



UNIVERSAL BEAMS: Dimensions and Properties

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		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter u	Torsional Index x	Warping Constant H	Torsional Constant J	Area of Section													
								Flange	Web	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y																		
	kg/m	mm	mm	mm	mm	mm	mm	mm	b/2t	d/s	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³			dm ⁶	cm ⁴	cm ²												
356 x 127 x 39	39.1	353.4	126.0	6.6	10.7	10.2	311.6	5.89	47.2	10170	358	14.3	2.68	576	56.8	659	89.1	0.871	35.2	0.105	15.1	49.8													
356 x 127 x 33	33.1	349.0	125.4	6.0	8.5	10.2	311.6	7.38	51.9														8249	280	14.0	2.58	473	44.7	543	70.3	0.863	42.2	0.0812	8.79	42.1
305 x 165 x 54	54.0	310.4	166.9	7.9	13.7	8.9	265.2	6.09	33.6	11700	1063	13.0	3.93	754	127	846	196	0.889	23.6	0.234	34.8	68.8													
305 x 165 x 46	46.1	306.6	165.7	6.7	11.8	8.9	265.2	7.02	39.6														9899	896	13.0	3.90	646	108	720	166	0.891	27.1	0.195	22.2	58.7
305 x 165 x 40	40.3	303.4	165.0	6.0	10.2	8.9	265.2	8.09	44.2														8503	764	12.9	3.86	560	92.6	623	142	0.889	31.0	0.164	14.7	51.3
305 x 127 x 48	48.1	311.0	125.3	9.0	14.0	8.9	265.2	4.47	29.5	9575	461	12.5	2.74	616	73.6	711	116	0.873	23.3	0.102	31.8	61.2													
305 x 127 x 42	41.9	307.2	124.3	8.0	12.1	8.9	265.2	5.14	33.2														8196	389	12.4	2.70	534	62.6	614	98.4	0.872	26.5	0.0846	21.1	53.4
305 x 127 x 37	37.0	304.4	123.3	7.1	10.7	8.9	265.2	5.77	37.4														7171	336	12.3	2.67	471	54.5	539	85.4	0.872	29.7	0.0725	14.8	47.2
305 x 102 x 33	32.8	312.7	102.4	6.6	10.8	7.6	275.9	4.74	41.8	6501	194	12.5	2.15	4.16	37.9	481	60.0	0.866	31.6	0.0442	12.2	41.8													
305 x 102 x 28	28.2	308.7	101.8	6.0	8.8	7.6	275.9	5.78	46.0														5366	155	12.2	2.08	348	30.5	403	48.5	0.859	37.4	0.0349	7.40	35.9
305 x 102 x 25	24.8	305.1	101.6	5.8	7.0	7.6	275.9	7.26	47.6														4455	123	11.9	1.97	292	24.2	342	38.8	0.846	43.4	0.0273	4.77	31.6
254 x 146 x 43	43.0	259.6	147.3	7.2	12.7	7.6	219.0	5.80	30.4	6544	677	10.9	3.52	504	92.0	566	141	0.891	21.2	0.103	23.9	54.8													
254 x 146 x 37	37.0	256.0	146.4	6.3	10.9	7.6	219.0	6.72	34.8														5537	571	10.8	3.48	433	78.0	483	119	0.890	24.3	0.0857	15.3	47.2
254 x 146 x 31	31.1	251.4	146.1	6.0	8.6	7.6	219.0	8.49	36.5														4413	448	10.5	3.36	351	61.3	393	94.1	0.880	29.6	0.0660	8.55	39.7
254 x 102 x 28	28.3	260.4	102.2	6.3	10.0	7.6	225.2	5.11	35.7	4005	179	10.5	2.22	308	34.9	353	54.8	0.874	27.5	0.0280	9.57	36.1													
254 x 102 x 25	25.2	257.2	101.9	6.0	8.4	7.6	225.2	6.07	37.5														3415	149	10.3	2.15	266	29.2	306	46.0	0.866	31.5	0.0230	6.42	32.0
254 x 102 x 22	22.0	254.0	101.6	5.7	6.8	7.6	225.2	7.47	39.5														2841	119	10.1	2.06	224	23.5	259	37.3	0.856	36.4	0.0182	4.15	28.0
203 x 133 x 30	30.0	206.8	133.9	6.4	9.6	7.6	172.4	6.97	26.9	2896	385	8.71	3.17	280	57.5	314	88.2	0.881	21.5	0.0374	10.3	38.2													
203 x 133 x 25	25.1	203.2	133.2	5.7	7.8	7.6	172.4	8.54	30.2														2340	308	8.56	3.10	230	46.2	258	70.9	0.877	25.6	0.0294	5.96	32.0
203 x 102 x 23	23.1	203.2	101.8	5.4	9.3	7.6	169.4	5.47	31.4														2105	164	8.46	2.36	207	32.2	234	49.8	0.888	22.5	0.0154	7.02	29.4
178 x 102 x 19	19.0	177.8	101.2	4.8	7.9	7.6	146.8	6.41	30.6	1356	137	7.48	2.37	153	27.0	171	41.6	0.888	22.6	0.00987	4.41	24.3													
152 x 89 x 16	16.0	152.4	88.7	4.5	7.7	7.6	121.8	5.76	27.1														834	89.8	6.41	2.10	109	20.2	123	31.2	0.890	19.6	0.00470	3.56	20.3
127 x 76 x 13	13.0	127.0	76.0	4.0	7.6	7.6	96.6	5.00	24.1														473	55.7	5.35	1.84	74.6	14.7	84.2	22.6	0.895	16.3	0.00199	2.85	16.5