201	200.9	256	35.7	6.07	7204	621	8351	982	0.854	46.8	18.4	291
838x292x226	226.5	289	34.3	6.27	7985	773	9155	1212	0.870	35.0	19.3	514
838x292x194	193.8	247	33.6	6.06	6641	620	7640	974	0.862	41.6	15.2	306
838x292x176	175.9	224	33.1	5.90	5893	535	6808	842	0.856	46.5	13.0	221
762x267x197	196.8	251	30.9	5.71	6234	610	7167	959	0.869	33.2	11.3	404
762x267x173	173.0	220	30.5	5.58	5387	514	6198	807	0.864	38.1	9.39	267
762x267x147	146.9	187	30.0	5.40	4470	411	5156	647	0.858	45.2	7.40	159
762x267x134	133.9	171	29.7	5.30	4018	362	4644	570	0.854	49.8	6.46	119
686x254x170	170.2	217	28.0	5.53	4916	518	5631	811	0.872	31.8	7.42	308
686x254x152	152.4	194	27.8	5.46	4374	455	5000	710	0.871	35.5	6.42	220
686x254x140	140.1	178	27.6	5.39	3987	409	4558	638	0.868	38.7	5.72	169
686x254x125	125.2	159	27.2	5.24	3481	346	3994	542	0.862	43.9	4.80	116
610x305x238	238.1	303	26.3	7.23	6589	1017	7486	1574	0.886	21.3	14.5	785
610x305x179	179.0	228	25.9	7.07	4935	743	5547	1144	0.886	27.7	10.2	340
610x305x149	149.2	190	25.7	7.00	4111	611	4594	937	0.886	32.7	8.17	200
610x229x140	139.9	178	25.0	5.03	3622	391	4142	611	0.875	30.6	3.99	216
610x229x125	125.1	159	24.9	4.97	3221	343	3676	535	0.873	34.1	3.45	154
610x229x113	113.0	144	24.6	4.88	2874	301	3281	469	0.870	38.0	2.99	111
610x229x101	101.2	129	24.2	4.75	2515	256	2881	400	0.864	43.1	2.52	77.0
533x210x122	122.0	155	22.1	4.67	2793	320	3196	500	0.877	27.6	2.32	178
533x210x109	109.0	139	21.9	4.60	2477	279	2828	436	0.875	30.9	1.99	126
533x210x101	101.0	129	21.9	4.57	2292	256	2612	399	0.874	33.2	1.81	101
533x210x92	92.1	117	21.7	4.51	2072	228	2360	356	0.872	36.5	1.60	75.7
533x210x82	82.2	105	21.3	4.38	1800	192	2059	300	0.864	41.6	1.33	51.5
457x191x98	98.3	125	19.1	4.33	1957	243	2232	379	0.881	25.7	1.18	121
457x191x89	89.3	114	19.0	4.29	1770	218	2014	338	0.880	28.3	1.04	90.7
457x191x82	82.0	104	18.8	4.23	1611	196	1831	304	0.877	30.9	0.922	69.2
457x191x74	74.3	94.6	18.8	4.20	1458	176	1653	272	0.877	33.9	0.818	51.8
457x191x67	67.1	85.5	18.5	4.12	1296	153	1471	237	0.872	37.9	0.705	37.1
457x152x82	82.1	105	18.7	3.37	1571	153	1811	240	0.873	27.4	0.591	89.2
457x152x74	74.2	94.5	18.6	18.6	1414	136	1627	213	0.873	30.1	0.518	65.9
457x152x67	67.2	85.6	18.4	18.4	1263	119	1453	187	0.869	33.6	0.448	47.7
457x152x60	59.8	76.2	18.3	18.3	1122	104	1287	163	0.868	37.5	0.387	33.8
457x152x52	52.3	66.6	17.9	17.9	950	84.6	1096	133	0.859	43.9	0.311	21.4

Designation	Mass per metre Kg/m	Area of Section cm <sup>2</sup>	Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter u	Torsional Index x	Warping Constant H dm <sup>6</sup>	Torsional Constant J cm <sup>4</sup>
			Axis x-x cm	Axis y-y cm	Axis x-x cm <sup>3</sup>	Axis y-y cm <sup>3</sup>	Axis x-x cm <sup>3</sup>	Axis y-y cm <sup>3</sup>				
Serial Size												
406x178x74	74.2	94.5	17.0	17.0	1323	172	1501	267	0.882	27.6	0.608	62.8
406x178x67	67.1	85.5	16.9	16.9	1189	153	1346	237	0.880	30.5	0.533	46.1
406x178x60	60.1	76.5	16.8	16.8	1063	135	1199	209	0.880	33.8	0.466	33.3
406x178x54	54.1	69.0	16.5	16.5	930	115	1055	178	0.871	38.3	0.392	23.1
406x140x46	46.0	58.6	16.4	16.4	778	75.7	888	118	0.871	38.9	0.207	19.0
406x140x39	39.0	49.7	15.9	15.9	629	57.8	724	90.8	0.858	47.5	0.155	10.7
356x171x67	67.1	85.5	15.1	15.1	1071	157	1211	243	0.886	24.4	0.412	55.7
356x171x57	57.0	72.6	14.9	14.9	896	129	1010	199	0.882	28.8	0.330	33.4
356x171x51	51.0	64.9	14.8	14.8	796	113	896	174	0.881	32.1	0.286	23.8
356x171x45	45.0	57.3	14.5	14.5	687	94.8	775	147	0.874	36.8	0.237	15.8
356x127x39	39.1	49.8	14.3	14.3	576	56.8	659	89.1	0.871	35.2	0.105	15.1
356x127x33	33.1	42.1	14.0	14.0	473	44.7	543	70.3	0.863	42.2	0.0812	8.79
305x165x54	54.0	68.8	13.0	13.0	754	127	846	196	0.889	23.6	0.234	34.8
305x165x46	46.1	58.7	13.0	13.0	646	108	720	166	0.891	27.1	0.195	22.2
305x165x40	40.3	51.3	12.9	12.9	560	92.6	623	142	0.889	31.0	0.164	14.7
305x127x48	48.1	61.2	12.5	12.5	616	73.6	711	116	0.873	23.3	0.102	31.8
305x127x42	41.9	53.4	12.4	12.4	534	62.6	614	98.4	0.872	26.5	0.0846	21.1
305x127x37	37.0	47.2	12.3	12.3	471	54.5	539	85.4	0.872	29.7	0.0725	14.8
305x102x33	32.8	41.8	12.5	12.5	416	37.9	481	60.0	0.866	31.6	0.0442	12.2
305x102x28	28.2	35.9	12.2	12.2	348	30.5	403	48.5	0.859	37.4	0.0349	7.40
305x102x25	24.8	31.6	11.9	11.9	292	24.2	342	38.8	0.846	43.4	0.0273	4.77
254x146x43	43.0	54.8	10.9	10.9	504	92.0	566	141	0.891	21.2	0.103	23.9
254x146x37	37.0	47.2	10.8	10.8	433	78.0	483	119	0.890	24.3	0.0857	15.3
254x146x31	31.1	39.7	10.5	10.5	351	61.3	393	94.1	0.880	29.6	0.0660	8.55
254x102x28	28.3	36.1	10.5	10.5	308	34.9	353	54.8	0.874	27.5	0.0280	9.57
254x102x25	25.2	32.0	10.3	10.3	266	29.2	306	46.0	0.866	31.5	0.0230	6.42
254x102x22	22.0	28.0	10.1	10.1	224	23.5	259	37.3	0.856	36.4	0.0182	4.15
203x133x30	30.0	38.2	8.71	8.71	280	57.5	314	88.2	0.881	21.5	0.0374	10.3
203x133x25	25.1	32.0	8.56	8.56	230	46.2	258	70.9	0.877	25.6	0.0294	5.96
203x102x23	23.1	29.4	8.46	8.46	207	32.2	234	49.8	0.888	22.5	0.0154	7.02
178x102x19	19.0	24.3	7.48	7.48	153	27.0	171	41.6	0.888	22.6	0.0099	4.41
152x89x16	16.0	20.3	6.41	6.41	109	20.2	123	31.2	0.890	19.6	0.0047	3.56
127x76x13	13.0	16.5	5.35	5.35	74.6	14.7	84.2	22.6	0.895	16.3	0.0020	2.85