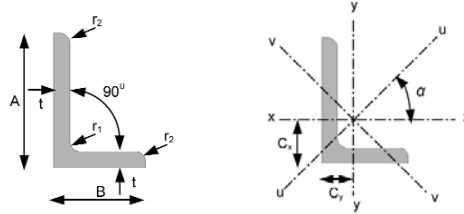


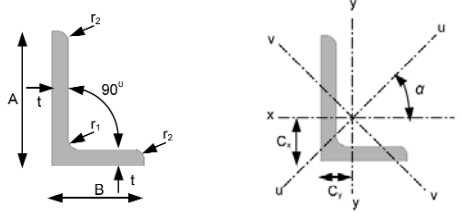
# Unequal Angles



## Metric Units

Designation Size	Thickness	Mass Per Metre	Leg Length		Radius		Area of Section	Distance Centre of Gravity	
			A	B	root $r_1$	toe $r_2$		$C_x$	$C_y$
A x B x t	t	kg/m	mm	mm	mm	mm	cm <sup>2</sup>	cm	cm
40x20x3	3	1.37	40	20	5	2	1.75	1.41	0.44
40x20x5	5	2.16	40	20	5	3.5	2.75	1.49	0.51
50x35x4	4	2.58	50	35	6.5	3	3.29	1.58	0.85
50x35x6	6	3.72	50	35	6.5	4.5	4.74	1.66	0.92
60x50x5	5	4.16	60	50	6.5	3	5.30	1.79	1.30
60x50x7	7	5.66	60	50	6.5	4.5	7.21	1.87	1.37
65x50x5	5	4.36	65	50	6.5	3	5.55	1.99	1.25
65x50x7	7	5.94	65	50	6.5	4.5	7.56	2.07	1.33
65x50x9	9	7.49	65	50	6.5	4.5	9.54	2.14	1.40
70x60x6	6	5.91	70	60	8.5	4	7.53	2.07	1.58
70x60x8	8	7.66	70	60	8.5	6	9.76	2.14	1.65
70x60x10	10	9.42	70	60	8.5	6	12.0	2.22	1.72
75x50x6	6	5.67	75	50	8.5	4	7.23	2.43	1.20
75x50x8	8	7.35	75	50	8.5	6	9.36	2.50	1.27
75x50x10	10	9.03	75	50	8.5	6	11.5	2.58	1.35
75x65x6	6	6.38	75	65	8.5	4	8.13	2.19	1.70
75x65x8	8	8.29	75	65	8.5	6	10.6	2.26	1.77
75x65x10	10	10.2	75	65	8.5	6	13.0	2.34	1.85
80x60x6	6	6.38	80	60	8.5	4	8.13	2.46	1.48
80x60x8	8	8.29	80	60	8.5	6	10.6	2.54	1.55
80x60x10	10	10.2	80	60	8.5	6	13.0	2.62	1.63
80x70x6	6	6.85	80	70	8.5	4	8.73	2.32	1.82
80x70x9	9	9.96	80	70	8.5	6	12.7	2.43	1.93
80x70x12	12	13.0	80	70	8.5	6	16.6	2.54	2.05
90x60x6	6	6.85	90	60	8.5	4	8.73	2.88	1.40
90x60x9	9	9.96	90	60	8.5	6	12.7	2.99	1.51
90x60x12	12	13.0	90	60	8.5	6	16.6	3.11	1.63
90x75x6	6	7.56	90	75	8.5	4	9.63	2.63	1.90
90x75x9	9	11.0	90	75	8.5	6	14.0	2.75	2.01
90x75x12	12	14.4	90	75	8.5	6	18.4	2.87	2.12
90x80x7	7	9.04	90	80	10	5	11.5	2.59	2.10
90x80x10	10	12.6	90	80	10	7	16.0	2.71	2.21
90x80x13	13	16.0	90	80	10	7	20.4	2.82	2.33
100x65x7	7	8.77	100	65	10	5	11.2	3.23	1.52
100x65x8	8	9.9	100	65	10	4.8	12.7	3.28	1.56
100x65x9	9	11.0	100	65	10	7	14.0	3.31	1.58
100x65x10	10	12.3	100	65	10	4.8	15.6	3.36	1.64
100x65x12	12	14.4	100	65	10	7	18.4	3.43	1.70
100x75x7	7	9.32	100	75	10	5	11.9	3.06	1.84
100x75x8	8	10.6	100	75	10	4.8	13.5	3.11	1.88
100x75x10	10	13.0	100	75	10	7	16.5	3.18	1.94
100x75x12	12	15.4	100	75	10	4.8	19.7	3.27	2.03
100x75x13	13	16.5	100	75	10	7	21.1	3.30	2.06

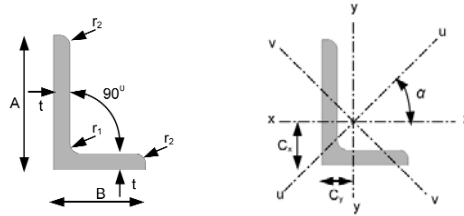
# Unequal Angles



## Metric Units

Designation Size	Second Moment of Area				Radius of Gyration				Elastic Modulus		tan $\alpha$
	Axis x-x	Axis y-y	Axis u-u	Axis v-v	Axis x-x	Axis y-y	Axis u-u	Axis v-v	Axis x-x	Axis y-y	
A x B x t	cm <sup>4</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	
mm	cm <sup>4</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	
40x20x3	2.82	0.471	2.98	0.308	1.27	0.519	1.31	0.420	1.09	0.30	0.255
40x20x5	4.21	0.677	4.43	0.457	1.24	0.496	1.27	0.407	1.68	0.46	0.242
50x35x4	8.09	3.24	9.49	1.84	1.57	0.992	1.70	0.748	2.37	1.22	0.473
50x35x6	11.2	4.42	13.1	2.54	1.54	0.965	1.66	0.732	3.35	1.71	0.465
60x50x5	18.5	11.7	24.4	5.80	1.87	1.48	2.15	1.05	4.40	3.16	0.679
60x50x7	24.4	15.2	32.0	7.64	1.84	1.45	2.10	1.03	5.89	4.20	0.674
65x50x5	23.2	11.9	28.8	6.32	2.04	1.47	2.28	1.07	5.15	3.19	0.577
65x50x7	30.6	15.6	37.9	8.32	2.01	1.44	2.24	1.05	6.90	4.24	0.571
65x50x9	37.8	19.2	46.6	10.4	1.99	1.42	2.21	1.04	8.69	5.33	0.565
70x60x6	35.4	23.9	47.7	11.6	2.17	1.78	2.52	1.24	7.17	5.40	0.719
70x60x8	44.4	29.8	59.6	14.6	2.13	1.75	2.47	1.22	9.12	6.84	0.715
70x60x10	53.6	35.9	71.7	17.8	2.11	1.73	2.45	1.22	11.2	8.40	0.711
75x50x6	40.4	14.3	46.4	8.34	2.37	1.41	2.54	1.07	7.97	3.78	0.432
75x50x8	50.8	17.7	58.1	10.4	2.33	1.38	2.49	1.05	10.2	4.75	0.426
75x50x10	61.4	21.3	70.0	12.7	2.31	1.36	2.47	1.05	12.5	5.84	0.421
75x65x6	44.1	30.7	60.1	14.7	2.33	1.94	2.72	1.34	8.30	6.39	0.737
75x65x8	55.5	38.4	75.4	18.5	2.29	1.91	2.67	1.32	10.6	8.12	0.734
75x65x10	67.2	46.4	91.0	22.6	2.27	1.89	2.65	1.32	13.0	9.98	0.731
80x60x6	51.5	24.8	62.9	13.4	2.52	1.75	2.78	1.28	9.30	5.49	0.547
80x60x8	65.0	31.0	79.1	16.8	2.48	1.71	2.74	1.26	11.9	6.96	0.542
80x60x10	78.8	37.4	95.6	20.5	2.46	1.70	2.71	1.26	14.6	8.56	0.538
80x70x6	54.1	38.6	74.4	18.3	2.49	2.10	2.92	1.45	9.52	7.46	0.753
80x70x9	75.8	53.8	104	25.7	2.44	2.06	2.86	1.42	13.6	10.6	0.749
80x70x12	96.5	68.3	132	33.3	2.41	2.03	2.82	1.42	17.7	13.8	0.744
90x60x6	71.5	25.6	82.3	14.8	2.86	1.71	3.07	1.30	11.7	5.57	0.436
90x60x9	101	35.4	115	20.6	2.82	1.67	3.01	1.28	16.7	7.88	0.430
90x60x12	128	44.8	146	26.6	2.78	1.64	2.97	1.27	21.8	10.2	0.422
90x75x6	77.0	48.6	102	24.1	2.83	2.25	3.25	1.58	12.1	8.68	0.682
90x75x9	109	68.1	143	33.9	2.78	2.20	3.19	1.55	17.4	12.4	0.677
90x75x12	139	86.7	182	43.9	2.75	2.17	3.15	1.55	22.6	16.1	0.672
90x80x7	89.6	66.5	125	31.0	2.79	2.40	3.30	1.64	14.0	11.3	0.778
90x80x10	121	89.0	168	41.8	2.74	2.36	3.24	1.62	19.1	15.4	0.775
90x80x13	151	111	208	53.0	2.72	2.33	3.20	1.61	24.4	19.6	0.771
100x65x7	113	37.6	128	22.1	3.17	1.83	3.39	1.41	16.6	7.54	0.414
100x65x9	127	42.3	144	24.9	3.17	1.83	3.38	1.40	18.9	8.57	0.414
100x65x9	138	45.5	157	26.8	3.14	1.80	3.34	1.38	20.6	9.26	0.410
100x65x9	154	51.1	175	30.2	3.14	1.81	3.35	1.39	23.2	10.51	0.410
100x65x12	177	58.0	201	34.7	3.11	1.78	3.30	1.37	27.0	12.1	0.404
100x75x7	118	56.9	144	30.7	3.15	2.19	3.49	1.61	17.0	10.1	0.548
100x75x10	133	64.2	163	34.6	3.14	2.18	3.48	1.60	19.3	11.4	0.548
100x75x10	159	76.1	194	41.2	3.11	2.15	3.43	1.58	23.3	13.7	0.543
100x75x10	189	90.3	230	49.5	3.10	2.14	3.42	1.59	28.1	16.5	0.541
100x75x13	199	94.7	242	52.1	3.08	2.12	3.39	1.57	29.7	17.4	0.538

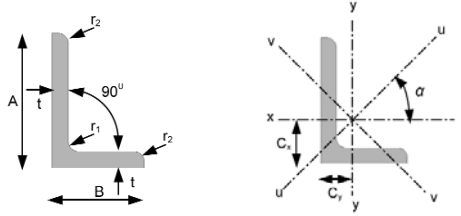
# Unequal Angles



## Metric Units

Designation Size	Thickness	Mass Per Metre	Leg Length		Radius		Area of Section	Distance Centre of Gravity	
			A	B	root $r_1$	toe $r_2$		$C_x$	$C_y$
A x B x t	t	kg/m	mm	mm	mm	mm	cm <sup>2</sup>	cm	cm
100x80x7	7	9.59	100	80	10	5	12.2	2.98	2.00
100x80x10	10	13.3	100	80	10	7	17.0	3.10	2.11
100x80x13	13	17.0	100	80	10	7	21.7	3.22	2.23
100x90x7	7	10.1	100	90	10	5	12.9	2.84	2.35
100x90x10	10	14.1	100	90	10	7	18.0	2.95	2.46
100x90x13	13	18.1	100	90	10	7	23.0	3.07	2.58
125x75x6.5	6.5	9.98	125	75	11	4.8	12.7	4.07	1.62
125x75x7	7	10.7	125	75	10	5	13.6	4.10	1.64
125x75x8	8	12.2	125	75	11	4.8	15.5	4.14	1.69
125x75x10	10	14.9	125	75	10	7	19.0	4.23	1.75
125x75x12	12	17.8	125	75	11	4.8	22.7	4.32	1.84
125x75x13	13	19.1	125	75	10	7	24.3	4.35	1.87
125x90x7	7	11.5	125	90	10	5	14.7	3.84	2.11
125x90x10	10	16.1	125	90	10	7	20.5	3.95	2.22
125x90x13	13	20.6	125	90	10	7	26.3	4.07	2.34
137x102x6.4	6.4	11.7	137	102	11	4.8	15.0	4.09	2.37
137x102x7.9	7.9	14.5	137	102	11	4.8	18.4	4.16	2.44
137x102x9.5	9.5	17.3	137	102	11	4.8	22.0	4.23	2.50
150x75x7	7	12.1	150	75	12	5	15.5	5.17	1.50
150x75x9	9	15.3	150	75	12	8.5	19.4	5.25	1.55
150x75x10	10	17	150	75	11	4.8	21.7	5.32	1.62
150x75x12	12	20.1	150	75	12	8.5	25.6	5.38	1.68
150x75x15	15	24.8	150	75	11	4.8	31.7	5.53	1.81
150x90x9	9	16.4	150	90	12	6	20.9	4.95	2.00
150x90x10	10	18.2	150	90	12	4.8	23.2	5.00	2.04
150x90x12	12	21.5	150	90	12	8.5	27.4	5.07	2.10
150x90x15	15	26.5	150	90	12	8.5	33.7	5.19	2.22
150x100x9	9	17.1	150	100	12	6	21.8	4.77	2.30
150x100x12	12	22.4	150	100	12	8.5	28.6	4.88	2.41
150x100x15	15	27.7	150	100	12	8.5	35.2	5.01	2.53
175x90x9	9	18.2	175	90	12	6	23.2	6.04	1.85
175x90x12	12	23.8	175	90	12	8.5	30.4	6.16	1.95
175x90x15	15	29.4	175	90	12	8.5	37.5	6.29	2.08
200x100x10	10	23	200	100	15	4.8	29.4	6.95	2.03
200x100x12	12	27.3	200	100	15	4.8	34.9	7.04	2.11
200x100x15	15	33.7	200	100	15	4.8	43.1	7.17	2.23
200x150x12	12	32	200	150	15	4.8	40.9	6.10	3.63
200x150x15	15	39.6	200	150	15	4.8	50.6	6.22	3.75
200x150x18	18	47.1	200	150	15	4.8	60.1	6.34	3.86

# Unequal Angles



## Metric Units

Designation Size	Second Moment of Area				Radius of Gyration				Elastic Modulus		tan $\alpha$
	Axis x-x	Axis y-y	Axis u-u	Axis v-v	Axis x-x	Axis y-y	Axis u-u	Axis v-v	Axis x-x	Axis y-y	
A x B x t	cm <sup>4</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	
mm	cm <sup>4</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	
100x80x7	121	68.6	154	35.2	3.14	2.37	3.55	1.70	17.2	11.4	0.625
100x80x10	163	91.9	207	47.4	3.09	2.32	3.49	1.67	23.6	15.6	0.621
100x80x13	204	115	258	60.0	3.06	2.30	3.45	1.66	30.1	19.8	0.616
100x90x7	125	95.9	177	44.1	3.11	2.73	3.70	1.85	17.5	14.4	0.800
100x90x10	169	129	239	59.7	3.07	2.68	3.64	1.82	24.0	19.8	0.797
100x90x13	212	162	298	75.6	3.04	2.65	3.60	1.81	30.6	25.2	0.794
125x75x7	206	56.6	228	34.4	4.02	2.11	4.23	1.64	24.4	9.6	0.360
125x75x10	219	60.4	243	36.5	4.01	2.11	4.23	1.64	26.1	10.3	0.361
125x75x10	249	68.1	275	41.3	4.00	2.10	4.21	1.63	29.7	11.7	0.360
125x75x10	299	80.8	330	49.1	3.96	2.06	4.17	1.61	36.1	14.1	0.357
125x75x10	355	96.0	392	58.8	3.95	2.06	4.16	1.61	43.4	17.0	0.354
125x75x13	376	101	414	61.9	3.93	2.04	4.13	1.60	46.1	17.9	0.352
125x90x7	233	102	279	56.2	3.99	2.64	4.36	1.96	26.9	14.8	0.510
125x90x10	318	138	380	76.1	3.94	2.59	4.30	1.93	37.2	20.3	0.506
125x90x13	401	173	477	96.2	3.91	2.56	4.26	1.91	47.6	25.9	0.502
125x90x7	289	138	352	74.5	4.38	3.03	4.84	2.22	30.1	17.7	0.545
125x90x10	351	168	428	90.2	4.37	3.02	4.82	2.21	36.8	21.6	0.545
125x90x13	415	198	506	106.4	4.35	3.00	4.80	2.20	43.8	25.7	0.544
150x75x7	364	63.1	386	40.8	4.85	2.02	5.00	1.62	37.0	10.5	0.263
150x75x9	447	75.3	473	48.7	4.79	1.97	4.93	1.58	45.8	12.7	0.259
150x75x9	503	86.3	533	55.8	4.82	2.00	4.96	1.60	52.0	14.7	0.261
150x75x9	580	97.1	614	63.2	4.76	1.95	4.90	1.57	60.3	16.7	0.256
150x75x12	715	120.1	756	79.2	4.75	1.95	4.89	1.58	75.5	21.1	0.254
150x90x9	485	133	537	80.5	4.81	2.52	5.06	1.96	48.2	19.0	0.361
150x90x12	536	147	595	89	4.81	2.52	5.06	1.96	53.7	21.2	0.361
150x90x12	619	167	684	102	4.76	2.47	5.00	1.93	62.3	24.3	0.357
150x90x15	753	202	831	124	4.72	2.45	4.96	1.92	76.8	29.8	0.353
150x100x9	502	181	579	104	4.79	2.88	5.15	2.18	49.1	23.5	0.439
150x100x12	642	228	738	132	4.74	2.83	5.08	2.15	63.4	30.1	0.435
150x100x15	781	276	897	161	4.71	2.80	5.04	2.14	78.2	37.0	0.431
175x90x9	741	138	791	88.1	5.65	2.44	5.84	1.95	64.7	19.3	0.277
175x90x12	951	174	1013	111	5.60	2.39	5.78	1.91	83.9	24.7	0.273
175x90x15	1160	210	1234	136	5.56	2.37	5.74	1.90	103.5	30.3	0.270
150x100x9	1233	215	1309	138	6.48	2.70	6.68	2.17	94.5	27.0	0.264
150x100x12	1454	252	1544	162	6.45	2.68	6.65	2.16	112.2	31.9	0.263
150x100x15	1772	303	1879	197	6.41	2.65	6.60	2.14	138.2	39.0	0.260
150x100x9	1667	813	2046	434	6.38	4.45	7.07	3.26	120.0	71.5	0.554
150x100x12	2037	989	2496	530	6.34	4.42	7.02	3.23	147.9	87.9	0.552
150x100x15	2390	1155	2923	622	6.30	4.38	6.97	3.22	175.0	103.7	0.549