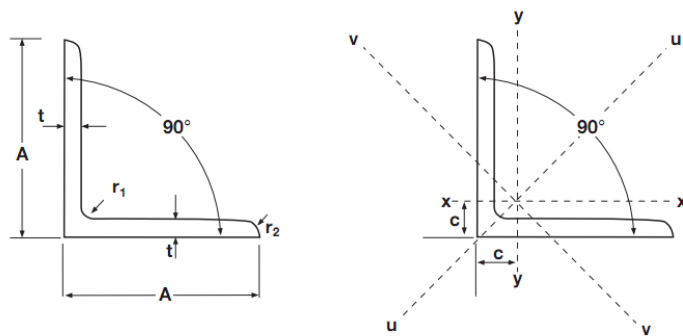


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Equal Angles

Dimensions and properties to BS EN 10056-1: 1999

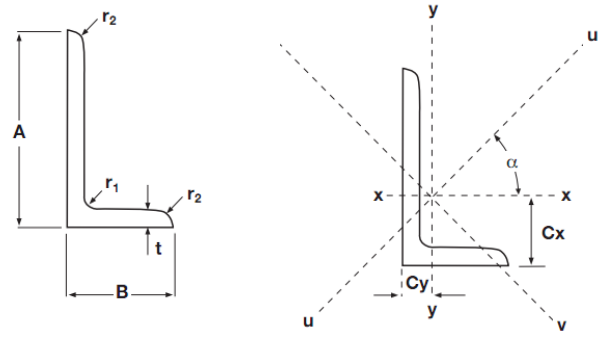


Designation		Mass per metre kg/m	Root radius r_1 mm	Toe Radius r_2 mm	Area of Section cm ²	Distance of centre of gravity c cm	Second Moment of Area		
Serial Size	Axis x-x, y-y cm ⁴						Axis u-u cm ⁴	Axis v-v cm ⁴	
A x A x t mm x mm x mm									
200x200x24	71.1	18	9.0	90.6	5.84	3331	5280	1380	
200x200x20	59.9	18	9.0	76.3	5.68	2851	4530	1170	
200x200x18	54.2	18	9.0	69.1	5.60	2600	4150	1050	
200x200x16	48.5	18	9.0	61.8	5.52	2342	3720	960	
150x150x18	40.1	16	8.0	51.0	4.37	1050	1680	440	
150x150x15	33.8	16	8.0	43.0	4.25	898	1430	370	
150x150x12	27.3	16	8.0	34.8	4.12	737	1170	303	
150x150x10	23.0	16	8.0	29.3	4.03	624	990	258	
120x120x15	26.6	13	6.5	33.9	3.51	445	710	186	
120x120x12	21.6	13	6.5	27.5	3.40	368	584	152	
120x120x10	18.2	13	6.5	23.2	3.31	313	497	129	
120x120x8	14.7	13	6.5	18.7	3.23	256	411	107	
100x100x15	21.9	12	6.0	27.9	3.02	249	395	105	
100x100x12	17.8	12	6.0	22.7	2.90	207	328	85.7	
100x100x10	15.0	12	6.0	19.2	2.82	177	280	73	
100x100x8	12.2	12	6.0	15.5	2.74	145	230	59.9	
90x90x12	15.9	11	5.5	20.3	2.66	148	235	62	
90x90x10	13.4	11	5.5	17.1	2.58	127	201	52.6	
90x90x8	10.9	11	5.5	13.9	2.50	104	166	43.1	
90x90x7	9.6	11	5.5	12.2	2.45	92.6	147	38.3	

Designation Serial Size A x A x t mm x mm x mm	Mass per metre kg/m	Radius of Gyration			Elastic Modulus	Torsional Constant	Equivalent Slenderness Coefficient
		Axis x-x, y-y cm	Axis u-u cm	Axis v-v cm	Axis x-x, y-y cm ³	J cm ⁴	ϕ_a
		200x200x24	71.1	6.06	7.64	3.90	235
200x200x20	59.9	6.11	7.70	3.92	199	107	3.05
200x200x18	54.2	6.13	7.75	3.90	181	78.9	3.43
200x200x16	48.5	6.16	7.76	3.94	162	56.1	3.85
150x150x18	40.1	4.54	5.73	2.92	98.8	58.6	2.48
150x150x15	33.8	4.57	5.76	2.93	83.5	34.6	3.01
150x150x12	27.3	4.60	5.80	2.95	67.8	18.2	3.77
150x150x10	23.0	4.62	5.82	2.97	56.9	10.8	4.51
120x120x15	26.6	3.62	4.57	2.34	52.4	27.0	2.37
120x120x12	21.6	3.65	4.60	2.35	42.7	14.2	2.99
120x120x10	18.2	3.67	4.63	2.36	36.0	8.41	3.61
120x120x8	14.7	3.69	4.67	2.38	29.1	4.44	4.56
100x100x15	21.9	2.98	3.76	1.94	35.6	22.3	1.92
100x100x12	17.8	3.02	3.80	1.94	29.1	11.8	2.44
100x100x10	15.0	3.04	3.83	1.95	24.6	6.97	2.94
100x100x8	12.2	3.06	3.85	1.96	20.0	3.68	3.70
90x90x12	15.9	2.70	3.40	1.75	23.4	10.46	2.17
90x90x10	13.4	2.72	3.42	1.75	19.8	6.20	2.64
90x90x8	10.9	2.74	3.45	1.76	16.1	3.28	3.33
90x90x7	9.6	2.75	3.46	1.77	14.1	2.24	3.80

Unequal Angles

Dimensions and properties to BS EN 10056-1: 1999



Designation		Mass per metre kg/m	Root Radius r_1 mm	Toe Radius r_2 mm	Area of Section cm^2	Distance of centre of gravity		Axis x-x cm^4	Axis y-y cm^4	Axis u-u cm^4	Axis v-v cm^4
Serial Size	A x B x t mm x mm x mm					C_x cm	C_y cm				
	200x150x18	47.1	15	7.5	60.0	6.33	3.85	2376	1146	2920	623
	200x150x15	39.6	15	7.5	50.5	6.21	3.73	2023	979	2480	526
	200x150x12	32.0	15	7.5	40.8	6.08	3.61	1653	803	2030	430
	200x100x15	33.7	15	7.5	43.0	7.16	2.22	1759	299	1860	193
	200x100x12	27.3	15	7.5	34.8	7.03	2.10	1441	247	1530	159
	200x100x10	23.0	15	7.5	29.2	6.93	2.01	1219	210	1290	135
	150x90x15	26.6	12	6.0	33.9	5.21	2.23	761	205	841	126
	150x90x12	21.6	12	6.0	27.5	5.08	2.12	627	171	694	104
	150x90x10	18.2	12	6.0	23.2	5.00	2.04	533	146	591	88.3
	150x75x15	24.8	12	6.0	31.7	5.52	1.81	713	119	753	78.6
	150x75x12	20.2	12	6.0	25.7	5.40	1.69	589	99.6	623	64.7
	150x75x10	17.0	12	6.0	21.7	5.31	1.61	501	85.4	531	55.1
	125x75x12	17.8	11	5.5	22.7	4.31	1.84	354	95.5	391	58.5
	125x75x10	15.0	11	5.5	19.1	4.23	1.76	302	82.1	334	49.9
	125x75x8	12.2	11	5.5	15.5	4.14	1.68	247	67.6	274	40.9
	100x75x12	15.4	10	5.0	19.7	3.27	2.03	189	90.2	230	49.5
	100x75x10	13.0	10	5.0	16.6	3.19	1.95	162	77.6	197	42.2
	100x75x8	10.6	10	5.0	13.5	3.10	1.87	133	64.1	162	34.6
	100x65x10	12.3	10	5.0	15.6	3.36	1.63	154	51.0	175	30.1
	100x65x8	9.9	10	5.0	12.7	3.27	1.55	127	42.2	144	24.8
	100x65x7	8.8	10	5.0	11.2	3.23	1.51	113	37.6	128	22

Designation	Serial Size	Radius of Gyration				Elastic Modulus		Angle Axis x-x to Axis y-y Tan α	Torsional Constant J cm ⁴	Equivalent Slenderness Coefficient		Mono-Symmetry Index Ψ_a
		Axis x-x cm	Axis y-y cm	Axis u-u cm	Axis v-v cm	Axis x-x cm ³	Axis y-y cm ³			Min. Φ_a	Max. Φ_a	
A x B x t mm x mm x mm	Mass per metre kg/m											
200x150x18	47.1	6.29	4.37	6.97	3.22	174	103	0.549	67.9	2.93	3.72	4.60
200x150x15	39.6	6.33	4.40	7.00	3.23	147	86.9	0.551	39.9	3.53	4.50	5.55
200x150x12	32.0	6.36	4.44	7.04	3.25	119	70.5	0.552	20.9	4.43	5.70	6.97
200x100x15	33.7	6.40	2.64	6.59	2.12	137	38.4	0.260	34.3	3.54	5.17	9.19
200x100x12	27.3	6.43	2.67	6.63	2.14	111	31.3	0.262	18.0	4.42	6.57	11.5
200x100x10	23.0	6.46	2.68	6.65	2.15	93.3	26.3	0.263	10.66	5.26	7.92	13.9
150x90x15	26.6	4.74	2.46	4.98	1.93	77.7	30.4	0.354	26.8	2.58	3.59	5.96
150x90x12	21.6	4.78	2.49	5.02	1.94	63.3	24.8	0.358	14.1	3.24	4.58	7.50
150x90x10	18.2	4.80	2.51	5.05	1.95	53.3	21.0	0.360	8.30	3.89	5.56	9.03
150x75x15	24.8	4.75	1.94	4.88	1.58	75.2	21.0	0.253	25.1	2.62	3.74	6.84
150x75x12	20.2	4.78	1.97	4.92	1.59	61.3	17.1	0.258	13.2	3.30	4.79	8.60
150x75x10	17.0	4.81	1.99	4.95	1.60	51.7	14.5	0.261	7.8	3.95	5.83	10.4
125x75x12	17.8	3.95	2.05	4.15	1.61	43.2	16.9	0.354	11.6	2.66	3.73	6.23
125x75x10	15.0	3.97	2.07	4.18	1.61	36.5	14.3	0.357	6.87	3.21	4.55	7.50
125x75x8	12.2	4.00	2.09	4.21	1.63	29.6	11.6	0.360	3.62	4.00	5.75	9.43
100x75x12	15.4	3.10	2.14	3.42	1.59	28.1	16.5	0.540	10.05	2.10	2.64	3.46
100x75x10	13.0	3.12	2.16	3.45	1.59	23.8	14.0	0.544	5.95	2.54	3.22	4.17
100x75x8	10.6	3.14	2.18	3.47	1.60	19.3	11.4	0.547	3.13	3.18	4.08	5.24
100x65x10	12.3	3.14	1.81	3.35	1.39	23.2	10.5	0.410	5.61	2.52	3.43	5.45
100x65x8	9.9	3.16	1.83	3.37	1.40	18.9	8.54	0.413	2.96	3.14	4.35	6.86
100x65x7	8.8	3.17	1.83	3.39	1.40	16.6	7.53	0.415	2.02	3.58	5.00	7.85