SQUARE TUBE

STANDARD TIS 107- 2533
AS MILL'S STANDARD

Side Length (DxB)		Thickness(T)	Sectional Area(A)	Calculate Weight (W)
In.	mm.	mm.	cm²	kg./m.
1x1	25x25	2	1.74	1.36
		2.3	1.97	1.53
		2.6	2.1	1.65
		3.2	2.44	1.91
1.1/4x1.1/4	32x32	2.3	2.6	2.04
		3.2	3.42	2.69
1.1/2x1.1/2	38x38	2.3	3.15	2.47
		3.2	4.19	3.29
2x2	50x50	1.6	3.03	2.38
		2	3.7	2.91
		2.3	4.25	3.34
		3.2	5.73	4.5
		3.6	6.24	4.9
		4	6.81	5.35
		5	8.14	6.39
2.3/8x2.3/8	60x60	2.3	5.17	4.06
		3.2	7.01	5.5
		4	8.55	6.71
3x3	75x75	2.3	6.55	5.14
		3.2	8.93	7.01
		4	10.95	8.59
		4.5	12.17	9.55
3.1/2x3.1/2	90x90	3.2	10.85	8.51
		4	13.35	10.48
		4.5	14.87	11.67
4x4	100x100	2.3	8.85	6.95
		3.2	12.13	9.52
		4	14.95	11.7
		4.5	16.67	13.1
		6	21.63	17
5x5	125x125	3.2	15.33	12
		4.5	21.17	16.6
		5	23.36	18.3
		6	27.63	21.7

SQUARE TUBE

STANDARD TIS 107- 2533
AS MILL'S STANDARD

Side Length (DxB)		Thickness(T)	Sectional Area(A)	Calculate Weight (W)
In.	mm.	mm.	cm²	kg/m.
6x6	150x150	4.5	25.67	20.1
		5	28.36	22.3
		6	33.63	26.4
		6.3	34.8	27.4
7x7	175x175	4.5	30.17	23.7
		6	39.63	31.1
8x8	200x200	6	45.63	35.8
		8	59.79	46.9
		9	66.67	52.3
10x10	250x250	6	57.63	45.2
		8	75.79	59.2
		9	84.67	66.5
12x12	300x300	6	69.63	54.7
		9	102.7	80.6
		12	134.5	106
14x14	350x350	9	120.7	94.7
		12	158.5	124

ANGLE BAR

STANDARD JIS G 3192- 1990
JIS G 3101- 1995
TIS 1227- 2539
GRADE SS 400 SS 540
AS MILL'S STANDARD

Standard Sectional Dimension (mm.)				Sectional Area	Unit Weight
A x B	t	r_1	r_2	cm^2	kg./m.
25 x 25	3	4	2	1.427	1.12
	5	3.5	2.4	2.26	1.77
30 x 30	3	4	2	1.727	1.36
	5	5	2.4	2.78	2.18
40 x 40	3	4.5	2	2.336	1.83
	4	6	2.4	3.08	2.42
	5	4.5	3	3.755	2.95
	6	6	2.4	4.48	3.52
45 x 45	4	6.5	3	3.492	2.74
	5	6.5	3	4.302	3.38
50 x 50	3	7	2.4	2.96	2.33
	4	6.5	3	3.892	3.06
	5	6.5	3	4.802	3.77
	6	6..5	4.5	5.644	4.43
60 x 60	4	6.5	3	4.692	3.68
	5	6.5	3	5.802	4.55
65 x 65	5	8.5	3	6.367	5
	6	8.5	4	7.527	5.91
	8	8.5	6	9.761	7.66
70 x 70	6	8.5	4	8.127	6.38
75 x 75	6	8.5	4	8.727	6.85
	9	8.5	6	12.69	9.96
	12	8.5	6	16.56	13
80 x 80	6	8.5	4	9.327	7.32
90 x 90	6	10	5	10.55	8.28
	7	10	5	12.22	9.59
	10	10	7	17	13.3
	12	11	4.8	20.3	15.9
	13	10	7	21.71	17
100 x 100	7	10	5	13.62	10.7
	10	10	7	19	14.9
	12	12	4.8	22.7	17.8
	13	10	7	24.31	19.1
120 x 120	8	12	5	18.76	14.7
130 x 130	9	12	6	22.74	17.9
	12	12	8.5	29.76	23.4
	15	12	8.5	36.75	28.8
150 x 150	12	14	7	34.77	27.3
	15	14	10	42.74	33.6
	19	14	10	53.38	41.9
175 x 175	12	15	11	40.52	31.8
	15	15	11	50.21	39.4
200 x 200	15	17	12	57.75	45.3
	20	17	12	76	59.7
	25	17	12	93.75	73.6
250 x 250	25	24	12	119.4	93.7
	35	24	18	162.6	128

FLAT BAR

STANDARD JIS G 3101- 1995
GRADE SS 400 SM 490
AS MILL'S STANDARD

Standard Sectional Dimension		Sectional Area	Unit Weight
Thickness (mm.)	Width (mm.)	cm²	kg./m.
4.5	25	1.125	0.88
	32	1.44	1.13
	38	1.71	1.34
	44	1.98	1.55
	50	2.25	1.77
6	25	1.5	1.18
	32	1.92	1.51
	38	2.28	1.79
	44	2.64	2.07
	50	3	2.36
	65	3.9	3.06
	75	4.5	3.53
	90	5.4	4.24
	100	6	4.71
	125	7.5	5.89
8	25	2	1.57
	32	2.56	2.01
	38	3.04	2.39
	44	3.52	2.76
	50	1	3.14
	65	5.2	4.08
	75	6	4.71
	90	7.2	5.65
	100	8	6.28
	125	10	7.85
9	25	2.25	1.77
	32	2.28	2.26
	38	3.42	2.68
	44	3.96	3.11
	50	4.5	3.53
	65	5.85	4.59
	75	6.75	5.3
	90	8.1	6.36
	100	9	7.06
	125	11.25	8.83
	150	13.5	10.6
	180	16.2	12.7
	200	18	14.1
	230	20.7	16.2
	250	22.5	17.7
12	25	3	2.36
	32	3.81	3.01
	38	4.56	3.58
	44	5.28	4.14
	50	6	4.71
	65	7.8	6.12
	75	9	7.06
	90	10.8	8.48
	100	12	9.42
	125	15	11.8
	150	18	14.1
	180	21.6	17
	200	24	18.8
	230	27.6	21.7
	250	30	23.6
	280	33.6	26.4
	300	36	28.3
16	32	5.12	4.02
	38	6.08	4.77
	44	7.04	5.53
	50	8	6.28
	65	10.4	8.16
	75	12	9.42
	90	14.4	11.3
	100	16	12.6
	125	20	15.7
	150	24	18.8
	180	28.8	22.6
	200	32	25.1
	230	36.8	28.9
	250	40	31.4
	280	44.8	35.2
	300	48	37.7

Standard Sectional Dimension		Sectional Area	Unit Weight
Thickness (mm.)	Width (mm.)	cm²	kg./m.
19	38	7.22	5.67
	44	8.36	6.56
	50	9.5	7.46
	65	12.35	9.69
	75	14.25	11.2
	90	17.1	1.4
	100	19	14.9
	125	23.75	18.6
	150	28.5	22.4
	180	34.2	26.8
	200	38	19.8
	230	43.7	34.3
	250	47.5	37.3
	280	53.2	41.8
	300	57	44.7
22	50	11	8.64
	65	14.3	11.2
	75	16.5	13
	90	19.8	15.5
	100	22	17.3
	125	27.5	21.6
	150	33	25.9
	180	39.6	31.1
	200	44	34.5
	230	50.6	39.7
	250	55	43.2
	280	61.6	48.4
	300	66	51.8
25	50	12.5	9.81
	65	16.25	12.8
	75	18.75	14.7
	90	22.5	17.7
	100	25	19.6
	125	31.25	24.5
	150	37.5	29.4
	1180	45	35.3
	200	50	39.2
	230	57.5	45.1
	250	62.5	49.1
	280	70	55
	300	75	58.9
28	100	28	22
	125	35	27.5
	150	42	33
	180	50.4	39.6
	200	56	44
	230	64.4	50.6
	250	70	55
	280	78.4	61.5
	300	84	65.9
32	100	32	25.1
	125	40	31.4
	150	48	37.7
	180	57.6	45.2
	200	64	50.2
	130	73.6	57.8
	250	80	62.8
	280	89.6	70.3
	300	96	75.4
36	100	36	28.3
	125	45	35.3
	150	54	42.4
	180	64.8	50.9
	200	72	56.5
	130	82.8	65
	250	90	70.6
	280	100.8	79.1
	300	108	84.8

ROUND PIPE

STANDARD TIS 107- 2533
JIS G 3444- 2006
AS MILL'S STANDARD

Normal Dimension (DN)		Outside Diamet(OD)	Thickness (T)	Sectional Area(A)	Calculate Weight(W)
dn	in.	mm.	mm.	cm²	kg./mm.
15	1/2	21.7	2	1.24	0.97
20	3/4	27.2	2	1.58	1.24
			2.3	1.8	1.41
25	1	34	2.3	2.29	1.8
32	1 1/4	42.7	2.3	2.92	2.29
			2.5	3.16	2.48
40	1 1/2	48.6	2.3	3.35	2.63
			2.5	3.62	2.84
			2.8	4.03	3.16
			3.2	4.56	3.58
50	2	60.5	2.3	4.21	3.3
			3.2	5.76	4.52
			4	7.1	5.57
65	2 1/2	76.3	2.8	6.47	5.08
			3.2	7.35	5.77
			4	9.09	7.13
80	3	89.1	2.8	7.59	5.96
			3.2	8.64	6.78
			4	10.69	8.39
90	3 1/2	101.6	3.2	9.89	7.76
			4	12.26	9.63
100	4	114.3	3.2	11.17	8.77
			3.5	12.18	9.58
			4.5	15.52	12.2
125	5	139.8	3.6	15.4	12.1
			4	17.07	13.4
			4.5	19.13	15
			6	25.22	19.8
150	6	165.2	4.5	22.72	17.8
			5	25.16	19.8
			6	30.01	23.6
			7.1	35.26	27.7
175	7	190.7	5	22.9	29.17
			7	31.7	40.4
200	8	216.3	4.5	29.94	23.5
			5.8	38.36	30.1
			6	39.61	31.1
			7	46.03	36.1
			8	52.35	41.1
			8.2	53.61	42.1

LIP C- CHANNEL

STANDARD TIS 1228- 2549
AS MILL'S STANDARD

Dimension (mm.)		Sectional Area (cm³)	Unit Weight
HxAxC	T	A	kg./m.
60x30x10	1.6	2.072	1.63
	2	2.537	1.99
	2.3	2.872	2.25
70x40x25	1.6	3.032	2.38
75x35x15	2.3	3.677	2.89
75x45x15	1.6	2.952	2.32
	2	3.637	2.86
	2.3	4.137	3.25
90x45x20	1.6	3.352	2.63
	2.3	4.712	3.7
	3.2	6.367	5
100x50x20	1.6	3.672	2.88
	2	4.537	3.56
	2.3	5.172	4.06
	2.8	6.205	4.87
	3.2	7.007	5.5
	4	8.548	6.71
	4.5	9.469	7.43
120x40x20	3.2	7.007	5.5
120x60x20	2.3	6.092	4.78
	3.2	8.287	6.51

Dimension (mm.)		Sectional Area (cm³)	Unit Weight
HxAxC	T	A	kg/m.
120x60x25	4.5	11.72	9.2
125x50x20	2.3	5.747	4.51
	3.2	7.807	6.13
	4	9.548	7.5
	4.5	10.59	8.32
150x50x20	2.3	6.322	4.96
	3.2	8.607	6.76
	4.5	11.72	9.2
150x65x20	2.3	7.012	5.5
	3.2	9.567	7.51
	4	11.75	9.22
150x75x20	3.2	10.21	8.01
	4	12.55	9.85
	4.5	13.97	11
150x75x25	3.2	10.53	8.27
	4	12.95	10.2
	4.5	14.42	11.3
200x75x20	3.2	11.81	9.27
	4	14.55	11.4
	4.5	16.22	12.7
200x75x25	3.2	12.13	9.52
	4	14.95	11.7
	4.5	16.67	13.1
250x75x25	4.5	18.92	14.9

CHANNEL

STANDARD JIS G 3192- 1990
JIS G 3101- 1995
TIS 1227- 2539
GRADE SS 400 SS 540
AS MILL'S STANDARD

Standard Sectional Dimension (mm.)					Sectional Area	Unit Weight
HxB	t_1	t_2	r_1	r_2	cm²	kg/m.
50X25	5	6	6	3	4.92	3.86
75X40	5	7	8	4	8.818	6.92
100X50	5	7.5	8	4	11.92	9.36
125X65	6	8	8	4	17.11	13.4
150X75	6.5	10	10	5	23.71	18.6
	9	12.5	15	7.5	30.59	24
180X75	7	10.5	11	5.5	27.2	21.4
200X80	7.5	11	12	6	31.33	24.6
200X90	8	13.5	14	7	38.65	30.3
250X90	9	13	14	7	44.07	34.6
	11	14.5	17	8.5	51.17	40.2
300X90	9	13	14	7	48.57	38.1
	10	15.5	19	9.5	55.74	43.8
	12	16	19	9.5	61.9	48.6
380X100	10.5	16	18	9	69.39	54.5
	13	16.5	18	9	78.96	62
	13	20	24	12	85.71	67.3

STEEL PLATE

STANDARD JIS G 3101- 1995
GRADE SS 400 SM 490
AS MILL'S STANDARD

Thickness	Weight (kg.)		
	4' x 8'	5'x 20'	8' x 20'
mm.	32.00	100.00	240.00
1.20	28.01	87.50	140.13
1.40	32.68	102.09	163.49
1.50	35.01	109.38	175.16
1.60	37.34	116.67	186.84
1.80	42.01	131.26	210.20
2.00	46.68	145.84	233.55
2.30	53.68	167.72	268.58
2.50	58.35	182.30	291.94
2.80	65.35	204.18	326.97
3.00	70.02	218.76	350.33
3.20	74.69	233.34	373.68
3.50	81.69	255.22	408.71
4.00	93.36	291.68	467.10
4.50	105.03	328.14	525.49
5.00	116.70	364.60	583.88
5.50	128.37	401.06	642.26
6.00	140.04	437.52	700.65
7.00	163.38	510.44	817.43
8.00	186.72	583.36	934.20
9.00	210.06	656.28	1050.98
10.00	233.40	729.20	1167.75
11.00	256.75	802.12	1284.53
12.00	280.08	875.04	1401.30
12.70	296.42	926.08	1483.05
13.00	303.42	947.96	1518.08
14.00	326.76	1020.88	1634.86
15.00	350.10	1093.80	1751.63
16.00	373.44	1166.72	1868.41
17.00	396.78	1239.64	1985.18
18.00	420.12	1312.56	2101.96
19.00	443.46	1385.48	2218.73

Thickness	Weight (kg.)		
	4' x 8'	5'x 20'	8' x 20'
mm.	32.00	100.00	240.00
20.00	466.80	1458.4	2335.51
21.00	490.14	1531.32	2452.28
22.00	513.48	1604.24	2569.06
23.00	536.82	1677.16	2685.83
24.00	560.16	1750.08	2802.61
25.00	583.50	1823	2919.39
25.4	592.84	1852.17	2966.1
26.00	606.84	1895.92	3036.16
27.00	630.18	1968.84	3152.94
28.00	653.52	2041.76	3269.71
29.00	676.86	2114.68	3386.49
30.00	700.20	2187.6	3503.26
31.00	723.54	2260.52	3620.04
32.00	746.88	2333.44	3736.81
33.00	770.22	2406.36	3853.59
34.00	793.56	2479.28	3970.36
35.00	816.90	2552.2	4087.14
36.00	840.24	2625.12	4203.91
37.00	863.58	2698.04	4320.69
38.00	886.92	2770.96	4437.47
39.00	910.26	2843.88	4554.24
40.00	933.6	2916.8	4671.02
41.00	956.94	2989.72	4787.79
42.00	980.28	3062.64	4904.57
43.00	1003.62	3135.56	5021.34
44.00	1026.96	3208.48	5138.12
45.00	1050.30	3281.4	5254.89
46.00	1073.64	3354.32	5371.67
47.00	1096.98	3427.24	5488.44
48.00	1120.32	3500.16	5605.22
49.00	1143.66	3573.08	5721.99
50.00	1167.00	3646	5838.77

CHECKERED PLATE

STANDARD JIS G 3101-1995
GRADE SS 400
AS MILL'S STANDARD

Thickness	Weight	Width and Length							
		914x1829 mm.	914x3658 mm.	1219x2438 mm.	1219x3048 mm.	1219x4877 mm.	1219x6096 mm.	1524x3048 mm.	1524x6096 mm.
mm.	kg./m²	3' x 6'	3' x 12'	4' x 8'	4' x 10'	4' x 16'	4' x 20'	5' x 10'	5' x 20'
2.3	19.73	33	66	58.6	73.3	177	-	-	-
3.2	26.79	44.8	89.6	79.6	99.6	159	199	-	-
4.5	36.99	61.8	124	110	137	220	275	172	344
6	48.77	81.5	163	145	181	290	362	227	453
8	64.47	108	216	192	240	383	479	299	599
9	72.32	121	242	215	269	430	537	336	672
10	80.17	134	268	238	298	477	596	372	745

H- BEAM

STANDARD JIS G 3192- 1990
JIS G 3101- 1995
TIS 1227- 1996
GRADE SS 400 SS 540
AS MILL'S STANDARD

Standard Sectional Dimension (mm.)				Weight		Section Area
HxB	t_1	t_2	r	kg./m.	kg./6m.	cm²
100X100	6	8	10	17.2	103.2	21.9
125X125	6.5	9	10	23.8	142.8	30.31
150X150	7	10	11	31.5	189	40.14
175X175	7.5	11	12	40.2	241.2	51.21
200X200	8	12	13	49.9	299.4	63.53
250X250	9	14	16	72.4	434.4	92.18
300X300	10	15	18	94	564	119.8
350X350	12	19	20	137	822	173.9
400X400	13	21	22	172	1032	218.7

I- BEAM

STANDARD JIS G 3192- 1990
JIS G 3101- 1995
TIS 1227- 1996
GRADE SS 400 SS 540
AS MILL'S STANDARD

Standard Sectional Dimension (mm.)					Sectional Area	Weight
H x B	t_1	t_2	r_1	r_2	cm²	kg/m.
100 x 75	5	8	7	3.5	16.43	12.9
125 x 75	5.5	9.5	9	4.5	20.45	16.1
150 x 75	5.5	9.5	9	4.5	21.83	17.1
150 x 125	8.5	14	13	6.5	46.15	36.2
180 x 100	6	10	10	5	30.06	23.6
200 x 100	7	10	10	5	33.06	26
200 x 150	9	16	15	7.5	64.16	50.4
250 x 125	7.5	12.5	12	6	48.79	38.3
	10	19	21	10.5	70.73	55.5
300 x 150	8	13	12	6	61.58	48.3
	10	18.5	19	9.5	83.47	65.5
	11.5	22	23	11.5	97.88	76.8
350 x 150	9	15	12	6.5	74.58	58.5
	12	24	25	12.5	111.1	87.2
400 x 150	10	18	17	8.5	91.73	72
	12.5	25	27	13.5	122.1	95.8
450 x 175	11	20	19	9.5	116.8	91.7
	13	26	27	13.5	146.1	115
600 x 190	13	25	25	12.5	169.4	133
	16	35	38	19	224.5	176

WILD FLANGE

STANDARD JIS G 3192- 1990
JIS G 3101- 1995
TIS 1227- 1996
GRADE SS 400 SS 540
AS MILL'S STANDARD

Standard Sectional Dimension				Weight		Sectional Area
HxB (mm.)	t_1	t_2	r	kg./m.	kg./6m.	cm²
100x50	5.0	7	8	9.3	55.80	11.85
150x75	5.0	7	8	14.0	84.00	17.85
148x100	6.0	9	11	21.1	126.60	26.84
200x100	5.5	8	11	21.3	127.80	27.16
194x150	6.0	9	13	30.6	183.60	39.01
250x125	6.0	9	12	29.6	177.60	37.66
244x175	7.0	11	16	44.1	264.60	56.24
300x150	6.5	9	13	36.7	220.20	46.78
294x200	8.0	12	18	56.8	340.80	72.38
350x175	7.0	11	14	49.6	297.60	63.14
340x250	9.0	14	20	79.7	478.20	101.50
400x200	8.0	13	16	66.0	396.00	84.12
390x300	10.0	16	22	107.0	642.00	136.00
450x200	9.0	14	18	76.0	456.00	96.76
440x300	11.0	18	24	124.0	744.00	157.40
500x200	10.0	16	20	89.6	537.60	114.20
488x300	11.0	18	26	128.0	768.00	163.50
600x200	11.0	17	22	106.0	636.00	134.40
588x300	12.0	20	28	151.0	906.00	192.50
594x302	14.0	23	28	175.0	1050.00	222.40
700x300	13.0	24	28	185.0	1110.00	235.50
800x300	14.0	26	28	210.0	1260.00	267.40
900x300	16.0	28	28	243.0	1458.00	309.80

DEFORMED BAR (DB)

STANDARD TIS 24- 2559
GRADE SD 40 SD 50
AS MILL'S STANDARD

Name	Diameter	Circumference	Cross Sectional Area	Weight
	mm.	mm.	sq../mm.	kg./m.
DB 10	10	31.4	78.54	0.616
DB 12	12	37.7	113.1	0.888
DB 16	16	50.3	201.1	1.578
DB 20	20	62.9	314.2	2.466
DB 25	25	78.6	490.9	3.853
DB 28	28	88.8	615.8	4.824
DB 32	32	100.5	804.2	6.313

ROUND BAR (RB)

STANDARD TIS 20- 2559
GRADE SR 24
AS MILL'S STANDARD

Name	Diameter	Circumference	Cross Sectional Area	Weight
	mm.	mm.	sq../mm.	kg./m.
RB 6	6	18.9	28.3	0.222
RB 8	8	25.1	50.3	0.395
RB 9	9	28.3	63.6	0.499
RB 10	10	31.4	78.5	0.616
RB 12	12	37.7	113.1	0.888
RB 15	15	47.1	176.7	1.387
RB 19	19	59.7	283.5	2.226
RB 25	25	78.6	490.9	3.853

COLD DRAWN BAR

GRADE SS 400
AS MILL'S STANDARD

COLD DRAWN BAR		
in.	mm.	Weight (kg./m.)
1/16	4.76	0.14
1/4	6.35	0.25
5/16	7.94	0.39
3/8	9.35	0.56
7/16	11.11	0.76
1/2	12.7	1.00
5/8	15.88	1.55
3/4	19.05	2.24
7/8	22.23	3.05
1	25.4	3.98
1.1/8	28.58	5.03
1.1/4	31.75	6.21
1.3/8	34.93	7.52
1.1/2	38.1	8.95
1.5/8	41.28	10.50
1.3/4	44.45	12.20
2	50.8	15.90
2.1/4	57.15	20.10
2.1/2	63.5	24.90
3	76.2	35.80
3.1/4	82.55	42.00
3.1/2	88.9	49.00
4	101.6	63.70