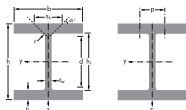
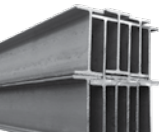


UNIVERSAL COLUMNS - DIMENSIONS AND PROPERTIES

To BS 4 : Part 1 : 1993

Designation	Mass per Metre kg/m	Depth of Section h mm	Width of Section b mm	Thickness Web s mm	Thickness Flange t mm	Root Radius r mm	Depth Between Fillets d mm	Ratios for Local Buckling	
								Flange b/2t	Web d/s
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	201.9	374.6	374.7	16.5	27.0	15.2	290.2	6.94	17.6
356 x 368 x 153	177.0	368.2	372.6	14.4	23.8	15.2	290.2	7.83	20.2
356 x 368 x 177	152.9	362.0	370.5	12.3	20.7	15.2	290.2	8.95	23.6
356 x 368 x 202	129.0	355.6	368.6	10.4	17.5	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



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Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter U	Torsional Index x	Wrapping Constant H	Torsional Constant J	Area of Section
Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y					
cm ⁴	cm ⁴	cm	cm	cm ⁴	cm ⁴	cm ³	cm ³			dm ⁴	dm ⁴	dm ²
1250	400	6.54	3.70	164	52.6	182	80.2	0.840	20.7	0.0212	4.63	29.2
1748	560	6.76	3.83	222	73.3	248	112	0.849	16.0	0.0308	10.5	38.3
2210	706	6.85	3.87	273	91.5	309	140	0.848	13.3	0.0399	19.2	47.1
4568	1548	8.82	5.13	450	152	497	231	0.847	17.7	0.143	22.2	58.7
5259	1778	8.91	5.18	510	174	567	264	0.848	15.8	0.167	31.8	66.3
6125	2065	8.96	5.20	584	201	656	305	0.846	14.1	0.197	47.2	76.4
7618	2537	9.18	5.30	706	246	799	374	0.853	11.9	0.250	80.2	90.4
9449	3127	9.28	5.34	850	299	977	456	0.850	10.2	0.318	137	110
11410	3908	11.1	6.48	898	307	992	465	0.849	17.3	0.562	57.6	93.1
14270	4857	11.2	6.55	1096	379	1224	575	0.850	14.5	0.717	102	113
17510	5928	11.3	6.59	1313	458	1484	697	0.848	12.4	0.898	172	136
22530	7531	11.6	6.69	1631	576	1869	878	0.850	10.3	1.19	319	168
30000	9870	11.9	6.81	2075	744	2424	1137	0.851	8.49	1.63	626	213
22250	7308	13.4	7.69	1445	479	1592	726	0.850	19.3	1.56	91.2	123
27670	9059	13.6	7.77	1760	589	1958	895	0.850	16.2	1.98	161	150
32810	10700	13.7	7.83	2048	692	2297	1053	0.851	14.2	2.39	249	174
38750	12570	13.9	7.90	2369	808	2680	1230	0.851	12.5	2.87	378	201
50900	16300	14.2	8.04	2995	1037	3440	1581	0.854	10.2	3.88	734	252
64200	20310	14.5	8.15	3643	1276	4247	1951	0.854	8.74	5.03	1271	306
78870	24630	14.8	8.27	4318	1529	5105	2342	0.855	7.65	6.35	2034	360
40250	14610	15.6	9.43	2264	793	2479	1199	0.844	19.9	4.18	153	164
48590	17550	15.8	9.49	2684	948	2965	1435	0.844	17.0	5.11	251	195
57120	20530	15.9	9.54	3103	1102	3455	1671	0.844	15.0	6.09	381	226
66260	23690	16.1	9.60	3538	1264	3972	1920	0.844	134	7.16	558	257
79080	30990	16.3	10.2	4151	1570	4687	2383	0.834	12.1	9.54	812	299
99880	38680	16.5	10.3	5075	1939	5812	2949	0.835	10.2	12.30	1441	366
122500	46850	16.8	10.4	6031	2325	6999	3544	0.836	8.85	15.50	2343	433
146600	55370	17.1	10.5	6998	2721	8222	4154	0.837	7.86	18.90	3545	501
183000	67830	17.5	10.7	8383	3291	10000	5034	0.839	6.86	24.30	5809	595
226900	82670	18.0	10.9	9962	3951	12080	6058	0.841	6.05	31.1	9240	702
274800	98130	184	11.0	11580	4629	14240	7108	0.843	5.46	38.8	13720	808

