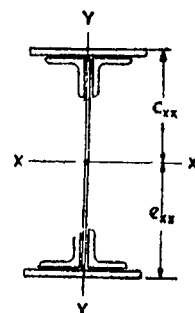


**TABLE XX PLATE AND ANGLE GIRDERS  
(WITH FLANGE PLATES)**

(Continued)



Web Plate		Composed of Flange Angles			Flange Plates		Weight per Metre  w  kg	Sectional Area  a  cm <sup>2</sup>	Mean Thickness of Flanges  t <sub>e</sub> = t <sub>f</sub>  mm		
Width	Thickness	A × B × t			Width	Thickness					
mm	mm	mm	mm	mm	mm	mm					
1 000	16.0	200	×	100	×	15.0	500	0.0	259.9	331.12	12.5
								12.0	354.1	451.12	24.5
								16.0	385.5	491.12	28.5
								20.0	416.9	531.12	32.5
								25.0	456.2	581.12	37.5
								32.0	511.1	651.12	44.5
								40.0	573.9	731.12	52.5
1 000	16.0	200	×	100	×	15.0	550	0.0	259.9	331.12	11.3
								12.0	363.5	463.12	23.3
								16.0	398.1	507.12	27.3
								20.0	432.6	551.12	31.3
								25.0	475.8	606.12	36.3
								32.0	536.2	683.12	43.3
								40.0	605.3	771.12	51.3
1 250	12.0	200	×	100	×	15.0	500	0.0	252.1	321.12	12.4
								12.0	346.3	441.12	24.4
								16.0	377.7	481.12	28.4
								20.0	409.1	521.12	32.4
								25.0	448.3	571.12	37.4
								32.0	503.3	641.12	44.4
								40.0	566.1	721.12	52.4
1 250	12.0	200	×	100	×	15.0	550	0.0	252.1	321.12	11.2
								12.0	355.7	453.12	23.2
								16.0	390.2	497.12	27.2
								20.0	424.8	541.12	31.2
								25.0	468.0	596.12	36.2
								32.0	528.4	673.12	43.2
								40.0	597.5	761.12	51.2

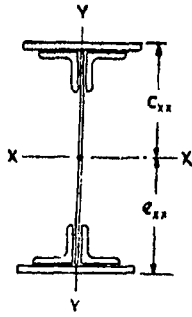


TABLE XX PLATE AND ANGLE GIRDERS  
(WITH FLANGE PLATES)

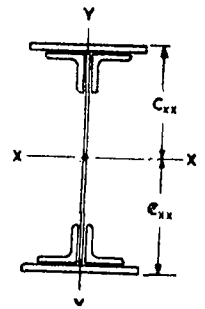
(Continued)

Distance of Extreme Fibre	Gross Moments of Inertia		Radius of Gyration	Modulus of Section	Maximum Allowable Moment	Maximum Allowable Shear
	$I_{xx}$	$I_{yy}$				
$e_{xx}$	$I_{xx}$	$I_{yy}$	$r_{yy}$	$Z_{xx}$	$M$	$S$
cm	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	kg-m × 10 <sup>3</sup>	kg × 10 <sup>3</sup>
50.0	525 180.4	17 933.1	7.36	10 503.6	157.6	151.2
51.2	832 438.0	42 933.1	9.76	16 258.6	243.9	
51.6	938 117.0	51 266.5	10.22	18 180.6	272.7	
52.0	1 045 447.1	59 599.8	10.59	20 104.8	301.6	
52.5	1 181 951.3	70 016.5	10.98	22 513.4	337.7	
53.2	1 377 472.7	84 599.8	11.40	25 892.3	388.4	
54.0	1 607 313.8	101 266.5	11.77	29 765.1	446.5	
50.0	525 180.4	17 933.1	7.36	10 503.6	157.6	151.2
51.2	863 163.8	51 208.1	10.52	16 858.7	252.9	
51.6	979 410.6	62 299.8	11.08	18 980.8	284.7	
52.0	1 097 473.8	73 391.5	11.54	21 105.3	316.6	
52.5	1 247 628.4	87 256.0	12.00	23 764.4	356.5	
53.2	1 462 701.9	106 666.5	12.50	27 494.4	412.4	
54.0	1 715 527.1	128 849.8	12.95	31 769.0	476.5	
62.5	818 299.9	17 377.6	7.36	13 092.8	196.4	141.8
63.7	1 296 107.5	42 377.6	9.80	20 347.1	305.2	
64.1	1 459 436.5	50 711.0	10.27	22 768.1	341.5	
64.5	1 624 816.6	59 044.3	10.64	25 191.0	377.9	
65.0	1 834 445.8	69 461.0	11.03	28 222.2	423.3	
65.7	2 133 392.2	84 044.3	11.45	32 471.7	487.1	
66.5	2 482 933.3	100 711.0	11.82	37 337.3	560.1	
62.5	818 299.9	17 377.6	7.36	13 092.8	196.4	141.8
63.7	1 343 888.3	50 652.6	10.57	21 097.1	316.5	
64.1	1 523 550.1	61 744.3	11.14	23 768.3	356.5	
64.5	1 705 468.3	72 836.0	11.60	26 441.4	396.6	
65.0	1 936 060.4	86 700.5	12.06	29 785.5	446.8	
65.7	2 264 901.4	106 111.0	12.56	34 473.4	517.1	
66.5	2 649 396.6	128 294.3	12.98	39 840.6	597.6	

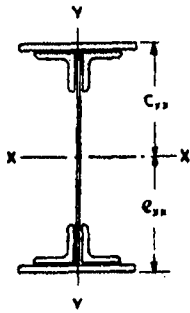
(Continued)

**TABLE XX I BEAM AND ANGLE GIRDERS  
(WITH FLANGE PLATES)**

(Continued)



Web Plate		Composed of Flange Angles			Flange Plates		Weight per Metre  w	Sectional Area  a	Mean Thickness of Flanges  $t_c = t_f$		
Width	Thickness	A x B x t			Width	Thickness					
mm	mm	mm	mm	mm	mm	mm	kg	cm <sup>2</sup>	mm		
I 250	16.0	200	x	100	x	15.0	500	0.0	291.3	371.12	12.5
								12.0	385.5	491.12	24.5
								16.0	416.9	531.12	28.5
								20.0	448.3	571.12	32.5
								25.0	487.6	621.12	37.5
								32.0	542.5	691.12	44.5
								40.0	605.3	771.12	52.5
I 250	16.0	200	x	100	x	15.0	550	0.0	291.3	371.12	11.3
								12.0	394.9	503.12	23.3
								16.0	429.5	547.12	27.3
								20.0	464.0	591.12	31.3
								25.0	507.2	646.12	36.3
								32.0	567.6	723.12	43.3
								40.0	636.7	811.12	51.3
I 600	12.0	200	x	100	x	15.0	500	0.0	285.0	363.12	12.4
								12.0	379.2	483.12	24.4
								16.0	410.6	523.12	28.4
								20.0	442.0	563.12	32.4
								25.0	481.3	613.12	37.4
								32.0	536.2	683.12	44.4
								40.0	599.0	763.12	52.4
I 600	12.0	200	x	150	x	18.0	500	0.0	338.4	431.04	14.8
								12.0	432.6	551.04	26.8
								16.0	464.0	591.04	30.8
								20.0	495.4	631.04	34.8
								25.0	534.6	681.04	39.8
								32.0	589.6	751.04	46.8
								40.0	652.4	831.04	54.8



## TABLE XX PLATE AND ANGLE GIRDERS (WITH FLANGE PLATES)

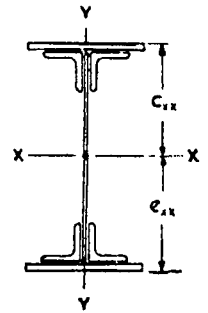
(Continued)

Distance of Extreme Fibre	Gross Moments of Inertia		Radius of Gyration	Modulus of Section	Maximum Allowable Moment	Maximum Allowable Shear
	$e_{xx}$	$I_{xx}$				
cm	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	kg-m × 10 <sup>3</sup>	kg × 10 <sup>3</sup>
62.5	883 404.1	17 941.7	6.95	14 134.5	212.0	189.0
63.7	1 361 211.7	42 941.7	9.35	21 369.1	320.5	
64.1	1 524 540.6	51 275.0	9.83	23 783.8	356.8	
64.5	1 689 920.8	59 608.3	10.22	26 200.3	393.0	
65.0	1 899 549.9	70 025.0	10.62	29 223.8	438.4	
65.7	2 198 496.4	84 608.3	11.06	33 462.7	501.9	
66.5	2 548 037.4	101 275.0	11.46	38 316.4	574.7	
62.5	883 404.1	17 941.7	6.95	14 134.5	212.0	189.0
63.7	1 408 992.5	51 216.7	10.09	22 119.2	331.8	
64.1	1 588 654.3	62 308.3	10.67	24 784.0	371.8	
64.5	1 770 572.4	73 400.0	11.14	27 450.7	411.8	
65.0	2 001 164.5	87 264.0	11.62	30 787.1	461.8	
65.7	2 330 005.6	106 676.0	12.15	35 464.3	532.0	
66.5	2 714 500.8	128 858.3	12.60	40 819.6	612.3	
80.0	1 446 021.9	17 382.7	6.92	18 075.3	271.1	158.8
81.2	2 225 599.5	42 382.7	9.37	27 048.9	411.1	
81.6	2 490 638.5	50 716.0	9.85	30 522.5	457.8	
82.0	2 758 288.6	59 049.3	10.24	33 637.7	504.6	
82.5	3 096 542.8	69 466.0	10.64	37 533.9	563.0	
83.2	3 577 034.2	84 049.3	11.09	42 993.2	644.9	
84.0	4 136 155.3	100 716.0	11.49	49 239.9	738.6	
80.0	1 800 662.2	20 940.5	6.97	22 508.3	337.6	158.8
81.2	2 580 239.8	45 940.5	9.13	31 776.4	476.6	
81.6	2 845 278.7	54 273.8	9.58	34 868.6	523.0	
82.0	3 112 928.9	62 607.2	9.96	37 962.5	569.4	
82.5	3 451 183.0	73 023.8	10.35	41 832.5	627.5	
83.2	3 931 674.5	87 607.2	10.80	47 255.7	708.8	
84.0	4 490 795.5	104 273.8	11.20	53 461.9	801.9	

(Continued)

TABLE XX PLATE AND ANGLE GIRDERS  
(WITH FLANGE PLATES)

(Continued)



Composed of					Weight per Metre	Sectional Area	Mean Thickness of Flanges				
Web Plate		Flange Angles						Flange Plates			
Width	Thickness	A × B × t			Width	Thickness					
mm	mm	mm	mm	mm	mm.	mm	w				
							kg				
							cm <sup>2</sup>				
							t <sub>f</sub> = t				
							mm				
1 600	12.0	200	×	100	×	15.0	550	0.0	285.0	363.12	11.2
								12.0	388.7	495.12	23.2
								16.0	423.2	539.12	27.2
								20.0	457.7	583.12	31.2
								25.0	500.9	638.12	36.2
								32.0	561.4	715.12	43.2
								40.0	630.4	803.12	51.2
1 600	12.0	200	×	150	×	18.0	550	0.0	338.4	431.04	13.5
								12.0	442.0	563.04	25.5
								16.0	476.5	607.04	29.5
								20.0	511.1	651.04	33.5
								25.0	554.2	706.04	38.5
								32.0	614.7	783.04	45.5
								40.0	683.8	871.04	53.5
1 600	16.0	200	×	100	×	15.0	500	0.0	335.3	427.12	12.5
								12.0	429.5	547.12	24.5
								16.0	460.9	587.12	28.5
								20.0	492.3	627.12	32.5
								25.0	531.5	677.12	37.5
								32.0	586.5	747.12	44.5
								40.0	649.3	827.12	52.5

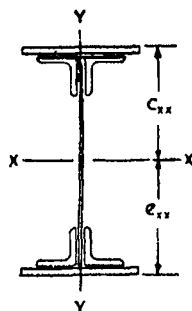


TABLE XX PLATE AND ANGLE GIRDERS  
(WITH FLANGE PLATES)

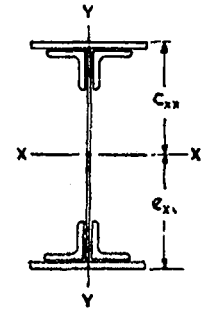
(Continued)

Distance of Extreme Fibre	Gross Moments of Inertia		Radius of Gyration	Modulus of Section	Maximum Allowable Moment	Maximum Allowable Shear
	$I_{xx}$	$I_{yy}$				
$e_{xx}$	$I_{xx}$	$I_{yy}$	$r_{yy}$	$Z_{xx}$	$M$	$S$
cm	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	kg-m × 10 <sup>3</sup>	kg × 10 <sup>3</sup>
80.0	1 446 021.9	17 382.7	6.92	18 075.3	271.1	158.8
81.2	2 303 557.3	50 657.7	10.12	28 368.9	425.5	
81.6	2 595 100.1	61 749.3	10.70	31 802.7	477.0	
82.0	2 889 515.3	72 841.1	11.18	35 238.0	528.6	
82.5	3 261 594.8	86 705.6	11.66	39 534.5	593.0	
83.2	3 790 135.4	106 116.0	12.18	45 554.5	683.3	
84.0	4 405 168.6	128 299.3	12.64	52 442.5	786.6	
80.0	1 800 662.2	20 940.5	6.97	22 508.3	337.6	158.8
81.2	2 658 197.6	51 245.5	9.54	32 736.4	491.0	
81.6	2 949 740.4	65 307.2	10.37	36 148.8	542.2	
82.0	3 244 155.5	76 398.8	10.83	39 562.9	593.4	
82.5	3 616 235.1	90 263.4	11.31	43 833.2	657.5	
83.2	4 144 775.7	109 673.8	11.83	49 817.0	747.3	
84.0	4 759 808.9	131 857.2	12.30	56 664.4	850.0	
80.0	1 582 555.3	17 953.6	6.48	19 781.9	296.7	211.7
81.2	2 362 132.9	42 953.6	8.86	29 090.3	436.4	
81.6	2 627 171.8	51 286.9	9.35	32 195.7	482.9	
82.0	2 894 821.9	59 620.3	9.75	35 302.7	529.5	
82.5	3 233 076.1	70 036.9	10.17	39 188.8	587.8	
83.2	3 713 567.5	84 620.3	10.64	44 634.2	669.5	
84.0	4 272 688.6	101 286.9	11.07	50 865.3	763.0	

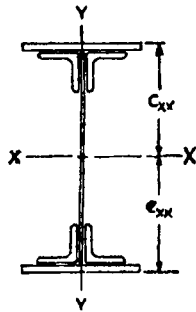
(Continued)

**TABLE XX PLATE AND ANGLE GIRDERS  
(WITH FLANGE PLATES)**

(Continued)



Web Plate		Composed of Flange Angles			Flange Plates		Weight per Metre  w	Sectional Area  a	Mean Thickness of Flanges  $t_c = t_f$		
Width	Thickness	A × B × t			Width	Thickness					
mm	mm	mm	mm	mm	mm	mm	kg	cm <sup>2</sup>	mm		
1 600	16.0	200	×	150	×	18.0	500	0.0	388.6	495.04	15.0
								12.0	482.8	615.04	27.0
								16.0	514.2	655.04	31.0
								20.0	545.6	695.04	35.0
								25.0	584.9	745.04	40.0
								32.0	639.8	815.04	47.0
								40.0	702.6	895.04	55.0
1 600	16.0	200	×	100	×	15.0	550	0.0	335.3	427.12	11.3
								12.0	438.9	559.12	23.3
								16.0	473.4	603.12	27.3
								20.0	508.0	647.12	31.3
								25.0	551.2	702.12	36.3
								32.0	611.6	779.12	43.3
								40.0	680.7	867.12	51.3
1 600	16.0	200	×	150	×	18.0	550	0.0	388.6	495.04	13.6
								12.0	492.2	627.04	25.6
								16.0	526.8	671.04	29.6
								20.0	561.3	715.04	33.6
								25.0	604.5	770.04	38.6
								32.0	664.9	847.04	45.6
								40.0	734.0	935.04	53.6



## TABLE XX PLATE AND ANGLE GIRDERS (WITH FLANGE PLATES)

(Continued)

Distance of Extreme Fibre	Gross Moments of Inertia		Radius of Gyration	Modulus of Section	Maximum Allowable Moment	Maximum Allowable Shear
	$I_{xx}$	$I_{yy}$				
$e_{xx}$	$I_{xx}$	$I_{yy}$	$r_{yy}$	$Z_{xx}$	$M$	$S$
cm	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	kg-m × 10 <sup>3</sup>	kg × 10 <sup>3</sup>
80.0	1 937 195.5	21 644.3	6.61	24 214.9	363.2	211.7
81.2	2 716 773.1	46 644.3	8.71	33 457.8	501.9	
81.6	2 981 812.1	54 977.6	9.16	36 541.8	548.1	
82.0	3 249 462.2	63 310.9	9.54	39 627.6	594.4	
82.5	3 587 716.4	73 727.6	9.95	43 487.5	652.3	
83.2	4 068 207.8	88 310.9	10.41	48 896.7	733.5	
84.0	4 627 328.9	104 977.6	10.83	55 087.2	826.3	
80.0	1 582 555.3	17 953.6	6.48	19 781.9	296.7	211.7
81.2	2 440 090.6	51 228.6	9.57	30 050.4	450.8	
81.6	2 731 633.4	62 320.3	10.16	33 475.9	502.1	
82.0	3 026 048.6	73 411.9	10.65	36 903.0	553.5	
82.5	3 398 128.2	87 276.5	11.15	41 189.4	617.8	
83.2	3 926 668.7	106 686.9	11.70	47 195.5	707.9	
84.0	4 541 701.9	128 870.3	12.19	54 067.9	811.0	
80.0	1 937 195.5	21 644.3	6.61	24 214.9	363.2	211.7
81.2	2 794 730.9	54 919.3	9.36	34 417.9	516.3	
81.6	3 086 273.7	66 010.9	9.92	37 822.0	567.3	
82.0	3 380 688.9	77 102.6	10.38	41 227.9	618.4	
82.5	3 752 768.5	90 967.2	10.87	45 488.1	682.3	
83.2	4 281 309.0	110 377.6	11.42	51 458.0	771.9	
84.0	4 896 342.2	132 560.9	11.91	58 289.8	874.3	

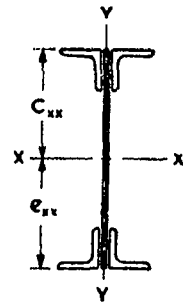
Note 1 — The properties given in this Table are based on the gross area of the section.

Note 2 — The mean thickness of flanges is computed according to Note 2 in Table II of IS : 800-1956.

Note 3 — The maximum allowable moment is computed on the basis of the allowable stress specified in 9.2.1 of IS : 800-1956 and gross modulus of section ( $Z_{xx}$ ) given in this Table.

Note 4 — The maximum allowable shear is computed on the basis of the allowable shear stress specified in 9.3.2 and the effective sectional area defined in 20.6.2.2 of IS : 800-1956.



**TABLE XXI PLATE AND ANGLE GIRDERS  
(WITHOUT FLANGE PLATES)**


Composed of			Weight per Metre	Sectional Area	Mean Thickness of Flanges	Distance of Extreme Fibre
Web Plate		Flange Angles				
Width	Thick- ness	A × B × t	w	a		e <sub>xx</sub>
mm	mm	mm mm mm	kg	cm <sup>2</sup>	mm	cm
800	10.0	100 × 100 × 10.0	122.6	156.12	10.0	40.0
		100 × 100 × 12.0	133.7	170.36	12.0	
		150 × 150 × 10.0	154.0	196.12	10.0	
		150 × 150 × 12.0	171.4	218.36	12.0	
1 000	10.0	100 × 100 × 10.0	138.3	176.12	10.0	50.0
		100 × 100 × 12.0	149.4	190.36	12.0	
		150 × 150 × 10.0	169.7	216.12	10.0	
		150 × 150 × 12.0	187.1	238.36	12.0	
1 250	10.0	100 × 100 × 10.0	157.9	201.12	10.0	62.5
		100 × 100 × 12.0	169.1	215.36	12.0	
		150 × 150 × 10.0	189.3	241.12	10.0	
		150 × 150 × 12.0	206.7	263.36	12.0	
1 600	10.0	100 × 100 × 10.0	185.4	236.12	10.0	80.0
		100 × 100 × 12.0	196.5	250.36	12.0	
		150 × 150 × 10.0	216.8	276.12	10.0	
		150 × 150 × 12.0	234.2	298.36	12.0	
		150 × 150 × 15.0	307.1	391.20	15.0	
800	10.0	150 × 115 × 10.0	142.9	182.08	10.0	40.0
		150 × 115 × 12.0	158.2	201.52	12.0	
		200 × 100 × 15.0	197.1	251.12	15.0	
1 000	10.0	150 × 115 × 10.0	158.6	202.08	10.0	50.0
		150 × 115 × 12.0	173.9	221.52	12.0	
		200 × 100 × 15.0	212.8	271.12	15.0	
1 250	10.0	150 × 115 × 10.0	178.3	227.08	10.0	62.5
		150 × 115 × 12.0	193.5	246.52	12.0	
		200 × 100 × 15.0	232.5	296.12	15.0	
1 600	10.0	150 × 115 × 10.0	205.7	262.08	10.0	80.0
		150 × 115 × 12.0	221.0	281.52	12.0	
		200 × 100 × 15.0	259.9	331.12	15.0	

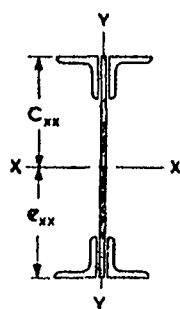


TABLE XXI PLATE AND ANGLE GIRDERS  
(WITHOUT FLANGE PLATES)

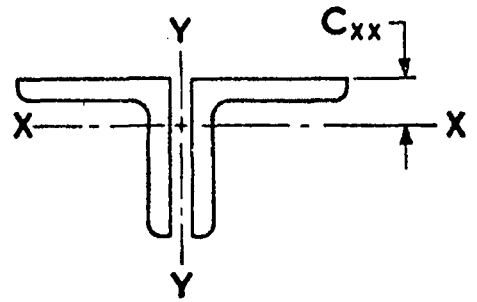
Gross Moments of Inertia		Radius of Gyration	Modulus of Section	Maximum Allowable Moment	Maximum Allowable Shear
$I_{xx}$	$I_{yy}$	$r_{yy}$	$Z_{xx}$	$M$	$S$
cm <sup>4</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	kg-m × 10 <sup>3</sup>	kg × 10 <sup>3</sup>
148 486.2	1 563.8	3.16	3 712.2	55.7	75.6
167 733.0	1 891.6	3.33	4 193.3	62.9	
195 146.6	4 910.8	5.00	4 878.7	73.2	
223 530.9	5 927.1	5.21	5 588.3	83.8	
253 337.2	1 565.5	2.98	5 066.7	76.0	94.5
284 446.7	1 893.2	3.15	5 688.9	85.3	
330 892.3	4 912.5	4.77	6 617.8	99.3	
377 265.3	5 928.8	4.99	7 545.3	113.2	
434 403.5	1 567.6	2.79	6 950.5	104.3	118.1
484 346.2	1 895.3	2.97	7 749.5	116.2	
561 826.9	4 914.6	4.51	8 989.2	134.8	
636 940.9	5 930.9	4.75	10 191.1	152.9	
795 234.4	1 570.5	2.58	9 940.4	149.1	151.2
879 019.6	1 898.2	2.75	10 987.7	164.8	
1 013 473.5	4 917.5	4.22	12 668.4	190.0	
1 140 500.7	5 933.8	4.46	14 256.3	213.8	
1 633 686.4	17 099.6	6.61	20 421.1	306.3	
184 950.8	3 425.0	4.34	4 623.8	69.4	75.6
211 309.2	4 117.4	4.52	5 282.7	79.2	
288 103.5	8 274.7	5.74	7 202.6	108.0	
311 732.2	3 426.7	4.12	6 234.6	93.5	94.5
354 295.7	4 119.1	4.31	7 085.9	106.3	
475 180.4	8 276.3	5.52	9 503.6	142.6	
527 512.6	3 428.8	3.89	8 440.2	126.6	118.1
595 800.1	4 121.2	4.09	9 532.8	140.0	
785 747.9	8 278.4	5.29	12 572.0	188.6	
950 572.2	3 431.7	3.62	11 882.2	178.2	151.2
1 065 079.2	4 124.1	3.83	13 313.5	199.7	
1 377 755.3	8 281.3	5.00	17 221.9	258.3	

Note 1 — The properties given in this Table are based on the gross area of the section.

Note 2 — The mean thickness of flanges is computed according to Note 2 in Table II of IS : 800-1956.

Note 3 — The maximum allowable moment is computed on the basis of the allowable stress specified in 9.2.1 of IS : 800-1956 and gross modulus of section ( $Z_{xx}$ ) given in this Table.

Note 4 — The maximum allowable shear is computed on the basis of the allowable shear stress specified in 9.3.2 and the effective sectional area defined in 20.6.2.2 of IS : 800-1956.

**TABLE XXII PROPERTIES OF TWO  
ANGLES BACK TO BACK**
**EQUAL ANGLES**


Designation	Size of Each Angle	Thickness	Weight per Metre	Sectional Area	Moment of Inertia	Modulus of Section	Radius of Gyration
	A × B	t	w	a	$I_{xx}$	$Z_{xx}$	$r_{xx}$
	mm mm	mm	kg	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>3</sup>	cm
<b>ISA 5050</b>	50 × 50	3.0	4.6	5.90	13.8	3.8	1.53
		4.0	6.0	7.76	18.2	5.0	1.53
		5.0	7.6	9.58	22.0	6.2	1.52
		6.0	9.0	11.36	25.8	7.2	1.51
<b>ISA 5555</b>	55 × 55	5.0	8.2	10.54	29.4	7.4	1.67
		6.0	9.8	12.52	34.6	8.8	1.66
		8.0	12.8	16.36	44.0	11.4	1.64
		10.0	15.8	20.04	52.6	14.0	1.62
<b>ISA 6060</b>	60 × 60	5.0	9.0	11.50	38.4	8.8	1.82
		6.0	10.8	13.68	45.2	10.4	1.82
		8.0	14.0	17.92	58.0	13.6	1.80
		10.0	17.2	22.00	69.6	16.8	1.78
<b>ISA 6565</b>	65 × 65	5.0	9.8	12.50	49.4	10.4	1.99
		6.0	11.6	14.88	58.2	12.4	1.98
		8.0	15.4	19.52	74.8	16.2	1.96
		10.0	18.8	24.00	90.0	19.8	1.94
<b>ISA 7070</b>	70 × 70	5.0	10.6	13.54	62.2	12.2	2.15
		6.0	12.6	16.12	73.6	14.6	2.14
		8.0	16.6	21.16	94.8	19.0	2.12
		10.0	20.4	26.04	114.4	23.4	2.10
<b>ISA 7575</b>	75 × 75	5.0	11.4	14.54	77.4	14.2	2.31
		6.0	13.6	17.32	91.4	16.8	2.30
		8.0	17.8	22.76	118.0	22.0	2.28
		10.0	22.0	28.04	142.8	27.0	2.26
<b>ISA 8080</b>	80 × 80	6.0	14.6	18.58	112.0	19.2	2.46
		8.0	19.2	24.42	145.0	25.2	2.44
		10.0	23.6	30.10	175.4	31.0	2.41
		12.0	28.0	35.62	203.8	36.6	2.39

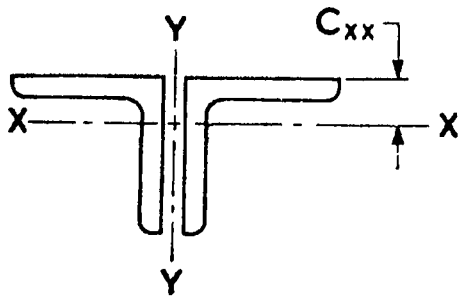


TABLE XXII PROPERTIES OF TWO ANGLES BACK TO BACK

EQUAL ANGLES

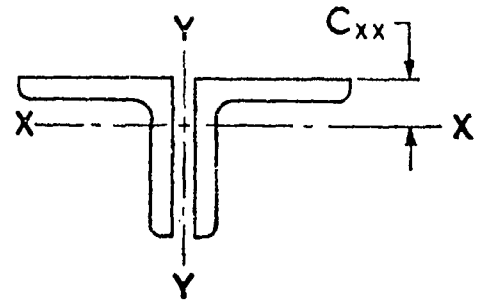
Distance of Centre of Gravity $C_{xx}$ cm	Radii of Gyration About Y-Y Axis, in cm						Designation
	Distance, Back to Back of Angles, in cm						
	0.0	0.6	1.0	1.4	1.8	2.2	
1.32	2.02	2.22	2.38	2.53	2.69	2.86	ISA 5050
1.37	2.06	2.26	2.42	2.57	2.74	2.91	
1.41	2.07	2.28	2.44	2.60	2.76	2.93	
1.45	2.09	2.31	2.46	2.63	2.79	2.96	
1.53	2.26	2.48	2.63	2.79	2.95	3.12	ISA 5555
1.57	2.28	2.50	2.65	2.81	2.98	3.14	
1.65	2.33	2.55	2.70	2.87	3.03	3.20	
1.72	2.36	2.59	2.75	2.91	3.08	3.30	
1.65	2.46	2.67	2.82	2.98	3.14	3.30	ISA 6060
1.69	2.48	2.70	2.85	3.00	3.16	3.33	
1.77	2.52	2.74	2.89	3.06	3.22	3.39	
1.85	2.57	2.79	2.95	3.11	3.28	3.44	
1.77	2.66	2.87	3.02	3.17	3.33	3.49	ISA 6565
1.81	2.68	2.89	3.04	3.20	3.35	3.52	
1.89	2.72	2.94	3.09	3.25	3.41	3.57	
1.97	2.76	2.98	3.14	3.30	3.46	3.63	
1.89	2.86	3.06	3.21	3.36	3.52	3.68	ISA 7070
1.94	2.88	3.10	3.24	3.40	3.55	3.72	
2.02	2.93	3.14	3.29	3.45	3.61	3.77	
2.10	2.97	3.19	3.34	3.50	3.66	3.82	
2.02	3.07	3.27	3.42	3.57	3.72	3.88	ISA 7575
2.06	3.08	3.29	3.44	3.59	3.75	3.91	
2.14	3.12	3.34	3.49	3.64	3.80	3.96	
2.22	3.17	3.38	3.54	3.69	3.85	4.01	
2.18	3.28	3.49	3.63	3.79	3.94	4.10	ISA 8080
2.27	3.33	3.54	3.69	3.84	4.00	4.16	
2.34	3.36	3.58	3.73	3.88	4.04	4.20	
2.42	3.40	3.62	3.77	3.93	4.09	4.26	

(Continued)

**TABLE XXII PROPERTIES OF TWO  
ANGLES BACK TO BACK**

( Continued )

EQUAL ANGLES



Designation	Size of Each Angle	Thickness	Weight per Metre	Sectional Area	Moment of Inertia	Modulus of Section	Radius of Gyration
	$A \times B$	$t$	$w$	$a$	$I_{xx}$	$Z_{xx}$	$r_{xx}$
	mm mm	mm	kg	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>3</sup>	cm
ISA 9090	90 × 90	6.0	16.4	20.94	160.2	24.4	2.77
		8.0	21.6	27.58	208.4	32.0	2.75
		10.0	26.8	34.06	253.4	39.6	2.73
		12.0	31.6	40.38	295.8	46.6	2.71
ISA 100100	100 × 100	6.0	18.4	23.34	222.6	30.4	3.09
		8.0	24.2	30.78	290.2	40.0	3.07
		10.0	29.8	38.06	354.0	49.4	3.05
		12.0	35.4	45.18	414.0	58.4	3.03
ISA 110110	110 × 110	8.0	26.8	34.04	390.0	48.8	3.36
		10.0	38.0	42.12	476.8	60.2	3.36
		12.0	39.2	50.04	559.2	71.4	3.34
		15.0	48.4	61.62	674.8	87.4	3.31
ISA 130130	130 × 130	8.0	31.8	40.44	656.6	69.0	4.03
		10.0	39.4	50.12	805.4	85.4	4.01
		12.0	46.8	59.64	947.6	101.4	3.99
		15.0	57.8	73.62	1149.2	124.6	3.95
ISA 150150	150 × 150	10.0	45.6	58.06	1244.8	113.8	4.63
		12.0	54.4	69.18	1470.8	135.4	4.61
		15.0	67.2	85.56	1793.6	167.0	4.58
		18.0	79.8	101.58	2097.8	197.4	4.54
ISA 200200	200 × 200	12.0	73.2	93.22	3577.8	244.4	6.20
		15.0	90.8	115.60	4395.4	302.8	6.17
		18.0	108.0	137.62	5177.4	359.8	6.13
		25.0	147.2	187.60	6872.6	486.6	6.05

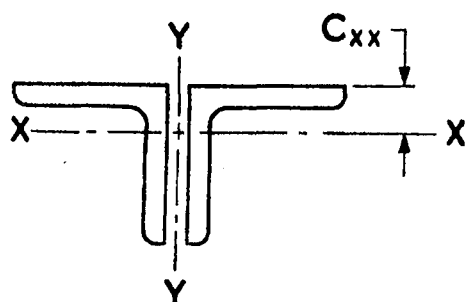


TABLE XXII PROPERTIES OF TWO ANGLES BACK TO BACK

(Continued)

EQUAL ANGLES

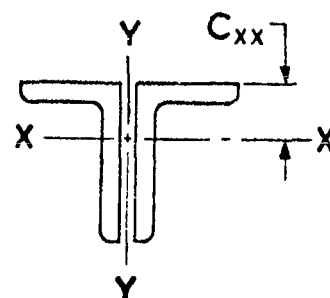
Distance of Centre of Gravity $C_{xx}$ cm	Radii of Gyration About Y-Y Axis, in cm						Designation
	Distance, Back to Back of Angles, in cm						
	0.0	0.6	1.0	1.4	1.8	2.2	
2.42	3.68	3.38	4.02	4.17	4.32	4.48	ISA 9090
2.51	3.72	3.93	4.08	4.23	4.38	4.54	
2.59	3.76	3.97	4.12	4.27	4.43	4.59	
2.66	3.79	4.01	4.16	4.31	4.47	4.63	
2.67	4.08	4.28	4.43	4.57	4.72	4.87	ISA 100100
2.76	4.13	4.33	4.48	4.63	4.78	4.93	
2.84	4.17	4.38	4.52	4.67	4.83	4.98	
2.92	4.20	4.41	4.56	4.71	4.87	5.02	
3.00	4.52	4.73	4.87	5.01	5.16	5.32	ISA 110110
3.08	4.56	4.77	4.91	5.06	5.21	5.37	
3.16	4.60	4.81	4.96	5.11	5.26	5.41	
3.27	4.65	4.87	5.02	5.17	5.32	5.48	
3.50	5.34	5.54	5.68	5.82	5.97	6.12	ISA 130130
3.58	5.37	5.58	5.72	5.86	6.01	6.16	
3.66	5.41	5.62	5.76	5.91	6.06	6.21	
3.78	5.46	5.67	5.82	5.97	6.12	6.27	
4.06	6.15	6.36	6.50	6.64	6.78	6.93	ISA 150150
4.14	6.20	6.40	6.54	6.68	6.83	6.98	
4.26	6.25	6.46	6.60	6.75	6.90	7.05	
4.38	6.31	6.52	6.67	6.82	6.97	7.12	
5.36	8.19	8.39	8.53	8.67	8.81	8.96	ISA 200200
5.49	8.26	8.46	8.60	8.74	8.88	9.02	
5.61	8.31	8.52	8.66	8.80	8.94	9.09	
5.88	8.44	8.65	8.79	8.94	9.09	9.24	

(Continued)

## TABLE XXII PROPERTIES OF TWO ANGLES BACK TO BACK

(Continued)

UNEQUAL ANGLES (LONGER LEGS BACK TO BACK)



Designation	Size of Each Angle	Thickness	Weight per Metre	Sectional Area	Moment of Inertia	Modulus of Section	Radius of Gyration
	A × B	t	w	a	$I_{xx}$	$Z_{xx}$	$r_{xx}$
	mm mm	mm	kg	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>3</sup>	cm
ISA 6545	65 × 45	5.0	8.2	10.52	44.2	10.0	2.05
		6.0	9.8	12.50	52.0	11.8	2.04
		8.0	12.8	16.34	66.4	15.4	2.02
ISA 7045	70 × 45	5.0	8.6	11.04	54.4	11.4	2.22
		6.0	10.4	13.12	64.0	13.6	2.21
		8.0	13.4	17.16	82.0	17.8	2.19
		10.0	16.6	21.04	98.6	21.8	2.16
ISA 7550	75 × 50	5.0	9.4	12.04	68.2	13.4	2.38
		6.0	11.2	14.32	80.6	16.0	2.37
		8.0	14.8	18.76	103.6	20.8	2.35
		10.0	18.0	23.04	124.6	25.4	2.33
ISA 8050	80 × 50	5.0	9.8	12.54	81.2	15.0	2.55
		6.0	11.8	14.92	96.0	18.0	2.54
		8.0	15.4	19.56	123.8	23.4	2.52
		10.0	18.8	24.04	149.4	28.8	2.49
ISA 9060	90 × 60	6.0	13.6	17.30	141.2	23.0	2.86
		8.0	17.8	22.74	183.0	30.2	2.84
		10.0	22.0	28.02	221.8	37.2	2.81
		12.0	26.0	33.14	258.2	44.0	2.79
ISA 10065	100 × 65	6.0	15.0	19.10	193.4	28.4	3.18
		8.0	19.8	25.14	251.8	37.4	3.16
		10.0	24.4	31.02	306.4	46.2	3.14
ISA 10075	100 × 75	6.0	16.0	20.28	201.8	28.8	3.15
		8.0	21.0	26.72	263.2	38.2	3.14
		10.0	26.0	33.00	320.8	47.2	3.12
		12.0	30.8	39.12	375.0	55.8	3.10

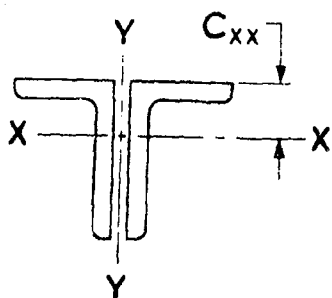


TABLE XXII PROPERTIES OF TWO  
ANGLES BACK TO BACK  
(Continued)  
UNEQUAL ANGLES (LONGER LEGS BACK TO BACK)

Distance of Centre of Gravity  $C_{xx}$  cm	Radii of Gyration About Y-Y Axis, in cm						Designation
	Distance, Back to Back of Angles, in cm						
	0.0	0.6	1.0	1.4	1.8	2.2	
2.07	1.67	1.88	2.03	2.19	2.36	2.53	ISA 6545
2.11	1.69	1.91	2.06	2.22	2.39	2.56	
2.19	1.73	1.95	2.11	2.28	2.44	2.62	
2.27	1.64	1.84	1.99	2.15	2.31	2.48	ISA 7045
2.32	1.66	1.87	2.02	2.18	2.35	2.52	
2.40	1.69	1.91	2.07	2.23	2.40	2.58	
2.48	1.74	1.96	2.12	2.29	2.46	2.64	
2.39	1.84	2.04	2.19	2.34	2.50	2.67	ISA 7550
2.44	1.85	2.06	2.21	2.37	2.53	2.70	
2.52	1.89	2.11	2.26	2.42	2.59	2.76	
2.60	1.93	2.16	2.31	2.48	2.65	2.82	
2.60	1.79	1.99	2.14	2.30	2.46	2.62	ISA 8050
2.64	1.81	2.02	2.16	2.32	2.48	2.65	
2.73	1.85	2.06	2.22	2.38	2.54	2.71	
2.81	1.89	2.11	2.27	2.43	2.60	2.77	
2.87	2.20	2.40	2.55	2.70	2.86	3.02	ISA 9060
2.96	2.24	2.45	2.60	2.76	2.92	3.08	
3.04	2.28	2.49	2.64	2.80	2.97	3.13	
3.12	2.32	2.54	2.70	2.86	3.02	3.19	
3.19	2.36	2.55	2.70	2.85	3.00	3.16	ISA 10065
3.28	2.40	2.60	2.75	2.90	3.06	3.22	
3.37	2.43	2.64	2.79	2.95	3.11	3.27	
3.01	2.82	3.02	3.16	3.31	3.46	3.62	ISA 10075
3.10	2.87	3.07	3.22	3.37	3.52	3.68	
3.19	2.91	3.12	3.27	3.42	3.58	3.74	
3.27	2.95	3.16	3.31	3.47	3.63	3.79	

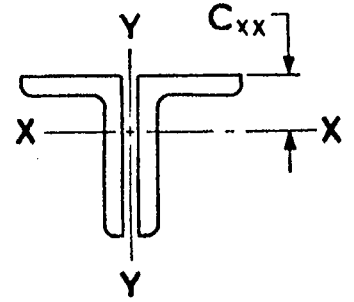
(Continued)



## TABLE XXII PROPERTIES OF TWO ANGLES BACK TO BACK

(Continued)

UNEQUAL ANGLES (LONGER LEGS BACK TO BACK)



Designation	Size of Each Angle	Thickness	Weight per Metre	Sectional Area	Moment of Inertia	Modulus of Section	Radius of Gyration
	A × B	t	w	a	I <sub>xx</sub>	Z <sub>xx</sub>	r <sub>xx</sub>
	mm mm	mm	kg	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>3</sup>	cm
ISA 12575	125 × 75	6.0	18.4	23.32	375.6	44.4	4.01
		8.0	24.2	30.76	491.0	58.8	4.00
		10.0	29.8	38.04	600.6	72.6	3.97
ISA 12595	125 × 95	6.0	20.2	25.72	406.4	46.2	3.97
		8.0	26.6	33.96	532.0	61.2	3.96
		10.0	33.0	42.04	651.6	75.6	3.94
		12.0	39.2	49.96	765.2	89.6	3.91
ISA 15075	150 × 75	8.0	27.4	34.84	814.4	83.4	4.83
		10.0	33.8	43.12	998.2	103.2	4.81
		12.0	40.2	51.24	1174.0	122.4	4.79
ISA 150115	150 × 115	8.0	32.4	41.16	931.4	88.4	4.76
		10.0	40.0	51.04	1146.6	109.8	4.74
		12.0	47.6	60.76	1353.0	130.6	4.72
		15.0	59.0	75.04	1647.0	160.8	4.69
ISA 200100	200 × 100	10.0	45.6	58.06	2420.0	185.6	6.46
		12.0	54.4	69.18	2863.4	221.2	6.43
		15.0	67.2	85.56	3501.0	273.0	6.40
ISA 200150	200 × 150	10.0	52.4	68.00	2755.8	196.6	6.37
		12.0	63.6	81.12	3269.8	234.8	6.35
		15.0	78.8	100.50	4011.2	290.8	6.32
		18.0	93.8	119.52	4718.8	345.0	6.28

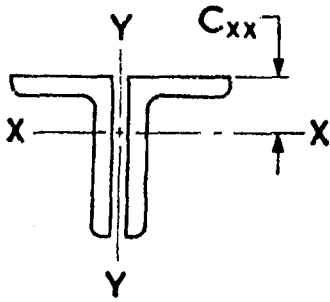


TABLE XXII PROPERTIES OF TWO  
ANGLES BACK TO BACK

(Continued)

UNEQUAL ANGLES (LONGER LEGS BACK TO BACK)

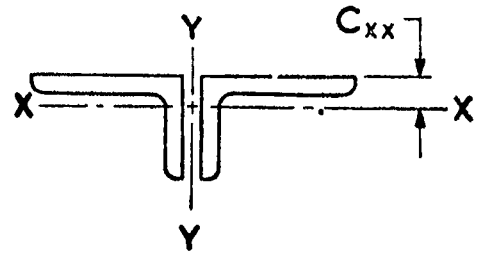
Distance of Centre of Gravity	Radii of Gyration About Y-Y Axis, in cm						Designation
	Distance, Back to Back of Angles, in cm						
$c_{xx}$	0.0	0.6	1.0	1.4	1.8	2.2	
cm							
4.05	2.64	2.83	2.97	3.11	3.26	3.41	ISA 12575
4.15	2.68	2.88	3.02	3.17	3.32	3.48	
4.24	2.72	2.92	3.07	3.22	3.37	3.53	
3.70	3.59	3.78	3.92	4.06	4.20	4.35	ISA 12595
3.80	3.63	3.83	3.97	4.11	4.26	4.41	
3.88	3.67	3.87	4.01	4.16	4.31	4.46	
3.96	3.70	3.91	4.05	4.20	4.36	4.51	
5.23	2.52	2.72	2.86	3.00	3.15	3.31	ISA 15075
5.32	2.56	2.76	2.90	3.05	3.20	3.36	
5.41	2.60	2.80	2.95	3.10	3.25	3.42	
4.46	4.37	4.56	4.69	4.83	4.98	5.14	ISA 150115
4.55	4.41	4.61	4.75	4.89	5.03	5.18	
4.64	4.45	4.65	4.79	4.93	5.08	5.23	
4.76	4.50	4.71	4.85	5.00	5.15	5.30	
6.96	3.35	3.54	3.68	3.81	3.96	4.11	ISA 200100
7.05	3.40	3.59	3.73	3.87	4.01	4.17	
7.81	3.45	3.65	3.79	3.94	4.09	4.24	
5.99	5.66	5.85	5.98	6.12	6.26	6.40	ISA 200150
6.08	5.70	5.90	6.03	6.17	6.31	6.45	
6.20	5.76	5.96	6.09	6.23	6.38	6.52	
6.33	5.81	6.01	6.15	6.30	6.44	6.59	

(Continued)

# TABLE XXII PROPERTIES OF TWO ANGLES BACK TO BACK

(Continued)

UNEQUAL ANGLES (SHORTER LEGS BACK TO BACK)



Designation	Size of Each Angle	Thickness	Weight per Metre	Sectional Area	Moment of Inertia	Modulus of Section	Radius of Gyration
	$A \times B$	$t$	$w$	$a$	$I_{xx}$	$Z_{xx}$	$r_{xx}$
	mm mm	mm	kg	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>3</sup>	cm
<b>ISA 6545</b>	65 × 45	5.0	8.2	10.52	17.2	5.0	1.28
		6.0	9.8	12.50	20.2	6.0	1.27
		8.0	12.8	16.34	25.6	7.8	1.25
<b>ISA 7045</b>	70 × 45	5.0	8.6	11.04	17.6	5.0	1.26
		6.0	10.4	13.12	20.6	6.0	1.25
		8.0	13.4	17.16	26.2	7.8	1.24
		10.0	16.6	21.04	31.2	9.6	1.22
<b>ISA 7550</b>	75 × 50	5.0	9.4	12.04	24.4	6.4	1.42
		6.0	11.2	14.32	28.6	7.6	1.41
		8.0	14.8	18.76	36.6	9.8	1.40
		10.0	18.0	23.04	43.6	12.0	1.38
<b>ISA 8050</b>	80 × 50	5.0	9.8	12.54	24.6	6.4	1.40
		6.0	11.8	14.92	28.8	7.6	1.39
		8.0	15.4	19.56	37.0	9.8	1.37
		10.0	18.8	24.04	44.2	12.0	1.36
<b>ISA 9060</b>	90 × 60	6.0	13.6	17.30	50.4	11.0	1.71
		8.0	17.8	22.74	64.8	14.4	1.69
		10.0	22.0	28.02	78.2	17.6	1.67
		12.0	26.0	33.14	90.4	20.6	1.65
<b>ISA 10065</b>	100 × 65	6.0	15.0	19.10	64.8	12.8	1.84
		8.0	19.8	25.14	83.8	17.0	1.83
		10.0	24.4	31.02	101.4	20.8	1.81
<b>ISA 10075</b>	100 × 75	6.0	16.0	20.28	97.4	17.0	2.19
		8.0	21.0	26.72	126.6	22.4	2.18
		10.0	26.0	33.00	153.8	27.6	2.16
		12.0	30.8	39.12	179.0	32.6	2.14

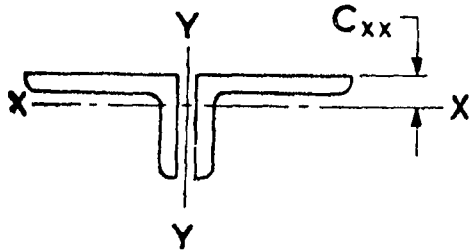


TABLE XXII PROPERTIES OF TWO ANGLES BACK TO BACK

(Continued)

UNEQUAL ANGLES ( SHORTER LEGS BACK TO BACK )

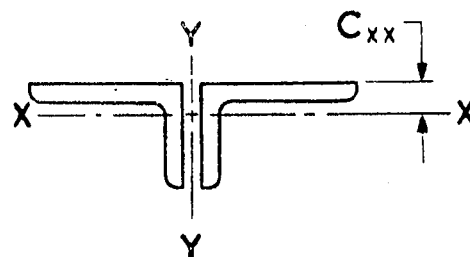
Distance of Centre of Gravity  $C_{xx}$  cm	Radii of Gyration About Y-Y Axis, in cm						Designation
	Distance, Back to Back of Angles, in cm						
	0-0	0-6	1-0	1-4	1-8	2-2	
1-08	2-91	3-13	3-29	3-45	3-61	3-78	ISA 6545
1-12	2-93	3-16	3-31	3-47	3-64	3-80	
1-20	2-98	3-20	3-36	3-52	3-69	3-86	
1-04	3-17	3-40	3-55	3-71	3-87	4-04	ISA 7045
1-09	3-20	3-43	3-58	3-74	3-90	4-07	
1-16	3-25	3-47	3-63	3-79	3-96	4-13	
1-24	3-29	3-52	3-68	3-85	4-01	4-18	
1-16	3-37	3-59	3-74	3-90	4-06	4-22	ISA 7550
1-20	3-40	3-62	3-78	3-94	4-10	4-26	
1-28	3-45	3-67	3-83	3-99	4-15	4-32	
1-36	3-49	3-72	3-88	4-04	4-20	4-37	
1-12	3-64	3-86	4-01	4-17	4-33	4-49	ISA 8050
1-16	3-66	3-88	4-04	4-19	4-36	4-52	
1-24	3-71	3-94	4-09	4-25	4-42	4-58	
1-32	3-76	3-99	4-14	4-31	4-47	4-64	
1-39	4-05	4-27	4-42	4-52	4-73	4-89	ISA 9060
1-48	4-10	4-32	4-47	4-63	4-79	4-95	
1-55	4-14	4-37	4-52	4-68	4-84	5-01	
1-63	4-19	4-41	4-57	4-73	4-89	5-06	
1-47	4-51	4-72	4-87	5-03	5-18	5-34	ISA 10065
1-55	4-56	4-78	4-93	5-08	5-24	5-40	
1-63	4-61	4-83	4-99	5-14	5-30	5-46	
1-78	4-36	4-57	4-72	4-87	5-02	5-18	ISA 10075
1-87	4-41	4-63	4-78	4-93	5-08	5-24	
1-95	4-44	4-68	4-83	4-99	5-14	5-29	
2-03	4-50	4-73	4-88	5-03	5-19	5-36	

(Continued)

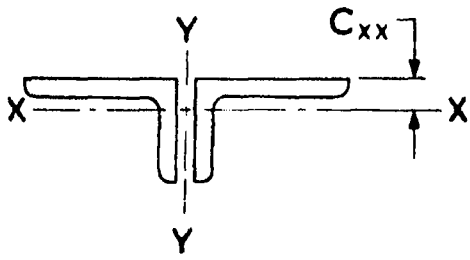
## TABLE XXII PROPERTIES OF TWO ANGLES BACK TO BACK

(Continued)

UNEQUAL ANGLES (SHORTER LEGS BACK TO BACK)



Designation	Size of Each Angle	Thickness	Weight per Metre	Sectional Area	Moment of Inertia	Modulus of Section	Radius of Gyration
	A × B	t	w	a	$I_{xx}$	$Z_{xx}$	$r_{xx}$
	mm mm	mm	kg	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>3</sup>	cm
ISA 12575	125 × 75	6.0	18.4	23.32	103.2	17.4	2.10
		8.0	24.2	30.76	134.4	23.0	2.09
		10.0	29.8	38.04	163.2	28.4	2.07
ISA 12595	125 × 95	6.0	20.2	25.72	204.2	28.0	2.82
		8.0	26.6	33.96	266.6	37.0	2.80
		10.0	33.0	42.04	325.4	45.8	2.78
		12.0	39.2	49.96	380.8	54.2	2.76
ISA 15075	150 × 75	8.0	27.4	34.84	140.4	23.6	2.01
		10.0	33.8	43.12	170.6	29.0	1.99
		12.0	40.2	51.24	199.0	34.2	1.97
ISA 150115	150 × 115	8.0	32.4	41.16	477.8	54.4	3.41
		10.0	40.0	51.04	586.8	67.6	3.39
		12.0	47.6	60.76	690.6	80.4	3.37
		15.0	59.0	75.04	837.2	98.8	3.34
ISA 200100	200 × 100	10.0	45.6	58.06	418.4	52.4	2.68
		12.0	54.4	69.18	492.4	62.2	2.67
		15.0	67.2	85.56	596.2	76.6	2.64
ISA 200150	200 × 150	10.0	53.4	68.00	1 339.2	116.6	4.44
		12.0	63.6	81.12	1 586.4	139.2	4.42
		15.0	78.8	100.50	1 939.8	172.0	4.39
		18.0	93.8	119.52	2 273.8	203.8	4.36

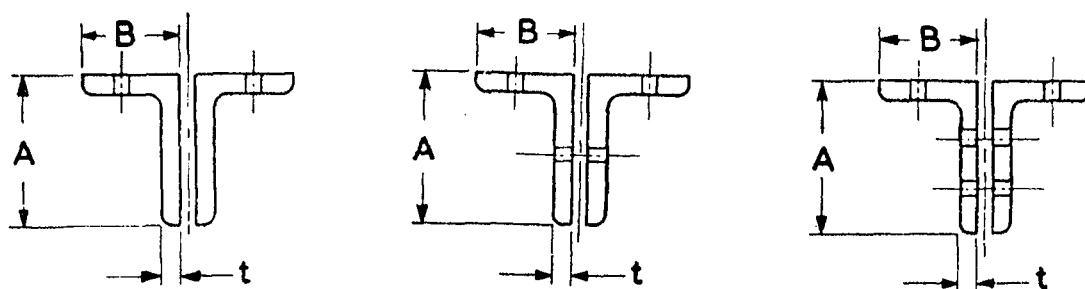


**TABLE XXII PROPERTIES OF TWO ANGLES BACK TO BACK**  
(Continued)  
**UNEQUAL ANGLES (SHORTER LEGS BACK TO BACK)**

Distance of Centre of Gravity $C_{xx}$ cm	Radii of Gyration About Y-Y Axis, in cm						Designation
	Distance, Back to Back of Angles, in cm						
	0.0	0.6	1.0	1.4	1.8	2.2	
1.59	5.71	5.92	6.07	6.22	6.37	6.53	ISA 12575
1.68	5.76	5.98	6.13	6.28	6.44	6.60	
1.76	5.81	6.03	6.18	6.34	6.50	6.66	
2.22	5.43	5.64	5.78	5.93	6.08	6.23	ISA 12595
2.31	5.49	5.70	5.84	5.99	6.14	6.30	
2.39	5.53	5.74	5.89	6.04	6.19	6.35	
2.47	5.57	5.78	5.93	6.09	6.24	6.40	
1.53	7.12	7.35	7.50	7.65	7.81	7.96	ISA 15075
1.61	7.17	7.40	7.55	7.71	7.86	8.02	
1.69	7.22	7.45	7.61	7.76	7.92	8.08	
2.73	6.52	6.73	6.87	7.02	7.17	7.32	ISA 150115
2.82	6.57	6.78	6.93	7.07	7.22	7.37	
2.90	6.62	6.83	6.98	7.13	7.28	7.43	
3.02	6.68	6.90	7.04	7.19	7.35	7.50	
2.01	9.49	9.72	9.87	10.02	10.17	10.33	ISA 200100
2.10	9.54	9.77	9.92	10.07	10.23	10.38	
2.22	9.62	9.84	9.99	10.15	10.31	10.46	
3.51	8.74	8.95	9.09	9.23	9.38	9.53	ISA 200150
3.60	8.79	9.00	9.14	9.29	9.44	9.58	
3.72	8.85	9.06	9.21	9.36	9.50	9.65	
3.84	8.92	9.13	9.28	9.43	9.58	9.73	

# TABLE XXIII NET AREA OF GIRDER FLANGE ANGLES

TWO ANGLES — NET AREA IN sq cm



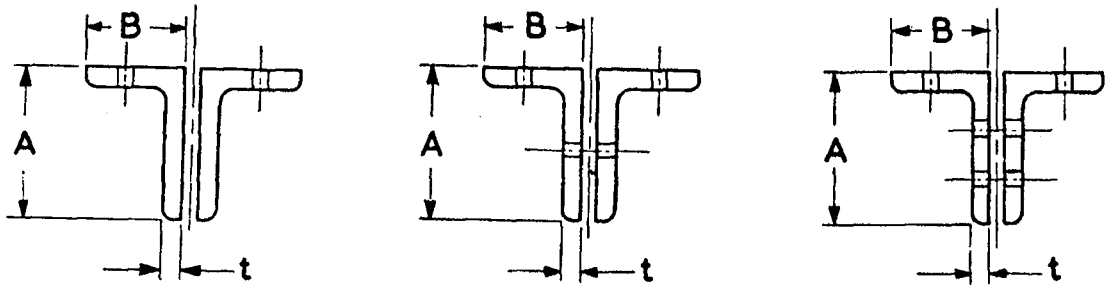
Size of Each Angle	Thick-ness	Diameter of Rivet in mm											
		2 Holes Out				4 Holes Out				6 Holes Out			
		20	22	24	27	20	22	24	27	20	22	24	27
A × B	t												
mm mm	mm												
100 × 100	6	20.76	20.52	20.28	19.86	18.18	17.70	17.22	16.38	—	—	—	—
	8	27.34	27.02	26.70	26.14	23.90	23.26	22.62	21.50	—	—	—	—
	10	33.76	33.36	32.96	32.26	29.46	28.66	27.86	26.46	—	—	—	—
	12	40.02	39.54	39.06	38.22	34.86	33.90	32.94	31.26	—	—	—	—
110 × 110	8	30.60	30.28	29.96	29.40	27.16	26.52	25.88	24.76	—	—	—	—
	10	37.82	37.42	37.02	36.32	33.52	32.72	31.92	30.52	—	—	—	—
	12	44.88	44.40	43.92	43.08	39.72	38.76	37.80	36.12	—	—	—	—
	15	55.17	54.57	53.97	52.92	48.72	47.52	46.32	44.22	—	—	—	—
130 × 130	8	37.00	36.68	36.36	35.80	33.56	32.92	32.28	31.16	30.12	—	—	—
	10	45.82	45.42	45.02	44.32	41.52	40.72	39.92	38.52	37.22	—	—	—
	12	54.48	54.00	53.52	52.68	49.32	48.36	47.40	45.72	44.16	—	—	—
	15	67.17	66.57	65.97	64.92	60.72	59.52	58.32	56.22	54.27	—	—	—
150 × 150	10	53.76	53.36	52.96	52.26	49.46	48.66	47.86	46.46	45.16	43.96	—	—
	12	64.02	63.54	63.06	62.22	58.86	57.90	56.94	55.26	53.70	52.26	—	—
	15	79.11	78.51	77.91	76.86	72.66	71.46	70.26	68.16	66.21	64.41	—	—
	18	93.84	93.12	92.40	91.14	86.10	84.66	83.22	80.70	78.36	76.20	—	—
200 × 200	12	88.06	87.58	87.10	86.26	82.90	81.94	80.98	79.30	77.74	76.30	74.86	72.34
	15	109.15	108.55	107.95	106.90	102.70	101.50	100.30	98.20	96.25	94.45	92.65	89.50
	18	129.83	129.16	128.44	127.18	122.14	120.70	119.26	116.74	114.40	112.24	110.08	106.30
	25	176.85	175.85	174.85	173.10	166.10	164.10	162.10	158.60	155.35	152.35	149.35	144.10
100 × 75	6	17.70	17.46	17.22	16.80	15.12	14.64	14.16	13.32	—	—	—	—
	8	23.28	22.96	22.64	22.08	19.84	19.20	18.56	17.44	—	—	—	—
	10	28.70	28.30	27.90	27.20	24.40	23.60	22.80	21.40	—	—	—	—
	12	33.96	33.48	33.00	32.16	28.80	27.84	26.88	25.20	—	—	—	—

(Continued)

## TABLE XXIII NET AREA OF GIRDER FLANGE ANGLES

(Continued)

TWO ANGLES — NET AREA IN sq cm



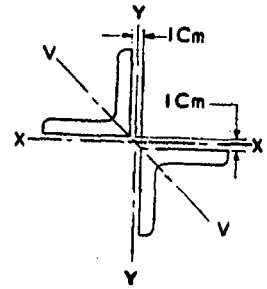
Size of Each Angle	Thick-ness t	Diameter of Rivet in mm											
		2 Holes Out				4 Holes Out				6 Holes Out			
A × B	t	20	22	24	27	20	22	24	27	20	22	24	27
125 × 75	6	20.74	20.50	20.26	19.84	18.16	17.68	17.20	16.36	15.58	—	—	—
	8	27.32	27.00	26.68	26.12	23.88	23.24	22.60	21.48	20.44	—	—	—
	10	33.74	33.34	32.94	32.24	29.44	28.64	27.84	26.44	25.14	—	—	—
125 × 95	6	23.14	22.90	22.66	22.24	20.56	20.08	19.60	18.76	17.98	—	—	—
	8	30.52	30.20	29.88	29.32	27.08	26.44	25.80	24.68	23.64	—	—	—
	10	37.74	37.34	36.94	36.24	33.44	32.64	31.84	30.44	29.14	—	—	—
	12	44.80	44.32	43.84	43.00	39.64	38.68	37.72	36.04	34.48	—	—	—
150 × 75	8	31.40	31.08	30.76	30.20	27.96	27.32	26.68	25.56	24.52	23.56	—	—
	10	38.82	38.42	38.02	37.32	34.52	33.72	32.92	31.52	30.22	29.02	—	—
	12	46.08	45.60	45.12	44.28	40.92	39.96	39.00	37.32	35.76	34.32	—	—
150 × 115	8	37.72	37.40	37.08	36.52	34.28	33.64	33.00	31.88	30.84	29.88	—	—
	10	46.74	46.34	45.94	45.24	42.44	41.64	40.84	39.44	38.14	36.94	—	—
	12	55.60	55.12	54.64	53.80	50.44	49.48	48.52	46.84	45.28	43.84	—	—
	15	68.59	67.99	67.39	66.34	62.14	60.94	59.74	57.64	55.69	53.87	—	—
200 × 100	10	53.76	53.36	52.96	52.26	49.46	48.66	47.86	46.46	45.16	43.96	42.76	40.66
	12	64.02	63.54	63.06	62.22	58.86	57.90	56.94	55.26	53.70	52.26	50.82	48.30
	15	79.11	78.51	77.91	76.86	72.66	71.46	70.26	68.16	66.21	64.41	62.61	59.45
200 × 150	10	63.70	63.30	62.90	62.20	59.40	58.60	57.80	56.40	55.10	53.90	52.70	50.60
	12	75.96	75.48	75.00	74.16	70.80	69.84	68.88	67.20	65.64	64.20	62.76	60.24
	15	94.05	93.45	92.85	91.80	87.60	86.40	85.20	83.10	81.15	79.35	77.55	74.40
	18	111.78	111.06	110.34	109.08	104.04	102.60	101.16	98.64	96.30	94.14	91.98	88.20



SECTION C  
ANGLES, SINGLE AND DOUBLE,  
USED AS STRUTS AND TIES  
(TABLES XXIV-XXXI)

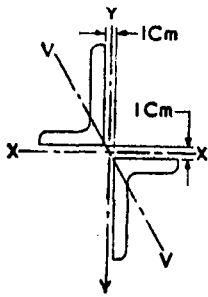
## TABLE XXIV PROPERTIES OF STARRED ANGLES

TWO EQUAL ANGLES STARRED  
Space Between Parallel Faces = 1 cm



Size			Total Area cm <sup>2</sup>	Least Radius of Gyration $r_{uv}$ cm	Size			Total Area cm <sup>2</sup>	Least Radius of Gyration $r_{uv}$ cm
$A \times B \times t$ mm mm mm					$A \times B \times t$ mm mm mm				
50 × 50	3.0		5.90	1.94	80 × 80	10.0	30.10	3.04	
	4.0		7.76	1.93		12.0	35.62	3.01	
	5.0		9.58	1.92	90 × 90	6.0	20.94	3.50	
	6.0		11.36	1.90		8.0	27.58	3.47	
				10.0		34.06	3.44		
55 × 55	5.0		10.54	2.11	12.0	40.38	3.41		
	6.0		12.52	2.10	100 × 100	6.0	23.34	3.91	
	8.0		16.36	2.07		8.0	30.78	3.98	
	10.0		20.04	2.03		10.0	38.06	3.85	
60 × 60	5.0		11.50	2.31	12.0	45.18	3.82		
	6.0		13.68	2.29	110 × 110	8.0	34.04	4.28	
	8.0		17.92	2.27		10.0	42.12	4.25	
	10.0		22.00	2.23		12.0	50.04	4.22	
65 × 65	5.0		12.50	2.51	15.0	61.62	4.17		
	6.0		14.88	2.50	130 × 130	8.0	40.44	5.10	
	8.0		19.52	2.47		10.0	50.12	5.07	
	10.0		24.00	2.44		12.0	59.64	5.03	
70 × 70	5.0		13.54	2.71	15.0	73.62	4.98		
	6.0		16.12	2.70	150 × 150	10.0	58.06	5.86	
	8.0		21.16	2.67		12.0	69.18	5.83	
	10.0		26.04	2.64		15.0	85.56	5.78	
75 × 75	5.0		14.54	2.92	18.0	101.58	5.73		
	6.0		17.32	2.91	200 × 200	12.0	93.22	7.84	
	8.0		22.76	2.88		15.0	115.60	7.79	
	10.0		28.04	2.84		18.0	137.62	7.75	
80 × 80	6.0		18.58	3.11	20.0	187.60	7.63		
	8.0		24.42	3.08					

( Continued )



## TABLE XXIV PROPERTIES OF STARRED ANGLES

(Continued)

TWO UNEQUAL ANGLES STARRED

Space Between Parallel Faces = 1 cm.

Size	Total Area	Least Radius of Gyration	Size	Total Area	Least Radius of Gyration
$A \times B \times t$		$r_{vv}$	$A \times B \times t$		$r_{vv}$
mm mm mm	cm <sup>2</sup>	cm	mm mm mm	cm <sup>2</sup>	cm
65 × 45 × 5.0	10.52	1.81	100 × 75 × 10.0	33.00	2.98
6.0	12.50	1.81	12.0	39.12	2.97
8.0	16.34	1.80	125 × 75 × 6.0	23.32	2.84
70 × 45 × 5.0	11.04	1.79	8.0	30.76	2.86
6.0	13.12	1.80	10.0	38.04	2.86
8.0	17.16	1.79	125 × 95 × 6.0	25.72	3.76
10.0	21.04	1.79	8.0	33.96	3.77
75 × 50 × 5.0	12.04	2.00	10.0	42.04	3.77
6.0	14.32	2.00	12.0	49.96	3.76
8.0	18.76	1.99	150 × 75 × 8.0	34.84	2.72
10.0	23.04	1.99	10.0	43.12	2.73
80 × 50 × 5.0	12.54	1.97	12.0	51.24	2.74
6.0	14.92	1.97	150 × 115 × 8.0	41.16	4.52
8.0	19.56	1.97	10.0	51.04	4.53
10.0	24.04	1.97	12.0	60.76	4.54
90 × 60 × 6.0	17.30	2.36	15.0	75.04	4.53
8.0	22.74	2.37	200 × 100 × 10.0	58.06	3.55
10.0	28.02	2.37	12.0	69.18	3.57
12.0	33.14	2.36	15.0	85.56	3.59
100 × 65 × 6.0	19.10	2.53	200 × 150 × 10.0	68.00	5.83
8.0	25.14	2.54	12.0	81.12	5.84
10.0	31.02	2.54	15.0	100.50	5.85
100 × 75 × 6.0	20.28	2.97	18.0	119.52	5.86
8.0	26.72	2.98			

**TABLE XXV SAFE LOADS FOR SINGLE ANGLE STRUTS**  
 SINGLE BOLTED OR SINGLE RIVETED END CONNECTIONS

Effective Lengths in Metres		0.50	1.00	1.50	2.00	2.50	3.00	3.50
EQUAL ANGLES	<b>Size</b>	<b>Safe Loads in kg</b>						
	<b>A × B × t</b>							
	mm mm mm							
	50 × 50 × 4.0	3 637.1	2 657.8	1 462.0	792.3	—	—	—
	5.0	4 490.1	3 281.2	1 804.9	978.1	—	—	—
	6.0	5 315.3	3 847.6	2 094.8	1 130.3	—	—	—
	55 × 55 × 5.0	4 989.6	3 923.0	2 318.3	1 305.4	798.9	—	—
	6.0	5 927.0	4 659.9	2 753.8	1 550.6	949.0	—	—
	8.0	7 744.8	6 089.2	3 598.4	2 026.2	1 240.1	—	—
	10.0	9 486.9	7 458.9	4 407.8	2 482.0	1 519.0	—	—
	60 × 60 × 5.0	5 483.8	4 573.6	2 922.7	1 729.6	1 060.9	—	—
	6.0	6 519.2	5 410.4	3 430.3	2 018.5	1 238.0	—	—
	8.0	8 539.8	7 087.4	4 493.4	2 644.1	1 621.8	—	—
	10.0	10 484.1	8 701.0	5 516.5	3 246.1	1 991.0	—	—
	65 × 65 × 5.0	—	5 218.8	3 585.0	2 226.9	1 393.8	925.0	—
	6.0	—	6 212.4	4 267.6	2 650.9	1 659.1	1 101.1	—
	8.0	—	8 120.3	5 533.9	3 416.0	2 137.4	1 415.2	—
	10.0	—	9 984.0	6 804.0	4 200.0	2 628.0	1 740.0	—
	70 × 70 × 5.0	—	5 838.4	4 292.2	2 801.4	1 769.0	1 185.4	—
	6.0	—	6 950.9	5 110.0	3 335.2	2 106.1	1 411.3	—
	8.0	—	9 097.7	6 647.4	4 324.0	2 724.4	1 827.2	—
	10.0	—	11 195.9	8 180.5	5 321.3	3 352.6	2 248.6	—
	75 × 75 × 6.0	—	7 655.4	5 953.8	4 020.0	2 643.9	1 782.2	1 259.2
	8.0	—	10 041.7	7 766.8	5 221.1	3 423.1	2 303.3	1 629.6
	10.0	—	12 371.2	9 568.6	6 432.4	4 217.2	2 837.6	2 007.7

( Continued )

## TABLE XXV SAFE LOADS FOR SINGLE ANGLE STRUTS

(Continued)

## SINGLE BOLTED OR SINGLE RIVETED END CONNECTIONS

Effective Lengths in Metres		1.00	1.50	2.00	2.50	3.00	3.50
Size A × B × t		Safe Loads in kg					
mm mm mm							
EQUAL ANGLES	80 × 80 × 6.0	8 347.1	6 804.0	4 787.1	3 242.2	2 212.9	1 574.7
	8.0	10 953.6	8 892.5	6 228.3	4 210.0	2 870.6	2 042.7
	10.0	13 501.4	10 960.9	7 677.0	5 189.2	3 538.3	2 517.9
	12.0	15 952.4	12 896.2	8 990.5	6 066.1	4 131.9	2 940.4
UNEQUAL ANGLES	60 × 40 × 5.0	2 776.0	1 358.5	725.9	—	—	—
	6.0	3 295.1	1 612.5	861.6	—	—	—
	8.0	4 227.4	2 044.4	1 090.8	—	—	—
	65 × 45 × 5.0	3 563.1	1 939.9	1 046.7	—	—	—
	6.0	4 185.0	2 253.1	1 212.5	—	—	—
	8.0	5 470.6	2 945.3	1 585.0	—	—	—
	70 × 45 × 5.0	3 739.2	2 035.8	1 090.5	—	—	—
	6.0	4 443.7	2 419.3	1 305.4	—	—	—
	8.0	5 745.2	3 093.1	1 664.5	—	—	—
	10.0	7 044.2	3 792.5	2 040.9	—	—	—
	75 × 50 × 6.0	5 371.4	3 194.1	1 808.6	1 111.2	—	—
	8.0	6 982.5	4 126.3	2 323.4	1 422.0	—	—
	10.0	8 575.5	5 067.6	2 853.5	1 746.4	—	—
	80 × 50 × 6.0	5 596.5	3 327.9	1 884.4	1 157.8	—	—
	8.0	7 280.2	4 302.2	2 422.5	1 482.6	—	—
	10.0	8 947.7	5 287.6	2 977.4	1 822.7	—	—
	90 × 60 × 8.0	9 559.9	6 667.4	4 193.3	2 623.1	1 751.0	—
	10.0	11 739.0	8 125.8	5 080.0	3 178.9	2 115.5	—
	12.0	13 884.0	9 610.6	6 008.3	3 759.7	2 502.1	—

Note 1 — The safe loads given in this Table are tabulated for ratio of slenderness up to but not exceeding 250.

Note 2 — The values on the right side of the zigzag dotted line are for ratio of slenderness exceeding 180.

Note 3 — This Table is based on the requirements specified in 18.9.1.1 of IS : 800-1956.

**TABLE XXVI SAFE LOADS FOR SINGLE ANGLE STRUTS**

DOUBLE BOLTED OR DOUBLE RIVETED OR WELDED END CONNECTIONS

Effective Lengths in Metres		1.0	1.5	2.0	2.5	3.0	3.5	
EQUAL ANGLES	Size A × B × t		Safe Loads in kg					
	mm	mm	mm					
	50 × 50 ×	4.0	3 323.2	1 826.3	991.0	—	—	—
		5.0	4 102.6	2 254.7	1 223.4	—	—	—
		6.0	4 810.4	2 617.9	1 414.3	—	—	—
	55 × 55 ×	5.0	4 906.4	2 898.0	1 636.3	995.5	—	—
		6.0	5 828.1	3 442.4	1 943.7	1 182.5	—	—
		8.0	7 615.6	4 498.2	2 539.9	1 545.2	—	—
		10.0	9 328.6	5 510.0	3 111.2	1 892.8	—	—
	60 × 60 ×	5.0	5 717.2	3 653.6	2 160.3	1 327.1	—	—
		6.0	6 764.1	4 288.0	2 521.2	1 547.9	—	—
		8.0	8 860.5	5 617.0	3 302.7	2 027.6	—	—
		10.0	10 877.9	6 895.9	4 054.6	2 489.3	—	—
	65 × 65 ×	5.0	6 516.9	4 482.5	2 785.6	1 744.4	1 153.8	—
		6.0	7 757.7	5 336.0	3 316.0	2 076.5	1 373.4	—
		8.0	10 140.6	6 919.8	4 274.9	2 674.2	1 766.6	—
		10.0	12 468.0	8 508.0	5 256.0	3 288.0	2 172.0	—
	70 × 70 ×	5.0	7 292.6	5 365.2	3 497.4	2 213.8	1 481.3	—
		6.0	8 682.2	6 387.6	4 163.8	2 635.6	1 763.5	—
		8.0	11 362.9	8 309.5	5 396.9	3 411.0	2 281.0	—
		10.0	13 983.5	10 225.9	6 641.5	4 197.6	2 807.1	—
	75 × 75 ×	6.0	9 563.2	7 444.1	5 026.3	3 301.2	2 230.8	1 571.8
		8.0	12 544.2	9 710.6	6 528.7	4 275.5	2 882.6	2 034.7
		10.0	15 454.2	11 963.3	8 043.3	5 267.3	3 551.3	2 506.8
	80 × 80 ×	6.0	10 430.8	8 508.7	5 984.6	4 056.9	2 774.0	1 963.0
		8.0	13 687.4	11 120.9	7 785.1	5 267.4	3 597.1	2 544.6
		10.0	16 871.0	13 707.5	9 595.9	6 492.6	4 433.7	3 136.4
		12.0	19 934.7	16 128.7	11 238.1	7 588.8	5 175.6	3 660.0

( Continued )

SECTION C : ANGLES, SINGLE & DOUBLE, USED AS STRUTS & TIES

**TABLE XXVI SAFE LOADS FOR SINGLE ANGLE STRUTS**  
(Continued)

DOUBLE BOLTED OR DOUBLE RIVETED OR WELDED END CONNECTIONS

Effective Lengths in Metres		1.5	2.0	2.5	3.0	3.5	4.0	4.5	
EQUAL ANGLES	Size A x B x t		Safe Loads in kg						
	mm	mm	mm						
	90 x 90	8.0	13 761.0	10 454.2	7 472.8	5 244.3	3 778.5	2 798.0	—
		10.0	16 932.9	12 815.1	9 143.4	6 398.2	4 608.3	3 409.4	—
		12.0	20 074.9	15 193.0	10 840.0	7 585.4	5 463.4	4 042.0	—
	100 x 100	8.0	16 270.3	13 253.9	9 914.2	7 317.9	5 269.5	3 979.9	3 054.9
		10.0	20 072.8	16 299.2	12 160.2	8 957.4	6 443.6	4 860.3	3 735.6
		12.0	23 827.9	19 348.3	14 435.0	10 633.1	7 649.0	5 769.5	4 434.4
	110 x 110	8.0	18 677.7	15 969.9	12 531.8	9 495.5	7 146.7	5 386.8	4 141.0
		10.0	23 111.2	19 760.6	15 506.5	11 749.4	8 843.1	6 665.5	5 123.9
		12.0	27 409.4	23 386.2	18 304.6	13 858.6	10 408.3	7 843.8	6 029.8
		15.0	33 752.4	28 798.1	22 540.6	17 065.7	12 817.0	9 658.9	7 425.2
	130 x 130	10.0	—	26 222.8	22 481.3	18 176.0	14 402.0	11 362.2	8 853.7
		12.0	—	31 203.6	26 751.5	21 628.4	17 137.6	13 520.4	10 535.4
		15.0	—	38 451.7	32 900.8	26 547.4	21 011.1	16 549.8	12 883.5
	150 x 150	12.0	—	38 232.3	34 614.2	29 840.8	24 686.9	20 190.2	16 502.9
		15.0	—	47 242.0	42 720.1	36 773.7	30 382.4	24 829.5	20 273.4
		18.0	—	56 036.6	50 607.2	43 501.6	35 898.4	29 310.9	23 906.9
	200 x 200	15.0	—	67 735.8	64 938.3	61 169.7	56 094.9	49 910.3	43 419.4
		18.0	—	80 604.0	77 259.9	72 745.9	66 663.1	59 259.2	51 518.0
25.0		—	109 783.5	105 187.3	98 940.2	90 545.1	80 339.7	69 949.7	

Effective Lengths in Metres		5.0	5.5	6.0	7.0	8.0	9.0		
EQUAL ANGLES	Size A x B x t		Safe Loads in kg						
	mm	mm	mm						
	110 x 110	8.0	3 286.6	—	—	—	—	—	
		10.0	4 066.7	—	—	—	—	—	
		12.0	4 778.8	—	—	—	—	—	
		15.0	5 884.7	—	—	—	—	—	
	130 x 130	10.0	7 119.5	5 721.2	4 716.3	—	—	—	
		12.0	8 471.9	6 807.9	5 612.1	—	—	—	
		15.0	10 365.7	8 330.1	6 861.4	—	—	—	
	150 x 150	12.0	13 282.6	10 854.3	8 983.0	6 333.4	—	—	
		15.0	16 307.7	13 330.2	11 020.1	7 764.6	—	—	
		18.0	19 218.9	15 714.4	12 971.0	9 147.3	—	—	
	200 x 200	15.0	37 385.0	32 079.0	27 622.6	19 917.9	15 039.6	11 542.7	
		18.0	44 327.4	38 038.2	32 719.2	23 560.5	17 794.3	13 658.8	
		25.0	59 938.2	51 449.3	44 151.7	31 760.7	23 956.5	18 412.9	

(Continued)

## TABLE XXVI SAFE LOADS FOR SINGLE ANGLE STRUTS

( Continued )

DOUBLE BOLTED OR DOUBLE RIVETED OR WELDED END CONNECTIONS

Effective Lengths in Metres	1.0	1.5	2.0	2.5	3.0	3.5	
<b>Size</b>							
<b>A × B × t</b>							
mm mm mm							
UNEQUAL ANGLES	60 × 40 × 5.0	3 471.0	1 697.4	903.9	—	—	—
	6.0	4 120.0	2 014.8	1 072.9	—	—	—
	8.0	5 285.8	2 555.2	1 360.5	—	—	—
	65 × 45 × 5.0	4 454.7	2 424.3	1 309.7	—	—	—
	6.0	5 232.5	2 817.5	1 516.9	—	—	—
	8.0	6 839.9	3 683.0	1 982.9	—	—	—
	70 × 45 × 5.0	4 674.9	2 544.2	1 374.5	—	—	—
	6.0	5 555.7	3 023.5	1 633.4	—	—	—
	8.0	7 183.2	3 867.9	2 082.4	—	—	—
	10.0	8 807.3	4 742.4	2 553.2	—	—	—
	75 × 50 × 6.0	6 718.2	3 994.6	2 266.1	1 362.6	—	—
	8.0	8 732.8	5 158.1	2 912.5	1 771.9	—	—
	10.0	10 725.1	6 334.8	3 577.0	2 176.1	—	—
	80 × 50 × 6.0	6 999.7	4 161.9	2 361.1	1 440.5	—	—
	8.0	9 105.2	5 378.0	3 036.7	1 847.4	—	—
	10.0	11 190.6	6 609.8	3 732.2	2 270.6	—	—
	90 × 60 × 8.0	11 939.6	8 336.5	5 240.4	3 285.9	2 179.6	—
	10.0	14 660.1	10 161.5	6 352.1	3 980.2	2 636.7	—
	12.0	17 338.8	12 018.2	7 512.8	4 707.5	3 118.5	—
	100 × 65 × 8.0	13 657.3	10 227.0	6 733.7	4 282.6	2 891.1	—
	10.0	16 805.1	12 510.4	8 211.0	5 212.9	3 509.9	—
	100 × 75 × 8.0	15 067.4	12 438.2	8 861.7	6 077.5	4 148.3	2 935.2
	10.0	18 582.3	15 279.0	10 840.5	7 405.2	5 055.6	3 580.5
	12.0	22 028.5	18 112.6	12 850.9	8 778.5	5 993.2	4 244.5

( Continued )



**TABLE XXVI SAFE LOADS FOR SINGLE ANGLE STRUTS**  
(Continued)

		DOUBLE BOLTED OR DOUBLE RIVETED OR WELDED END CONNECTIONS						
Effective Lengths in Metres		1.0	1.5	2.0	2.5	3.0	3.5	
UNEQUAL ANGLES	Size	Safe Loads in kg						
	A×B×t							
	mm mm mm							
UNEQUAL ANGLES	125× 75× 10.0	21 513.5	17 892.1	12 849.9	8 878.5	6 057.9	4 304.2	
	125× 95× 10.0	—	22 552.4	18 754.0	14 278.9	10 676.1	7 811.0	
	125× 95× 12.0	—	26 746.1	22 184.7	16 846.5	12 577.4	9 182.6	
	150× 75× 12.0	28 853.2	23 724.1	16 832.3	11 498.3	7 850.0	5 559.5	
	150× 115× 12.0	—	34 444.8	31 133.4	26 190.6	20 831.6	16 353.6	
	150× 115× 15.0	—	42 498.9	38 360.4	32 207.2	25 577.4	20 065.7	
	200× 100× 15.0	—	46 779.9	39 828.2	31 092.5	23 524.7	17 625.4	
	200× 150× 15.0	—	—	56 757.4	52 767.5	47 029.0	40 230.2	
	200× 150× 18.0	—	—	67 451.1	62 664.3	55 780.0	47 658.6	
	Effective Lengths in Metres		4.0	4.5	5.0	5.5	6.0	7.0
	UNEQUAL ANGLES	Size	Safe Loads in kg					
		A×B×t						
mm mm mm								
UNEQUAL ANGLES	125× 75× 10.0	3 185.8	—	—	—	—	—	
	125× 95× 10.0	5 891.9	4 508.8	3 552.4	—	—	—	
	125× 95× 12.0	6 924.5	5 300.8	4 171.7	—	—	—	
	150× 75× 12.0	—	—	—	—	—	—	
	150× 115× 12.0	12 695.8	9 873.5	7 874.5	6 355.5	5 213.2	—	
	150× 115× 15.0	15 552.0	12 096.4	9 631.4	7 777.9	6 374.6	—	
	200× 100× 15.0	13 283.2	10 207.3	8 081.1	—	—	—	
	200× 150× 15.0	33 642.4	27 898.8	23 160.2	19 004.6	15 003.6	11 205.8	
	200× 150× 18.0	39 824.1	33 023.4	27 364.1	22 451.8	18 675.0	13 230.9	

**Note 1** — The safe loads given in this Table are tabulated for ratio of slenderness up to but not exceeding 250.

**Note 2** — The values on the right side of the zigzag dotted lines are for ratio of slenderness exceeding 180.

**Note 3** — This Table is based on the requirements specified in 18.9.1.1 of IS : 800-1956.