



BRITISH CHANNELS: Dimensions and Properties

Designation		Depth of Section D mm	Width of Section B mm	Thickness		Root Radius r ₁ mm	Toe Radius r ₂ mm	Depth Between Fillets d mm	Ratios for Local Buckling		Second Moment of Areas		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter u	Torsional Index x	Warping Constant H dm ⁶	Torsional Constant J cm ⁴	Area of Section A cm ²
Serial Size mm	Mass per Metre kg			Web t mm	Flange T mm				Flange b/T	Web d/t	Axis x-x cm ⁴	Axis y-y cm ⁴	Axis x-x cm	Axis y-y cm	Axis x-x cm ³	Axis y-y cm ³	Axis x-x cm ³	Axis y-y cm ³					
432 x 102	65.54	431.8	101.6	12.2	16.8	15.2	4.8	362.4	6.05	29.7	21400	629	16.0	2.74	991	80.1	1210	153	0.876	24.6	0.217	61.0	83.5
381 x 102	55.10	381.0	101.6	10.4	16.3	15.2	4.8	312.4	6.23	30.0	14900	580	14.6	2.87	782	75.9	933	144	0.895	22.7	0.153	46.0	70.2
305 x 102	46.18	304.8	101.6	10.2	14.8	15.2	4.8	239.2	6.86	23.5	8210	499	11.8	2.91	539	66.6	638	128	0.9	18.9	0.0842	35.4	58.8
305 x 89	41.69	304.8	88.9	10.2	13.7	13.7	3.2	254.4	6.49	24.1	7060	325	11.5	2.48	463	48.5	557	92.6	0.887	20.4	0.0551	27.6	53.1
254 x 89	35.74	254.0	88.9	9.1	13.6	13.7	3.2	194.7	6.54	21.4	4450	302	9.88	2.58	350	46.7	414	89.6	0.906	17.1	0.0347	22.9	45.5
254 x 76	28.29	254.0	76.2	8.1	10.9	12.2	3.2	203.8	6.99	25.2	3370	163	9.67	2.12	265	28.2	317	54.1	0.886	21.2	0.0194	12.3	36.0
229 x 89	32.76	228.6	88.9	8.6	13.3	13.7	3.2	169.8	6.68	19.7	3390	285	9.01	2.61	296	44.8	348	86.4	0.912	15.5	0.0263	20.4	41.7
229 x 76	26.06	228.6	76.2	7.6	11.2	12.2	3.2	178.0	6.80	23.4	2610	159	8.87	2.19	228	28.2	270	54.2	0.9	18.8	0.0151	11.4	33.2
203 x 89	29.78	203.2	88.9	8.1	12.9	13.7	3.2	145.2	6.89	17.9	2490	264	8.10	2.64	245	42.3	287	81.6	0.915	14.1	0.0192	17.8	37.9
203 x 76	23.82	203.2	76.2	7.1	11.2	12.2	3.2	152.5	6.80	21.5	1950	151	8.02	2.23	192	27.6	225	53.3	0.911	16.7	0.0112	10.4	30.3
178 x 89	26.81	177.8	88.9	7.6	12.3	13.7	3.2	121.0	7.23	15.9	1750	241	7.16	2.66	197	39.3	230	75.4	0.915	12.7	0.0134	15.1	34.2
178 x 76	20.84	177.8	76.2	6.6	10.3	12.2	3.2	128.8	7.40	19.5	1340	134	7.10	2.25	150	24.7	175	48.1	0.911	15.5	0.00764	8.13	26.5
152 x 89	23.84	152.4	88.9	7.1	11.6	13.7	3.2	97.0	7.66	13.7	1170	215	6.20	2.66	156	35.7	178	68.1	0.909	11.3	0.00881	12.4	30.4
152 x 76	17.88	152.4	76.2	6.4	9.0	12.2	2.4	105.9	8.47	16.5	852	114	6.11	2.24	112	21.0	130	41.3	0.902	14.5	0.00486	5.94	22.8
127 x 64	14.90	127.0	63.5	6.4	9.2	10.7	2.4	84.0	6.90	13.1	483	67.2	5.04	1.88	76.0	15.3	89.4	29.3	0.91	11.7	0.00187	4.92	19.0
102 x 51	10.42	101.6	50.8	6.1	7.6	9.1	2.4	65.7	6.68	10.8	208	29.1	3.96	1.48	40.9	8.160	48.8	15.7	0.9	10.8	0.000513	2.55	13.3
76 x 38	6.70	76.2	38.1	5.1	6.8	7.6	2.4	45.8	5.60	8.98	74.1	10.7	2.95	1.12	19.5	4.070	23.4	7.76	0.908	9.170	0.000101	1.23	8.53