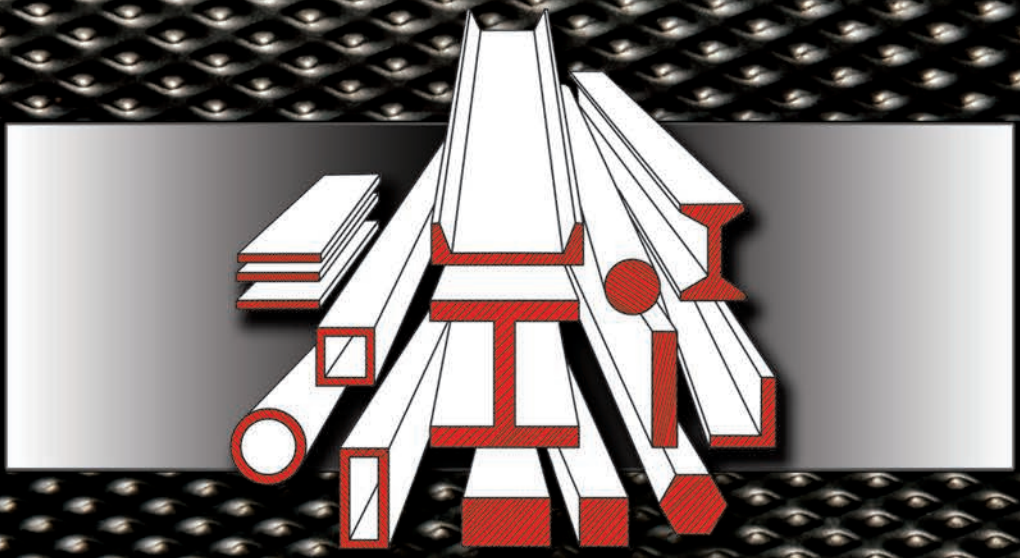
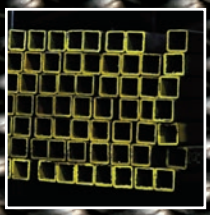
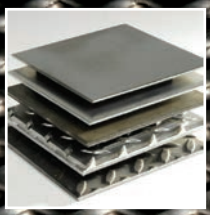
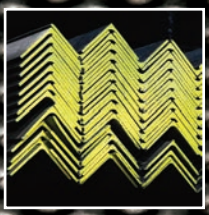
Boss Steel Limited









euro klemp

METAL REFERENCE BOOK

VERSION 9

BOSS STEEL
Metal Reference Book
Version 9

Intro

This ninth edition of the Boss Steel "Metal Reference Book" has been designed to inform and assist you in making the right decision when it comes to acquiring the right material for the project ahead.

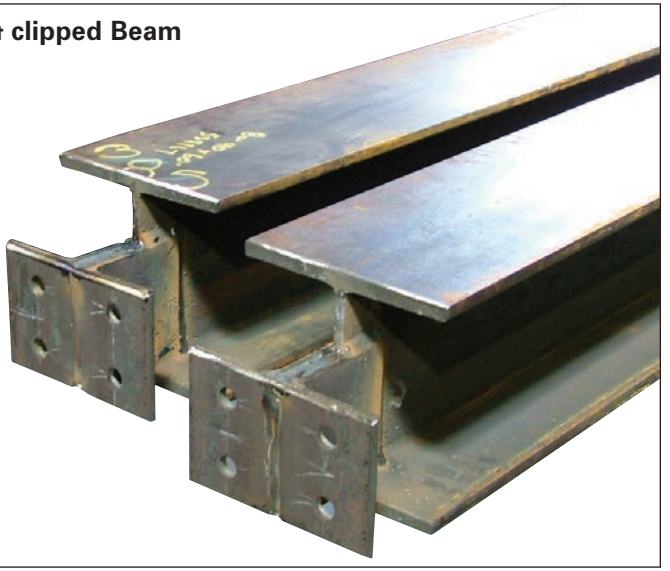
Some of the new and previous features of the "Metal Reference Book" include easy conversion from imperial to metric in the Beam section, pipe versus tube explanation in the convenient pipe section, a Special Fabricated Product chapter, the full range of EuroKlemp Modular pipe connectors and a new line of Temporary Safety Railing products.

When further assistance is needed our professional sales and services staff is readily available to handle any inquiries you may have. Also check out our website at www.bossteel.com to get a visual on all our products and services as well as the full story on what Boss Steel can do for your company. When other statistical information is required to aid in your calculations or conversions between imperial and metric products please refer to the statistical information section of this book for other helpful data.

It is our hope that this Metal Reference Book will be helpful to you and your customers!

Disclaimer:
This Metal Reference Book has been created with the purpose of providing information to you the customer. However, there are sizes and items listed in this book that may not be available. This is a reference book only, not a stock list.
While every effort has been made to ensure that the information contained herein is accurate and factual and that all numerical values are correct, Boss Steel makes no guarantee to that effect and assumes no liability whatsoever.

Coped & clipped Beam



Central Library, Richmond Hill

INDEX 4, 5

INDEX


BOSS STEEL LTD.
905•508•8225

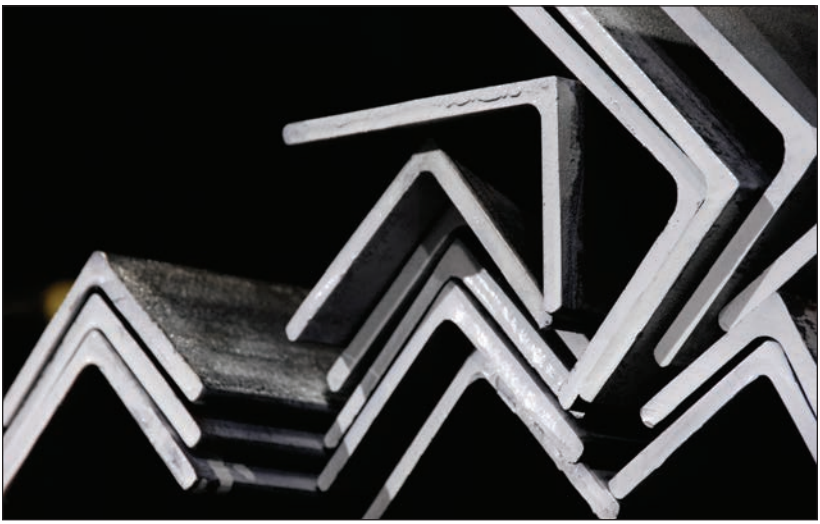
Boss Steel Limited

METAL REFERENCE BOOK

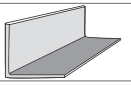
VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

ANGLES

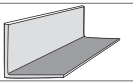


BAR SIZE ANGLES



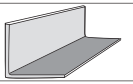
Size in Inches		Weight in Pounds	
		Per Foot	20′ Bar
1/2 x 1/2 x	1/8	.38	7.6
3/4 x 3/4 x	1/8	.59	11.8
	3/16	.84	16.8
1 x 1 x	1/8	.80	16.0
	3/16	1.16	23.2
	1/4	1.49	29.8
1-1/4 x 1-1/4 x	1/8	1.01	20.2
	3/16	1.48	29.6
	1/4	1.92	38.4
1-1/2 x 1-1/2 x	1/8	1.23	24.6
	3/16	1.80	36.0
	1/4	2.34	46.8
	5/16	2.86	57.2
1-3/4 x 1-3/4 x	1/8	1.44	28.8
	3/16	2.12	42.4
	1/4	2.77	55.4
2 x 1-1/2 x	1/8	1.44	28.8
	3/16	2.12	42.4
	1/4	2.77	55.4

STRUCTURAL ANGLES



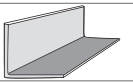
Size in Inches		Weight in Pounds		
		Per Foot	20′ Bar	40′ Bar
2 x 2 x	1/8	1.65	33.0	66.0
	3/16	2.44	48.8	97.6
	1/4	3.19	63.8	127.6
	5/16	3.92	78.4	156.8
	3/8	4.70	94.0	188.0
2-1/2 x 1-1/2 x	3/16	2.44	48.8	97.6
	1/4	3.19	63.8	127.6
2-1/2 x 2 x	3/16	2.75	55.0	110.0
	1/4	3.62	72.4	144.8
	5/16	4.50	90.0	180.0
	3/8	5.30	106.0	212.0
2-1/2 x 2-1/2 x	3/16	3.07	61.4	122.8
	1/4	4.10	82.0	164.0
	5/16	5.00	100.0	200.0
	3/8	5.90	118.0	236.0
	1/2	7.70	154.0	308.0
3 x 2 x	3/16	3.07	61.4	122.8
	1/4	4.10	82.0	164.0
	5/16	5.00	100.0	200.0
	3/8	5.90	118.0	236.0
	1/2	7.70	154.0	308.0
3 x 2-1/2 x	1/4	4.50	90.0	180.0
	5/16	5.60	112.0	224.0
	3/8	6.60	132.0	264.0
	1/2	8.50	170.0	340.0
3 x 3 x	1/8	2.50	50.0	100.0
	3/16	3.71	74.2	148.4
	1/4	4.90	98.0	196.0
	5/16	6.10	122.0	244.0
	3/8	7.20	144.0	288.0
	1/2	9.40	188.0	376.0
3-1/2 x 2-1/2 x	1/4	4.90	98.0	196.0
	5/16	6.10	122.0	244.0
	3/8	7.20	144.0	288.0
	1/2	9.40	188.0	376.0
3-1/2 x 3 x	1/4	5.40	108.0	216.0
	5/16	6.60	132.0	264.0
	3/8	7.90	158.0	316.0
	1/2	10.20	204.0	408.0

STRUCTURAL ANGLES



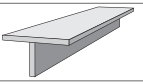
Size in Inches		Weight in Pounds		
		Per Foot	20' Bar	40' Bar
3-1/2 x 3-1/2 x	1/4	5.8	116.0	232.0
	5/16	7.2	144.0	288.0
	3/8	8.5	170.0	340.0
	1/2	11.1	222.0	444.0
4 x 3 x	1/4	5.8	116.0	232.0
	5/16	7.2	144.0	288.0
	3/8	8.5	170.0	340.0
	1/2	11.1	222.0	444.0
	5/8	13.6	272.0	544.0
4 x 3-1/2 x	1/4	6.2	124.0	248.0
	5/16	7.7	154.0	308.0
	3/8	9.1	182.0	364.0
	1/2	11.9	238.0	476.0
	5/8	14.7	294.0	588.0
4 x 4 x	1/4	6.6	132.0	264.0
	5/16	8.2	164.0	328.0
	3/8	9.8	196.0	392.0
	1/2	12.8	256.0	513.0
	5/8	15.7	314.0	628.0
	3/4	18.5	370.0	740.0
5 x 3 x	1/4	6.6	132.0	264.0
	5/16	8.2	164.0	328.0
	3/8	9.8	196.0	392.0
	1/2	12.8	256.0	512.0
5 x 3-1/2 x	1/4	7.0	140.0	280.0
	5/16	8.7	174.0	348.0
	3/8	10.4	208.0	416.0
	1/2	13.6	272.0	544.0
	5/8	16.8	336.0	672.0
	3/4	19.8	396.0	792.0
5 x 5 x	1/4	8.3	166.0	332.0
	5/16	10.3	206.0	412.0
	3/8	12.3	246.0	492.0
	1/2	16.2	324.0	648.0
	5/8	20.0	400.0	800.0
	3/4	23.6	472.0	944.0

STRUCTURAL ANGLES



Size in Inches		Weight in Pounds		
		Per Foot	20′ Bar	40′ Bar
6 x 3-1/2 x	1/4	7.9	158.0	316.0
	5/16	9.8	196.0	392.0
	3/8	11.7	234.0	468.0
	1/2	15.3	306.0	612.0
6 x 4 x	5/16	10.3	206.0	412.0
	3/8	12.3	246.0	492.0
	1/2	16.2	324.0	648.0
	5/8	20.0	400.0	800.0
	3/4	23.6	472.0	944.0
6 x 6 x	5/16	12.5	250.0	500.0
	3/8	14.9	298.0	596.0
	7/16	17.2	344.0	688.0
	1/2	19.6	392.0	784.0
	5/8	24.2	484.0	968.0
	3/4	28.7	574.0	1148.0
	7/8	33.1	662.0	1324.0
	1	37.4	748.0	1496.0
7 x 4 x	3/8	13.6	272.0	544.0
	7/16	15.8	316.0	632.0
	1/2	17.9	358.0	716.0
	5/8	22.1	442.0	884.0
	3/4	26.2	524.0	1048.0
8 x 4 x	7/16	17.2	344.0	688.0
	1/2	19.6	392.0	784.0
	5/8	24.2	484.0	968.0
	3/4	28.7	574.0	1148.0
8 x 6 x	1/2	23.0	460.0	920.0
	9/16	25.7	514.0	1028.0
	5/8	28.5	570.0	1140.0
	3/4	33.8	676.0	1352.0
	1	44.2	884.0	1768.0
8 x 8 x	1/2	26.4	528.0	1056.0
	5/8	32.7	654.0	1308.0
	3/4	38.9	778.0	1556.0
	7/8	45.0	900.0	1800.0
	1	51.0	1020.0	2040.0

TEES - STRUCTURAL AND BAR SIZES



Flange Inches	Stem Inches	Stem Thickness Inches	Weight Per Foot in Pounds
1	1	1/8	.83
		3/16	1.20
1-1/4	1-1/4	1/8	1.09
		3/16	1.55
		1/4	1.93
1-1/2	1-1/2	3/16	1.90
2	1-1/2	1/4	3.12
2	2	1/4	3.56
		5/16	4.30
2-1/2	2-1/2	1/4	4.60

Boss Steel Limited

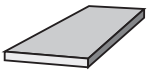
METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

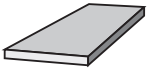
BARS

COLD OR HOT ROLLED FLATS



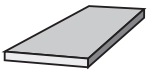
Size in Inches		Weight in Pounds	
		Per Foot	20′ Bar
1/8 x	3/8	.16	3.20
	1/2	.21	4.26
	5/8	.27	5.40
	3/4	.32	6.40
Cold only	7/8	.37	7.40
	1	.43	8.60
	1-1/4	.53	10.60
	1-1/2	.64	12.80
	1-3/4	.74	14.80
	2	.85	17.00
	2-1/4	.96	19.20
	2-1/2	1.06	21.20
	2-3/4	1.17	23.40
	3	1.28	25.60
	3-1/4	1.38	27.60
	3-1/2	1.49	29.80
	4	1.70	34.00
	4-1/2	1.91	38.20
	5	2.13	42.60
	5-1/2	2.34	46.80
	6	2.55	51.00
	8	3.40	68.00
	10	4.25	85.00
	12	5.10	102.00
3/16 x	3/8	.24	4.80
	1/2	.32	6.40
	5/8	.40	8.00
	3/4	.48	9.60
Cold only	7/8	.56	11.20
	1	.64	12.80
	1-1/4	.80	16.00
	1-1/2	.96	19.20
	1-3/4	1.12	22.40

COLD OR HOT ROLLED FLATS



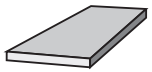
Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
3/16 x 2	1.28	25.60
2-1/4	1.43	28.60
2-1/2	1.59	31.80
3	1.91	38.20
3-1/4	2.07	41.40
3-1/2	2.23	44.60
4	2.55	51.00
4-1/2	2.87	57.40
5	3.19	63.80
6	3.83	76.60
7	4.46	89.20
8	5.10	102.00
9	5.74	114.80
10	6.38	127.60
12	7.65	153.00
1/4 x 1/2	0.43	8.60
5/8	0.53	10.60
3/4	0.64	12.80
Cold only ——— 7/8	0.74	14.80
1	0.85	17.00
1-1/4	1.06	21.20
1-1/2	1.28	25.60
1-3/4	1.49	29.80
2	1.70	34.00
2-1/4	1.91	38.20
2-1/2	2.13	42.60
2-3/4	2.34	46.80
3	2.55	51.00
3-1/2	2.98	59.60
4	3.40	68.00
4-1/2	3.83	76.60
5	4.25	85.00
5-1/2	4.68	93.60

COLD OR HOT ROLLED FLATS



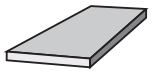
Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
1/4 x 6	5.10	102.00
7	5.95	119.00
8	6.80	136.00
9	7.65	153.00
10	8.50	170.00
12	10.20	204.00
5/16 x 3/4	.80	16.00
1	1.06	21.20
1-1/4	1.33	26.60
1-1/2	1.59	31.80
1-3/4	1.86	37.20
2	2.13	42.60
2-1/2	2.66	53.20
3	3.19	63.80
3-1/2	3.72	74.40
4	4.25	85.00
4-1/2	4.78	95.60
5	5.31	106.20
5-1/2	5.84	116.80
6	6.38	127.60
7	7.44	148.80
8	8.50	170.00
9	9.56	191.20
10	10.63	212.60
12	12.75	255.00
3/8 x 1/2	.64	12.80
3/4	.96	19.20
1	1.28	25.60
1-1/4	1.59	31.80
1-1/2	1.91	38.20
1-3/4	2.23	44.60

COLD OR HOT ROLLED FLATS



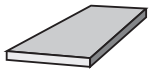
Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
3/8 x 2	2.55	51.00
2-1/4	2.87	57.40
2-1/2	3.19	63.80
2-3/4	3.51	70.20
3	3.83	76.60
3-1/2	4.46	89.20
4	5.10	102.00
4-1/2	5.74	114.80
5	6.38	127.60
5-1/2	7.01	140.20
6	7.65	153.00
7	8.92	178.40
8	10.20	204.00
9	11.48	229.60
10	12.75	255.00
12	15.30	306.00
1/2 x 3/4	1.28	25.60
1	1.70	34.00
1-1/4	2.13	42.60
1-1/2	2.55	51.00
1-3/4	2.98	59.00
2	3.40	68.00
2-1/4	3.83	76.60
2-1/2	4.25	85.00
2-3/4	4.68	93.60
3	5.10	102.00
3-1/2	5.95	119.00
4	6.80	136.00
4-1/2	7.65	153.00
5	8.50	170.00
5-1/2	9.35	187.00
6	10.20	204.00

COLD OR HOT ROLLED FLATS



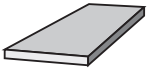
Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
1/2 x 7	11.90	238.00
8	13.60	272.00
9	15.30	306.00
10	17.00	340.00
12	20.40	408.00
5/8 x 1	2.13	42.60
1-1/4	2.66	53.20
1-1/2	3.19	63.80
1-3/4	3.72	74.40
2	4.25	85.00
2-1/4	4.78	95.60
2-1/2	5.31	106.20
3	6.38	127.60
3-1/2	7.44	148.80
4	8.50	170.00
4-1/2	9.56	191.20
5	10.63	212.60
5-1/2	11.70	234.00
6	12.75	255.00
7	14.88	297.60
8	17.00	340.00
9	19.10	382.00
10	21.30	426.00
12	25.50	510.00
3/4 x 1	2.55	51.00
1-1/4	3.19	63.80
1-1/2	3.83	76.60
1-3/4	4.46	89.20
2	5.10	102.00
2-1/4	5.74	114.80
2-1/2	6.38	127.60

COLD OR HOT ROLLED FLATS



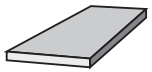
Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
3/4 x 3	7.65	153.00
3-1/2	8.93	178.60
4	10.20	204.00
4-1/2	11.48	229.60
5	12.75	255.00
5-1/2	14.00	280.00
6	15.30	306.00
7	17.85	357.00
8	20.40	408.00
9	23.00	460.00
10	25.50	510.00
12	30.60	612.00
7/8 x 1-1/4	3.72	74.40
1-1/2	4.46	89.20
1-3/4	5.21	104.20
2	5.95	119.00
2-1/2	7.44	148.80
3	8.93	178.60
3-1/2	10.41	208.20
4	11.90	238.00
4-1/2	13.39	267.80
5	14.88	297.60
5-1/2	16.40	328.00
6	17.85	357.00
7	20.80	416.00
8	23.80	476.00
9	26.80	536.00
10	29.80	596.00
12	35.70	714.00

COLD OR HOT ROLLED FLATS



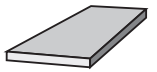
Size in Inches	Weight in Pounds	
	Per Foot	20′ Bar
1 x 1-1/4	4.25	85.00
1-1/2	5.10	102.00
1-3/4	5.95	119.00
2	6.80	136.00
2-1/2	8.50	170.00
3	10.20	204.00
3-1/2	11.90	238.00
4	13.60	272.00
4-1/2	15.30	306.00
5	17.00	340.00
5-1/2	18.70	374.00
6	20.40	408.00
7	23.80	476.00
8	27.20	544.00
9	30.60	612.00
10	34.00	680.00
12	40.80	816.00
1-1/4 x 1-1/2	6.38	127.60
2	8.50	170.00
2-1/2	10.63	212.60
3	12.75	255.00
3-1/2	14.88	297.60
4	17.00	340.00
4-1/2	19.13	382.60
5	21.25	425.00
5-1/2	23.38	467.60
6	25.50	510.00
7	29.75	595.00
8	34.00	680.00

COLD OR HOT ROLLED FLATS



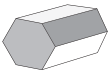
Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
1-1/2 x 2	10.20	204.00
2-1/2	12.75	255.00
3	15.30	306.00
3-1/2	17.85	357.00
4	20.40	408.00
4-1/2	22.95	459.00
5	25.50	510.00
5-1/2	28.05	561.00
6	30.60	612.00
7	35.70	714.00
8	40.80	816.00
1-3/4 x 2	11.90	238.00
2-1/2	14.88	297.60
3	17.85	357.00
3-1/2	20.83	416.60
4	23.80	476.00
4-1/2	26.78	535.60
5	29.75	595.00
5-1/2	32.73	654.60
6	35.70	714.00
8	47.60	952.00
2 x 2-1/2	17.00	340.00
3	20.40	408.00
3-1/2	23.80	476.00
4	27.20	544.00
4-1/2	30.60	612.00
5	34.00	680.00
6	40.80	816.00
8	54.40	1088.00

COLD OR HOT ROLLED FLATS



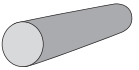
Size in Inches	Weight in Pounds	
	Per Foot	20′ Bar
2-1/2 x 3	25.50	510.00
3-1/2	29.75	595.00
4	34.00	680.00
5	42.50	850.00
6	51.00	1020.00
3 x 4	40.80	816.00
5	51.00	1020.00
6	61.20	1224.00

COLD ROLLED HEXAGONS



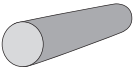
Size in Inches	Weight in Pounds	
	Per Foot	12' Bar
1/8	.046	.55
3/16	.104	1.25
1/4	.184	2.21
5/16	.288	3.46
3/8	.414	4.97
7/16	.564	6.77
1/2	.736	8.83
9/16	.932	11.18
5/8	1.150	13.80
11/16	1.393	16.72
3/4	1.657	19.88
13/16	1.944	23.33
7/8	2.254	27.05
15/16	2.588	31.06
1	2.945	35.34
1-1/16	3.324	39.89
1-1/8	3.727	44.72
1-3/16	4.152	49.82
1-1/4	4.601	55.21
1-5/16	5.072	60.86
1-3/8	5.567	66.80
1-7/16	6.085	73.02
1-1/2	6.625	79.50
1-9/16	7.189	86.27
1-5/8	7.775	93.30
1-11/16	8.385	100.60
1-3/4	9.018	108.20
1-13/16	9.673	116.10
1-7/8	10.350	124.20
1-15/16	11.050	132.60
2	11.780	141.40
2-1/8	13.300	159.60
2-3/16	14.090	169.10
2-1/4	14.910	178.90
2-3/8	16.610	199.30
2-1/2	18.400	220.80
2-9/16	19.340	232.10
2-5/8	20.290	243.50
2-3/4	22.270	267.20
2-7/8	24.340	292.10
3	26.500	318.00
3-1/4	31.100	378.20
3-1/2	36.070	432.80
3-3/4	41.400	496.90
4	47.110	565.30

COLD ROLLED ROUNDS



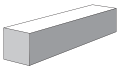
Diameter Size in Inches	Weight in Pounds		
	Per Foot	12′ Bar	20′ Bar
3/16	.094	1.13	1.88
1/4	.167	2.00	3.34
9/32	.211	2.53	4.22
5/16	.261	3.13	5.22
3/8	.376	4.51	7.52
7/16	.511	6.13	10.22
1/2	.668	8.02	13.36
9/16	.845	10.14	16.90
5/8	1.040	12.48	20.80
11/16	1.260	15.12	25.20
3/4	1.500	18.00	30.00
13/16	1.760	21.12	35.20
7/8	2.040	24.48	40.80
15/16	2.350	28.20	47.00
1	2.670	32.04	53.40
1-1/16	3.010	36.12	60.20
1-1/8	3.380	40.56	67.60
1-3/16	3.770	45.24	75.40
1-1/4	4.170	50.04	83.40
1-5/16	4.600	55.20	92.00
1-3/8	5.050	60.60	101.00
1-7/16	5.520	66.24	110.40
1-1/2	6.010	72.12	120.20
1-9/16	6.520	78.24	130.40
1-5/8	7.050	84.60	141.00
1-11/16	7.600	91.20	152.00
1-3/4	8.180	98.16	163.60
1-13/16	8.770	105.20	175.40
1-7/8	9.390	112.70	187.80
1-15/16	10.020	120.20	204.00
2	10.680	128.20	213.60
2-1/16	11.360	136.30	227.20
2-1/8	12.060	144.70	241.20
2-3/16	12.780	153.40	255.60
2-1/4	13.520	162.20	270.40
2-5/16	14.280	171.40	285.60
2-3/8	15.060	180.70	301.20
2-7/16	15.870	190.40	317.40
2-1/2	16.690	200.30	333.80

COLD ROLLED ROUNDS



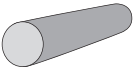
Diameter Size in Inches	Weight in Pounds		
	Per Foot	12′ Bar	20′ Bar
2-9/16	17.54	210.40	350.80
2-5/8	18.40	220.80	368.00
2-11/16	19.29	231.50	385.80
2-3/4	20.20	242.30	404.00
2-13/16	21.12	253.40	422.40
2-7/8	22.07	264.80	441.40
2-15/16	23.04	276.50	460.80
3	24.03	288.00	480.60
3-1/16	25.06	300.50	501.20
3-1/8	26.10	313.00	522.00
3-3/16	27.13	325.60	542.60
3-1/4	28.21	338.50	564.20
3-5/16	29.30	351.60	586.00
3-3/8	30.42	365.00	608.40
3-7/16	31.55	378.60	631.00
3-1/2	32.71	392.50	654.20
3-5/8	35.12	421.10	702.40
3-11/16	36.31	435.70	726.20
3-3/4	37.55	450.60	751.00
3-7/8	40.13	481.60	802.60
3-15/16	41.40	496.80	828.00
4	42.73	512.80	854.60
4-3/16	46.83	562.00	936.60
4-1/4	48.28	586.40	965.60
4-7/16	52.58	631.00	1051.60
4-1/2	54.08	649.00	1081.60
4-3/4	60.25	723.00	1205.00
4-15/16	65.10	781.20	1302.00
5	66.82	801.80	1336.40
5-1/4	73.67	884.00	1473.40
5-7/16	78.95	947.40	1579.00
5-1/2	80.85	970.20	1617.00
5-3/4	88.37	1060.40	1767.40
5-15/16	94.14	1129.70	1882.80
6	96.22	1154.60	1924.40

COLD ROLLED SQUARES



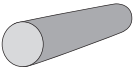
Size in Inches	Weight in Pounds	
	Per Foot	12′ Bar
1/8	.05	.64
3/16	.12	1.44
1/4	.21	2.56
5/16	.33	3.98
3/8	.48	5.76
7/16	.65	7.81
1/2	.85	10.20
9/16	1.08	12.96
5/8	1.33	15.96
11/16	1.61	19.32
3/4	1.91	22.92
13/16	2.24	26.88
7/8	2.60	31.20
15/16	2.99	35.88
1	3.40	40.80
1-1/16	3.84	46.08
1-1/8	4.30	51.60
1-3/16	4.80	57.60
1-1/4	5.31	63.72
1-3/8	6.43	77.16
1-1/2	7.65	91.80
1-3/4	10.41	124.90
2	13.60	163.20
2-1/4	17.21	206.50
2-1/2	21.25	255.00
2-3/4	25.71	308.50
3	30.60	367.20
3-1/4	35.91	430.90
3-1/2	41.65	499.80
3-3/4	47.81	573.70
4	54.40	652.80
4-1/2	68.85	826.20
5	85.00	1020.00
5-1/2	102.90	1235.00
6	122.40	1469.00

HOT ROLLED ROUNDS



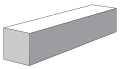
Diameter Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
3/16	.094	1.88
1/4	.167	3.34
5/16	.261	5.22
3/8	.376	7.52
7/16	.511	10.22
1/2	.668	13.36
9/16	.845	16.90
5/8	1.043	20.80
11/16	1.260	25.20
3/4	1.502	30.00
13/16	1.763	35.20
7/8	2.044	40.80
15/16	2.357	47.00
1	2.670	53.40
1-1/8	3.380	67.60
1-1/4	4.172	83.40
1-3/8	5.049	101.00
1-1/2	6.008	120.20
1-5/8	7.051	141.00
1-3/4	8.178	163.60
1-7/8	9.388	187.80
2	10.681	213.60
2-1/8	12.058	241.20
2-1/4	13.519	270.40
2-3/8	15.062	301.20
2-1/2	16.690	333.80
2-5/8	18.400	368.00
2-3/4	20.195	403.80
3	24.033	480.60
3-1/4	28.210	564.20
3-1/2	32.710	654.20
3-3/4	37.550	751.00
4	42.730	854.60
4-1/4	48.230	964.60
4-1/2	54.070	1081.60
4-3/4	60.250	1205.00

HOT ROLLED ROUNDS



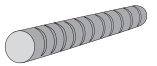
Diameter Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
5	66.76	1335.20
5-1/4	73.60	1472.00
5-1/2	80.78	1615.60
5-3/4	88.29	1765.80
6	96.13	1922.60
6-1/4	104.31	2086.20
6-1/2	112.82	2256.40
6-3/4	121.67	2433.40
7	130.85	2617.00
7-1/4	140.36	2807.20
7-1/2	150.21	3004.20
7-3/4	160.39	3208.00
8	170.90	3418.00
8-1/4	181.75	3635.00
8-1/2	192.93	3858.60
8-3/4	204.45	4089.00
9	216.30	4326.00
9-1/4	228.48	4569.60
9-1/2	241.00	4820.00
9-3/4	253.85	5077.00
10	267.04	5340.80
10-1/4	280.55	5611.00
10-1/2	294.41	5888.20
10-3/4	308.59	6171.80
11	323.11	6462.20
11-1/4	337.97	6759.40
11-1/2	353.16	7063.20
11-3/4	368.68	7373.60
12	384.53	7690.60

HOT ROLLED SQUARES



Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
1/4	.213	4.26
5/16	.332	6.64
3/8	.478	9.56
7/16	.651	13.02
1/2	.850	17.00
9/16	1.076	21.52
5/8	1.328	26.56
3/4	1.913	38.26
7/8	2.603	52.06
1	3.400	68.00
1-1/8	4.303	86.06
1-1/4	5.313	106.26
1-3/8	6.428	128.56
1-1/2	7.650	153.00
1-3/4	10.413	208.26
2	13.600	272.00
2-1/4	17.213	344.26
2-1/2	21.250	425.00
2-3/4	25.713	514.26
3	30.600	612.00
3-1/2	41.650	833.00
4	54.400	1088.00
4-1/2	68.850	1377.00
5	85.000	1700.00
6	122.400	2448.00

HOT ROLLED REINFORCING BARS (REBAR)



Bar Size	Weight lbs. per ft.	Mass kg/m	Actual Size	
			ins.	mm
10mm	.528	.785	.445	11.3
15mm	1.055	1.570	.630	16.0
20mm	1.583	2.355	.768	19.5
25mm	2.638	3.925	.992	25.2
30mm	3.693	5.495	1.177	29.9
35mm	5.275	7.850	1.405	35.7
45mm	7.912	11.775	1.720	43.7
55mm	13.188	19.625	2.220	56.4

*We stock black, epoxy and stainless steel rebar

Boss Steel Limited

METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

BEAMS

INTRO
I-Beam vs. Wide Flange Beam

Although all beams more or less have the shape of the letter "I" there are a couple of characteristics that separate them between being a true I-beam or being a Wide Flange Beam.

1) An I-beam has tapered flanges for trolley and industrial applications whereas a wide flange beam has straight flanges and is used mainly for structural construction purposes.

2) An I-beam is always taller then it is wide whereas a wide flange beam can be as wide as it is tall, making it look like an "H" on its side.

Also for your convenience, in the Wide Flange section of this chapter, you will find imperial sizes of Beam on the even numbered page(s) and the imperial – Metric equivalent on the odd numbered page(s).

I-Beam

Wide Flange Beam

I-Beam

I BEAMS

Nominal Size	Flange Width	Web Thickness	Weight in Pounds		
			Per Foot	20′ Bar	40′ Bar
3	2.330	.170	5.7	114	228
	2.509	.349	7.5	150	300
4	2.660	.190	7.7	154	308
	2.796	.326	9.5	190	380
5	3.000	.210	10.0	200	400
	3.284	.494	14.7	295	590
6	3.330	.230	12.5	250	500
	3.565	.465	17.2	345	690
7	3.660	.250	15.3	306	612
	3.860	.450	20.0	400	800
8	4.000	.270	18.4	368	736
	4.171	.441	23.0	460	920
10	4.660	.310	25.4	508	1016
	4.944	.594	35.0	700	1400
12	5.000	.350	31.8	636	1272
	5.078	.428	35.0	700	1400
	5.250	.460	40.8	816	1632
	5.477	.687	50.0	1000	2000
15	5.500	.410	42.9	858	1716
	5.640	.550	50.0	1000	2000
18	6.000	.460	54.7	1094	2188
	6.251	.711	70.0	1400	2800
20	6.250	.500	65.4	1308	2616
	6.391	.641	75.0	1500	3000
	7.053	.653	85.0	1700	3400
	7.200	.800	95.0	1900	3800
24	7.000	.500	79.9	1598	3196
	7.124	.624	90.0	1800	3600
	7.247	.747	100.0	2000	4000
	7.875	.625	105.9	2118	4236
	8.048	.798	120.0	2400	4800

I BEAMS

Imp. INCHES-H x LB./FT.	Metric mm-HT x Kg/M	Depth mm	Flange Width mm	Web Thickness mm
S3 X 5.7	S75 X 8	76	59	4.3
X 7.5	X 11		63	8.9
S4 X 7.7	S100 x 11	102	67	4.8
X 9.5	x 14.1*		70	8.3
S5 X 10.0	S130 x 15	127	76	5.3
X 14.75	X 22		83	12.5
S6 X 12.5	S150 X 19	152	84	5.8
X 17.25	X 26		90	11.8
S7 X 15.3	S180 X 22.8*	178	92	6.4
X 20.0	X 30*		97	11.4
S8 X 18.4	S200 X 27	203	102	6.9
X 23.0	X 34		106	11.2
S10 X 25.4	S250 X 38	254	118	7.9
X 35.0	X 52		126	15.1
S12 X 31.8	S310 X 47	305	127	8.9
X 35.0	X 52		129	10.9
X 40.8	X 60.7*	305	133	11.7
X 50.0	X 74*		139	17.4
S15 X 42.9	S380 X 64*	381	140	10.4
X 50.0	X 74		143	14.0
S18 X 54.7	S460 X 81.4*	457	152	11.7
X 70.0	X 104*		159	18.1
S20 X 65.4	S510 X 97.3*	508	159	12.7
X 75.0	X 112*		162	16.3
X 85.0	X 127*	508	179	16.6
X 95.0	X 141*		183	20.3
S24 X 79.9	S610 X 118.9*	610	178	12.7
X 90.0	X 134*		181	15.8
X 100.0	X 149*		184	19.0
X 105.9	X 157.6*	610	200	15.9
X 120.0	X 179*		204	20.3

* Not produced in Canada.

WIDE FLANGE BEAMS

Nominal Size	Weight Per Foot	Name of Section	Depth	Flange	Web
ASTM/IMP.					
4 x 4	13.0	WF	4.00	3.93	.250
5 x 5	16.0	WF	5.00	5.00	.240
	19.0	WF	5.15	5.03	.270
6 x 4	9.0	WF	5.90	3.94	.170
	12.0	WF	6.00	4.00	.230
	16.0	WF	6.25	4.03	.260
6 x 6	15.0	WF	5.99	5.99	.230
	20.0	WF	6.20	6.018	.258
	25.0	WF	6.37	6.080	.320
8 x 4	13.0	WF	7.99	4.00	.230
	15.0	WF	8.11	4.02	.245
8 x 5-1/4	18.0	WF	8.14	5.25	.230
	21.0	WF	8.28	5.27	.250
8 x 6-1/2	24.0	WF	7.93	6.50	.245
	28.0	WF	8.06	6.54	.285
8 x 8	31.0	WF	8.00	8.00	.288
	35.0	WF	8.12	8.027	.315
	40.0	WF	8.25	8.077	.365
	48.0	WF	8.50	8.177	.405
	58.0	WF	8.75	8.222	.510
	67.0	WF	9.00	8.287	.575
10 x 5-3/4	22.0	WF	10.17	5.75	.240
	26.0	WF	10.33	5.77	.260
	30.0	WF	10.47	5.81	.300

WIDE FLANGE BEAMS

New Designation ASTM Imp.	New Designation CDN Metric	Flange Depth mm	Flange Width mm	Flange Thickness mm	Web Thickness mm
INCHES-H x LB./FT.	mm-HT x Kg/M				
W4 X 13	W100 X 19	106	103	8.8	7.1
W5 X 16	W130 X 24	127	127	9.1	6.1
X 19	X 28	131	128	10.9	6.9
W6 X 9	W150 X 14	150	100	5.5	4.3
X 12	X 18	153	102	7.1	5.8
X 16	X 24	160	102	10.3	6.6
W6 X 15	W150 X 22	152	152	6.6	5.8
X 20	X 30	157	153	9.3	6.6
X 25	X 37	162	154	11.6	8.1
W8 X 13	W200 X 19	203	102	6.5	5.8
X 15	X 22	206	102	8.0	6.2
W8 X 18	W200 X 27	207	133	8.4	5.8
X 21	X 31	210	134	10.2	6.4
W8 X 24	W200 X 36	201	165	10.2	6.2
X 28	X 42	205	166	11.8	7.2
W8 X 31	W200 X 46	203	203	11.0	7.2
X 35	X 52	206	204	12.6	7.9
X 40	X 59	210	205	14.2	9.1
X 48	X 71	216	206	17.4	10.2
X 58	X 86	222	209	20.6	13.0
X 67	X 100	229	210	23.7	14.5
W10 X 22	W250 X 33	258	146	9.1	6.1
X 26	X 39	262	147	11.2	6.6
X 30	X 45	266	148	13.0	7.6

WIDE FLANGE BEAMS

Nominal Size	Weight Per Foot	Name of Section	Depth	Flange	Web
ASTM/IMP.					
10 x 8	33.0	WF	9.75	7.964	.292
	39.0	WF	9.94	7.990	.318
	45.0	WF	10.12	8.022	.350
10 x 10	49.0	WF	10.00	10.00	.340
	54.0	WF	10.12	10.028	.368
	60.0	WF	10.25	10.075	.415
	68.0	WF	10.40	10.13	.470
	77.0	WF	10.60	10.19	.530
	88.0	WF	10.84	10.26	.605
	100.0	WF	11.12	10.345	.685
	112.0	WF	11.38	10.415	.755
12 x 6-1/2	26.0	WF	12.22	6.49	.230
	30.0	WF	12.34	6.52	.260
	35.0	WF	12.50	6.56	.300
12 x 8	40.0	WF	11.94	8.00	.294
	45.0	WF	12.06	8.042	.336
	50.0	WF	12.19	8.077	.371
12 x 10	53.0	WF	12.06	10.00	.345
	58.0	WF	12.19	10.014	.359

WIDE FLANGE BEAMS

New Designation ASTM Imp.	New Designation CDN Metric	Flange Depth mm	Flange Width mm	Flange Thickness mm	Web Thickness mm
INCHES-H x LB./FT.	mm-HT x Kg/M				
W10 x 33	W250 x 49	247	202	11.0	7.4
x 39	x 58	252	203	13.5	8.0
x 45	x 67	257	204	15.7	8.9
W10 x 49	W250 x 73	253	254	14.2	8.6
x 54	x 80	256	255	15.6	9.4
x 60	x 89	260	256	17.3	10.7
x 68	x 101	264	257	19.6	11.9
x 77	x 115	269	259	22.1	13.5
x 88	x 131	275	261	25.1	15.4
x 100	x 149	282	263	28.4	17.3
x 112	x 167	289	265	31.8	19.2
W12 x 26	W310 x 39	310	165	9.7	5.8
x 30	x 45	313	166	11.2	6.6
x 35	x 52	317	167	13.2	7.6
W12 x 40	W310 x 60	303	203	13.1	7.5
x 45	x 67	306	204	14.6	8.5
x 50	x 74	310	205	16.3	9.4
W12 x 53	W310 x 79	306	254	14.6	8.8
x 58	x 86	310	254	16.3	9.1

WIDE FLANGE BEAMS

Nominal Size	Weight Per Foot	Name of Section	Depth	Flange	Web
ASTM/IMP.					
12 x 12	65.0	WF	12.12	12.00	.390
	72.0	WF	12.25	12.040	.430
	79.0	WF	12.38	12.080	.470
	87.0	WF	12.53	12.12	.515
	96.0	WF	12.71	12.16	.550
	106.0	WF	12.88	12.230	.620
	120.0	WF	13.12	12.320	.710
	136.0	WF	13.41	12.40	.790
	152.0	WF	13.71	12.48	.870
	170.0	WF	14.03	12.57	.960
	190.0	WF	14.38	12.67	1.06
14 x 5	22.0	WF	13.72	5.000	.230
	26.0	WF	13.98	5.025	.255
14 x 6-3/4	30.0	WF	13.86	6.733	.270
	34.0	WF	14.00	6.750	.287
	38.0	WF	14.12	6.776	.313
14 x 8	43.0	WF	13.68	8.000	.308
	48.0	WF	13.81	8.031	.339
	53.0	WF	13.94	8.062	.370
14 x 10	61.0	WF	13.91	10.000	.378
	68.0	WF	14.06	10.040	.418
	74.0	WF	14.19	10.072	.450
	82.0	WF	14.31	10.13	.510
14 x 14-1/2	90.0	WF	14.02	14.52	.440
	99.0	WF	14.16	14.56	.485
	109.0	WF	14.32	14.60	.525
	120.0	WF	14.48	14.67	.590
	132.0	WF	14.66	14.72	.645

WIDE FLANGE BEAMS

New Designation ASTM Imp.	New Designation CDN Metric	Flange Depth mm	Flange Width mm	Flange Thickness mm	Web Thickness mm
INCHES-H x LB./FT.	mm-HT x Kg/M				
W12 x 65	W310 x 97	308	305	15.4	9.9
x 72	x 107	311	306	17.0	10.9
x 79	x 118	314	307	18.7	11.9
x 87	x 129	318	308	20.6	13.1
x 96	x 143	323	309	22.9	14.0
x 106	x 158	327	310	25.1	15.5
x 120	x 190	333	313	28.1	18.0
x 136	x 202	341	315	31.8	20.1
x 152	x 226	348	317	35.6	22.1
x 170	x 253	356	319	39.6	24.4
x 190	x 283	365	322	44.1	26.9
W14 x 22	W360 x 33	349	127	8.5	5.8
x 26	x 39	353	128	10.7	6.5
W14 x 30	W360 x 45	352	171	9.8	6.9
x 34	x 51	355	171	11.6	7.2
x 38	x 57	358	172	13.1	7.9
W14 x 43	W360 x 64	347	203	13.5	7.7
x 48	x 72	350	204	15.1	8.6
x 53	x 79	354	205	16.8	9.4
W14 x 61	W360 x 91	353	254	16.4	9.5
x 68	x 101	357	255	18.3	10.5
x 74	x 110	360	256	19.9	11.4
x 82	x 122	363	257	21.7	13.0
W14 x 90	W360 x 134	356	369	18.0	11.2
x 99	x 147	360	370	19.8	12.3
x 109	x 162	364	371	21.8	13.3
x 120	x 179	368	373	23.9	15.0
x 132	x 196	372	374	26.2	16.4

WIDE FLANGE BEAMS

Nominal Size	Weight Per Foot	Name of Section	Depth	Flange	Web
ASTM/IMP.					
14 x 16	145.0	WF	14.78	15.50	.680
	159.0	WF	14.98	15.56	.745
	176.0	WF	15.22	15.65	.830
	193.0	WF	15.48	15.71	.890
	211.0	WF	15.72	15.80	.980
	233.0	WF	16.04	15.89	1.070
	257.0	WF	16.38	16.00	1.180
	283.0	WF	16.74	16.11	1.290
	311.0	WF	17.12	16.23	1.410
	342.0	WF	17.54	16.36	1.540
	370.0	WF	17.92	16.48	1.660
	398.0	WF	18.29	16.59	1.770
	426.0	WF	18.67	16.70	1.880
14 x 20	455.0	WF	19.02	16.84	2.020
	500.0	WF	19.60	17.01	2.190
	550.0	WF	20.24	17.20	2.380
	605.0	WF	20.92	17.42	2.600
14 x 22	665.0	WF	21.64	17.65	2.830
	730.0	WF	22.42	17.89	3.070
16 x 5-1/2	26.0	WF	15.65	5.00	.250
	31.0	WF	15.84	5.525	.275
16 x 7	36.0	WF	15.85	6.992	.299
	40.0	WF	16.00	7.00	.307
	45.0	WF	16.12	7.039	.346
	50.0	WF	16.25	7.073	.380
16 x 8-1/2	57.0	WF	16.43	7.12	.430
	67.0	WF	16.33	10.24	.395
	77.0	WF	16.52	10.30	.455
16 x 11-1/2	89.0	WF	16.75	10.36	.525
	100.0	WF	16.97	10.42	.585
18 x 7-1/2	35.0	WF	17.62	7.41	.265
	41.0	WF	17.70	7.45	.320
	45.0	WF	17.86	7.48	.335
	50.0	WF	18.00	7.500	.358
	55.0	WF	18.12	7.532	.390
	60.0	WF	18.25	7.558	.416

WIDE FLANGE BEAMS

New Designation ASTM Imp.	New Designation CDN Metric	Flange Depth mm	Flange Width mm	Flange Thickness mm	Web Thickness mm
INCHES-H x LB./FT.	mm-HT x Kg/M				
W14 x 145	W360 x 216	375	394	27.7	17.3
x 159	x 237	380	395	30.2	18.9
x 176	x 262	387	398	33.3	21.1
x 193	x 287	393	399	36.6	22.6
x 211	x 314	399	401	39.6	24.9
x 233	x 347	407	404	43.7	27.2
x 257	x 382	416	406	48.0	29.8
x 283	x 421	425	409	52.6	32.8
x 311	x 463	435	412	57.4	35.8
x 342	x 509	446	416	62.7	39.1
x 370	x 551	455	418	67.6	42.0
x 398	x 592	465	421	72.3	45.0
x 426	x 634	474	424	77.1	47.6
W14 x 455	x 677	483	428	81.5	51.2
x 500	x 744	498	432	88.9	55.6
x 550	x 818	514	437	97.0	60.5
x 605	x 900	531	442	106.0	65.9
W14 x 665	x 990	550	448	115.0	71.9
x 730	x 1086	569	454	125.0	78.0
W16 x 26	W410 x 39	399	140	8.8	6.4
x 31	x 46	403	140	11.2	7.0
W16 x 36	W410 x 54	403	177	10.9	7.5
x 40	x 60	407	178	12.8	7.7
x 45	x 67	410	179	14.4	8.8
x 50	x 74	413	180	16.0	9.7
W16 x 57	W410 x 85	417	181	18.2	10.9
x 67	x 100	415	260	16.9	10.0
x 77	x 114	420	261	19.3	11.6
W16 x 89	W410 x 132	425	263	22.2	13.3
x 100	x 149	431	265	25.0	14.9
W18 x 35	W460 x 52	450	152	10.8	7.6
x 41	x 61	450	189	10.8	8.1
x 45	x 67	454	190	12.7	8.5
x 50	x 74	457	190	14.5	9.0
x 55	x 82	460	191	16.0	9.9
x 60	x 89	463	192	17.7	10.5

WIDE FLANGE BEAMS

Nominal Size	Weight Per Foot	Name of Section	Depth	Flange	Web
ASTM/IMP.					
18 x 8-3/4	65.0	WF	18.35	7.59	.450
	71.0	WF	18.47	7.64	.495
	76.0	WF	18.21	11.04	.425
	86.0	WF	18.39	11.09	.480
18 x 11-3/4	97.0	WF	18.59	11.14	.535
	106.0	WF	18.73	11.20	.590
	119.0	WF	18.97	11.26	.655
21 x 6-1/2	44.0	WF	20.66	6.500	.348
21 x 8-1/4	50.0	WF	20.73	8.170	.330
	55.0	WF	20.80	8.22	.375
	62.0	WF	20.99	8.240	.400
	68.0	WF	21.13	8.270	.430
	73.0	WF	21.24	8.295	.455
21 x 9	83.0	WF	21.43	8.36	.515
	93.0	WF	21.62	8.42	.580
21 x 13	101.0	WF	21.36	12.29	.500
	111.0	WF	21.51	12.34	.550
	122.0	WF	21.68	12.39	.600
24 x 7	55.0	WF	23.55	7.000	.396
	62.0	WF	23.74	7.04	.430
24 x 9	68.0	WF	23.71	8.961	.416
	76.0	WF	23.91	8.985	.440
	84.0	WF	24.09	9.015	.470
	94.0	WF	24.29	9.061	.516
24 x 12	104.0	WF	24.06	12.75	.500
	117.0	WF	24.26	12.80	.550
24 x 14	131.0	WF	24.48	12.86	.605
	146.0	WF	24.74	12.90	.650
	162.0	WF	25.00	12.96	.705
27 x 10	84.0	WF	26.69	9.963	.463
	94.0	WF	26.91	9.990	.490
	102.0	WF	27.07	10.018	.518
	114.0	WF	27.28	10.070	.570

WIDE FLANGE BEAMS

New Designation ASTM Imp.	New Designation CDN Metric	Flange Depth mm	Flange Width mm	Flange Thickness mm	Web Thickness mm
INCHES-H x LB./FT.	mm-HT x Kg/M				
W18 x 65	W460 x 97	466	193	19.0	11.4
x 71	x 106	469	194	20.6	12.6
x 76	x 113	463	280	17.3	10.8
x 86	x 128	467	282	19.6	12.2
W18 x 97	W460 x 144	472	283	22.1	13.6
x 106	x 158	476	284	23.9	15.0
x 119	x 177	482	286	26.9	16.6
W21 x 44	W530 x 66	525	165	11.4	8.9
W21 x 50	W530 x 74	529	166	13.6	9.7
x 55	x 82	528	209	13.3	9.5
x 62	x 92	533	209	15.6	10.2
x 68	x 101	537	210	17.4	10.9
x 73	x 109	539	211	18.8	11.6
W21 x 83	W530 x 123	544	212	21.2	13.1
x 93	x 138	549	214	23.6	14.7
W21 x 101	W530 x 150	543	312	20.3	12.7
x 111	x 165	546	313	22.2	14.0
x 122	x 182	551	315	24.4	15.2
W24 x 55	W610 x 82	599	178	12.8	10.0
x 62	x 92	603	179	15.0	10.9
W24 x 68	W610 x 101	603	228	14.9	10.5
x 76	x 113	608	228	17.3	11.2
x 84	x 125	612	229	19.6	11.9
x 94	x 140	617	230	22.2	13.1
W24 x 104	W610 x 155	611	324	19.0	12.7
x 117	x 174	616	325	21.6	14.0
W24 x 131	W610 x 195	622	327	24.4	15.4
x 146	x 217	628	328	27.7	16.5
x 162	x 241	635	329	31.0	17.9
W27 x 84	W690 x 125	678	253	16.3	11.7
x 94	x 140	684	254	18.9	12.4
x 102	x 152	688	254	21.1	13.1
x 114	x 170	693	256	23.6	14.5

WIDE FLANGE BEAMS

Nominal Size	Weight Per Foot	Name of Section	Depth	Flange	Web
ASTM/IMP.					
27 x 14	146.0	WF	27.38	13.96	.605
	161.0	WF	27.59	14.02	.660
	178.0	WF	27.81	14.08	.725
30 x 10-1/2	99.0	WF	29.64	10.548	.522
	108.0	WF	29.82	10.484	.548
	116.0	WF	30.00	10.500	.564
	124.0	WF	30.16	10.521	.585
	132.0	WF	30.30	10.551	.615
30 x 15	173.0	WF	30.44	14.98	.655
	191.0	WF	30.68	15.04	.710
	211.0	WF	30.94	15.10	.775
33 x 11-1/2	118.0	WF	32.86	11.484	.554
	130.0	WF	33.10	11.510	.580
	141.0	WF	33.31	11.535	.605
	152.0	WF	33.50	11.565	.635
33 x 15-3/4	201.0	WF	33.68	15.74	.715
	221.0	WF	33.93	15.80	.775
	241.0	WF	34.18	15.86	.830
36 x 12	135.0	WF	35.55	11.945	.598
	150.0	WF	35.84	11.972	.625
	160.0	WF	36.00	12.000	.653
	170.0	WF	36.16	12.027	.680
	182.0	WF	36.32	12.072	.725
	194.0	WF	36.48	12.117	.770
	210.0	WF	36.69	12.18	.830
36 x 16-1/2	230.0	WF	35.88	16.475	.765
	245.0	WF	36.06	15.512	.802
	260.0	WF	36.24	16.555	.845
	280.0	WF	36.50	16.595	.885
	300.0	WF	36.72	16.655	.945

WIDE FLANGE BEAMS

New Designation ASTM Imp.	New Designation CDN Metric	Flange Depth mm	Flange Width mm	Flange Thickness mm	Web Thickness mm
INCHES-H x LB./FT.	mm-HT x Kg/M				
W27 x 146	W690 x 217	695	355	24.8	15.4
x 161	x 240	701	356	27.4	16.8
x 178	x 265	706	358	30.2	18.4
W30 x 99	W760 x 147	753	265	17.0	13.2
x 108	x 161	758	266	19.3	13.8
x 116	x 173	762	267	21.6	14.4
x 124	x 185	766	267	23.6	14.9
x 132	x 196	770	268	25.4	15.6
W30 x 173	W760 x 257	773	381	27.1	16.6
x 191	x 284	779	382	30.1	18.0
x 211	x 314	786	384	33.4	19.7
W33 x 118	W840 x 176	835	292	18.8	14.0
x 130	x 193	840	292	21.7	14.7
x 141	x 210	846	293	24.4	15.4
x 152	x 226	851	294	26.8	16.1
W33 x 201	W840 x 299	855	400	29.2	18.2
x 221	x 329	862	401	32.4	19.7
x 241	x 359	868	403	35.6	21.1
W36 x 135	W920 x 201	903	304	20.1	15.2
x 150	x 223	911	304	23.9	15.9
x 160	x 238	915	305	25.9	16.5
x 170	x 253	919	306	27.9	17.3
x 182	x 271	923	307	30.0	18.4
x 194	x 289	927	308	32.0	19.4
x 210	x 313	932	309	34.5	21.1
W36 x 230	W920 x 342	912	418	32.0	19.3
x 245	x 365	916	419	34.3	20.3
x 260	x 387	921	420	36.6	21.3
x 280	x 417	928	422	39.9	22.5
x 300	x 446	933	423	42.7	24.0

Wide Flange Beam

Boss Steel Limited

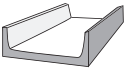
METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

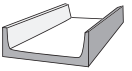
CHANNELS

BAR CHANNELS



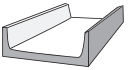
Size Inches	Weight in Pounds	
	Per Foot	20′ Bar
1 x 1/2 x 1/8	.83	16.6
1-1/4 x 1/2 x 1/8	1.00	20.0
1-1/2 x 1/2 x 1/8	1.12	22.4
2 x 1/2 x 1/8	1.33	26.6
2 x 1 x 1/8	1.78	35.6
2 x 1 x 3/16	2.57	51.4

STRINGER CHANNELS



Size Inches	Flange Width	Web Thickness Inches	Weight in Pounds	
			Per Foot	20′ Bar
10	1.125		6.5	130
10	1.500	.150	8.4	168
12	1.500		10.6	212

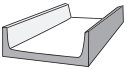
SHIP CHANNELS



Nominal Size	Flange Width	Web Thickness Inches	Weight in Pounds	
			Per Foot	20′ Bar
3 x 1-7/8	1.94	.312	7.1	142
2-1/8	2.125	.500	9.0	180
4 x 2-1/2	2.50	.500	13.8	276
6 x 2-1/2	2.50	.313	12.0	240
3	2.94	.313	15.1	302
3	3.00	.375	16.3	326
3-1/2	3.50	.340	15.3	306
3-1/2	3.50	.375	18.0	360
7 x 3	3.00	.375	17.6	352
3-1/2	3.45	.350	19.1	382
3-5/8	3.60	.500	22.7	454
8 x 3	2.975	.350	18.7	374
3	3.02	.400	20.0	400
3-1/2	3.45	.375	21.4	428
3-1/2	3.50	.425	22.8	456
9 x 3-1/2	3.450	.400	23.9	478
3-1/2	3.50	.450	25.4	508

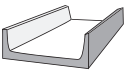
LARGER SIZES AVAILABLE UPON REQUEST

STRUCTURAL CHANNELS



Nominal Size	Flange Width	Web Thickness Inches	Weight in Pounds	
			Per Foot	20' Bar
3	1.410	.170	4.1	82
	1.498	.258	5.0	100
	1.596	.356	6.0	120
4	1.580	.180	5.4	108
	1.647	.247	6.25	125
	1.720	.320	7.25	145
5	1.750	.190	6.7	134
	1.885	.325	9.0	180
	2.032	.472	11.5	230
6	1.920	.200	8.2	164
	2.034	.314	10.5	210
	2.157	.437	13.0	260
7	2.090	.210	9.8	196
	2.194	.314	12.25	245
	2.299	.419	14.75	295
8	1.875	.180	8.5	170
	2.260	.220	11.5	230
	2.343	.303	13.75	275
	2.527	.487	18.75	375
9	2.430	.230	13.4	268
	2.485	.285	15.0	300
	2.648	.448	20.0	400
10	2.600	.240	15.3	306
	2.739	.379	20.0	400
	2.886	.526	25.0	500
	3.033	.673	30.0	600
12	2.940	.280	20.7	414
	3.047	.387	25.0	500
	3.170	.510	30.0	600
15	3.400	.400	33.9	678
	3.520	.520	40.0	800
	3.716	.716	50.0	1000

STRUCTURAL CHANNELS



New Designation Old Imp.	New Designation CDN Metric	Flange Depth mm	Flange Width mm	Web Thickness mm
INCHES-H x LB./FT.	mm-HT x Kg/M			
C3 x 4.1	C75 x 6	76	35	4.3
x 5.0	x 7		37	6.6
x 6.0	x 9		40	9.0
C4 x 5.4	C100 x 8	102	40	4.7
x 6.25	x 9		42	6.3
x 7.25	x 11		43	8.2
C5 x 6.7	C130 x 10	127	44	4.8
x 9.0	x 13		47	8.3
x 11.5	x 17		52	5.7
C6 x 8.2	C150 x 12	152	48	5.1
x 10.5	x 16		51	8.0
x 13.0	x 19		54	11.1
C7 x 9.8	C180 x 15	178	53	5.3
x 12.25	x 18		55	8.0
x 14.75	x 22		58	10.6
C8 x 8.5	C200 x 13	203	48	4.6
x 11.5	x 17		57	5.6
x 13.75	x 21		59	7.7
x 18.75	x 28		64	12.4
		229		
C9 x 13.4	C230 x 20		61	5.9
x 15.0	x 22		63	7.2
x 20.0	x 30		67	1.4
		254		
C10 x 15.3	C250 x 23		65	6.1
x 20.0	x 30		69	9.6
x 25.0	x 37		73	14.3
x 30.0	x 45		76	17.1
		305		
C12 x 20.7	C310 x 31		74	7.2
x 25.0	x 37		77	9.8
x 30.0	x 45		80	13.0
		381		
C15 x 33.9	C380 x 50		86	10.2
x 40.0	x 60		89	13.2
x 50.0	x 74		94	18.2

Boss Steel Limited

METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

PIPES

INTRO
Pipe vs. Tube

For your convenience we have put our full range of Pipe in one chapter. Choose from Black Steel, Galvanized Steel, Stainless Steel or Aluminum.

What is the difference between Pipe and Tube?
That is a question that is being asked a lot and might not be obvious at first glance since they are both round and hollow.

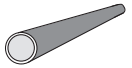
Pipe is mainly used for pressurized applications. It is sized Nominal in Imperial Fractions and is standardized throughout the world. As an example, a 1" SCH 40 pipe has an outer diameter (OD) of 1.315" and an inside diameter (ID) of 1.049" which is fairly close to 1" which is why it is designated as a 1 inch pipe.

Tube on the other hand is sized on the OD with the wall thickness and is used for structural purposes. Dimensions are either in inches or millimetres.

Tube in most cases will also have a welded seam on the inside, unless it is specified as a DOM (drawn over mandrill) or seamless tube.

If wall thickness and strength are not the main objective but pricing is, then there are lot of tubes available that will match the outside diameter of many pipe sizes.

BLACK AND GALVANIZED PIPES SCH 40

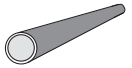


Size in Inches	Diameters		Wall Thickness Inches	Weight Per Foot Plain Ends
	O.D.	I.D.		
1/8	.405	.269	.068	.245
1/4	.540	.364	.088	.425
3/8	.675	.493	.091	.568
1/2	.840	.622	.109	.851
3/4	1.050	.824	.113	1.131
1	1.315	1.049	.133	1.679
1-1/4	1.660	1.380	.140	2.273
1-1/2	1.900	1.610	.145	2.718
2	2.375	2.067	.154	3.653
2-1/2	2.875	2.469	.203	5.793
3	3.500	3.068	.216	7.576
3-1/2	4.000	3.548	.226	9.109
4	4.500	4.026	.237	10.79
4-1/2	5.000	4.506	.247	12.53
5	5.563	5.047	.258	14.62
6	6.625	6.065	.280	18.97
8	8.625	8.071	.277	24.70
8	8.625	7.981	.322	28.55
9	9.625	8.941	.342	33.90
10	10.750	10.136	.307	34.24
10	10.750	10.020	.365	40.48
11	11.750	11.000	.375	45.55
12	12.750	12.090	.330	43.77
12	12.750	12.000	.375	49.56

PIPE CAN BE SAW CUT TO ANY SPECIFIED LENGTH

Can be used with EuroKlemp modular pipe/tube connectors

BLACK AND GALVANIZED PIPES SCH 80

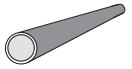


Size in Inches	Diameters		Wall Thickness Inches	Weight Per Foot Plain Ends
	O.D.	I.D.		
1/8	.405	.215	.095	.315
1/4	.540	.302	.119	.535
3/8	.675	.423	.126	.739
1/2	.840	.546	.147	1.088
3/4	1.050	.742	.154	1.474
1	1.315	.957	.179	2.172
1-1/4	1.660	1.278	.191	2.997
1-1/2	1.900	1.500	.200	3.631
2	2.375	1.939	.218	5.022
2-1/2	2.875	2.323	.276	7.661
3	3.500	2.900	.300	10.250
3-1/2	4.000	3.364	.318	12.500
4	4.500	3.826	.337	14.980
4-1/2	5.000	4.290	.355	17.610
5	5.563	4.813	.375	20.780
6	6.625	5.761	.432	28.570
8	8.625	7.625	.500	43.390
9	9.625	8.625	.500	48.720
10	10.750	9.564	.594	64.430
11	11.750	10.750	.500	60.070
12	12.750	11.750	.500	65.420

PIPE CAN BE SAW CUT TO ANY SPECIFIED LENGTH

Can be used with EuroKlemp modular pipe/tube connectors

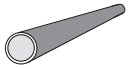
BLACK AND GALVANIZED PIPES SCH 160



Size in Inches	Diameters		Wall Thickness Inches	Weight Per Foot Plain Ends
	O.D.	I.D.		
1/2	.840	.466	.188	1.309
3/4	1.050	.614	.219	1.944
1	1.315	.815	.250	2.844
1-1/4	1.660	1.160	.250	3.765
1-1/2	1.900	1.338	.281	4.859
2	2.375	1.689	.344	7.462
2-1/2	2.875	2.125	.375	10.010
3	3.500	2.624	.438	14.320
4	4.500	3.438	.531	22.510
5	5.563	4.313	.625	32.960
6	6.625	4.189	.719	45.350
8	8.625	6.813	.906	74.690
10	10.750	8.500	1.125	115.640
12	12.750	10.126	1.312	160.270

PIPE CAN BE SAW CUT TO ANY SPECIFIED LENGTH

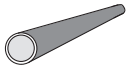
BLACK AND GALVANIZED PIPES SCH XX



Size in Inches	Diameters		Wall Thickness Inches	Weight Per Foot Plain Ends
	O.D.	I.D.		
1/2	.840	.252	.294	1.714
3/4	1.050	.434	.308	2.441
1	1.315	.599	.358	3.659
1-1/4	1.660	.896	.382	5.214
1-1/2	1.900	1.100	.400	6.408
2	2.375	1.503	.436	9.029
2-1/2	2.875	1.771	.552	13.690
3	3.500	2.300	.600	18.580
3-1/2	4.000	2.728	.636	22.850
4	4.500	3.152	.674	27.540
4-1/2	5.000	3.580	.710	32.430
5	5.563	4.063	.750	38.550
6	6.625	4.897	.864	53.160
7	7.625	5.875	.875	63.080
8	8.625	6.875	.875	72.420
9	9.625	7.875	.875	81.770
11	11.750	10.000	.875	101.630

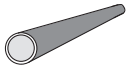
PIPE CAN BE SAW CUT TO ANY SPECIFIED LENGTH

STAINLESS STEEL PIPES SCH 40



Size in Inches	Diameters		Wall Thickness Inches	Weight Per Foot Plain Ends
	O.D.	I.D.		
1/8	.405	.269	.068	.24
1/4	.540	.364	.088	.42
3/8	.675	.493	.091	.56
1/2	.840	.622	.109	.85
3/4	1.050	.824	.113	1.13
1	1.315	1.049	.133	1.67
1-1/4	1.660	1.380	.140	2.27
1-1/2	1.900	1.610	.145	2.71
2	2.375	2.067	.154	3.65
2-1/2	2.875	2.469	.203	5.79
3	3.500	3.068	.216	7.57
3-1/2	4.000	3.548	.226	9.10
4	4.500	4.026	.237	10.79
4-1/2	5.000	4.506	.247	12.53
5	5.563	5.047	.258	14.61
6	6.625	6.065	.280	18.79

STAINLESS STEEL PIPES SCH 80

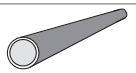


Size in Inches	Diameters		Wall Thickness Inches	Weight Per Foot Plain Ends
	O.D.	I.D.		
1/8	.450	.215	.095	.31
1/4	.540	.302	.119	.53
3/8	.675	.423	.126	.73
1/2	.840	.546	.147	1.08
3/4	1.050	.742	.154	1.47
1	1.315	.957	.179	2.17
1-1/4	1.660	1.278	.191	2.99
1-1/2	1.900	1.500	.200	3.63
2	2.375	1.939	.218	5.02
2-1/2	2.875	2.323	.276	7.66
3	3.500	2.900	.300	10.25
3-1/2	4.000	3.364	.318	12.50
4	4.500	3.826	.337	14.98
4-1/2	5.000	4.290	.355	17.61
5	5.563	4.813	.375	20.77
6	6.625	5.761	.432	28.57

PIPE CAN BE SAW CUT TO ANY SPECIFIED LENGTH

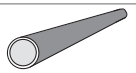
Can be used with EuroKlemp modular pipe/tube connectors

STANDARD ALUMINUM PIPE SCH 40



Size in Inches	Diameters		Wall Thickness Inches	Weight Per Foot Plain Ends
	O.D.	I.D.		
1/4 SCH 40	.540	.364	.088	.147
3/8 SCH 40	.675	.493	.091	.196
1/2 SCH 40	.840	.622	.109	.294
3/4 SCH 40	1.050	.824	.113	.391
1 SCH 40	1.315	1.049	.133	.581
1-1/4 SCH 40	1.660	1.380	.140	.786
1-1/2 SCH 40	1.900	1.610	.145	.940
2 SCH 40	2.375	2.067	.154	1.264
2-1/2 SCH 40	2.875	2.469	.203	2.004
3 SCH 40	3.500	3.068	.216	2.621
3-1/2 SCH 40	4.000	3.548	.226	3.151
4 SCH 40	4.500	4.026	.237	3.733

STANDARD ALUMINUM PIPE SCH 80



Size in Inches	Diameters		Wall Thickness Inches	Weight Per Foot Plain Ends
	O.D.	I.D.		
1/4 SCH 80	.540	.302	.119	.185
3/8 SCH 80	.675	.423	.126	.256
1/2 SCH 80	.840	.546	.147	.376
3/4 SCH 80	1.050	.742	.154	.510
1 SCH 80	1.315	.957	.179	.751
1-1/4 SCH 80	1.660	1.278	.191	1.037
1-1/2 SCH 80	1.900	1.500	.200	1.256
2 SCH 80	2.375	1.939	.218	1.737
2-1/2 SCH 80	2.875	2.323	.276	2.650
3 SCH 80	3.500	2.900	.300	3.547
3-1/2 SCH 80	4.000	3.364	.318	4.326
4 SCH 80	4.500	3.826	.337	5.183

PIPE CAN BE SAW CUT TO ANY SPECIFIED LENGTH

Can be used with EuroKlemp modular pipe/tube connectors

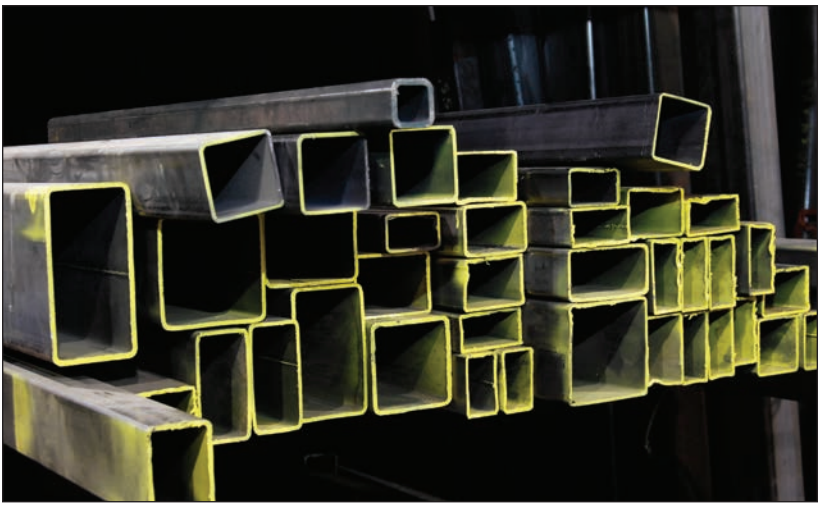
Boss Steel Limited

METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

HOLLOW STRUCTURAL SECTIONS



HOLLOW STRUCTURAL SECTIONS SQUARE

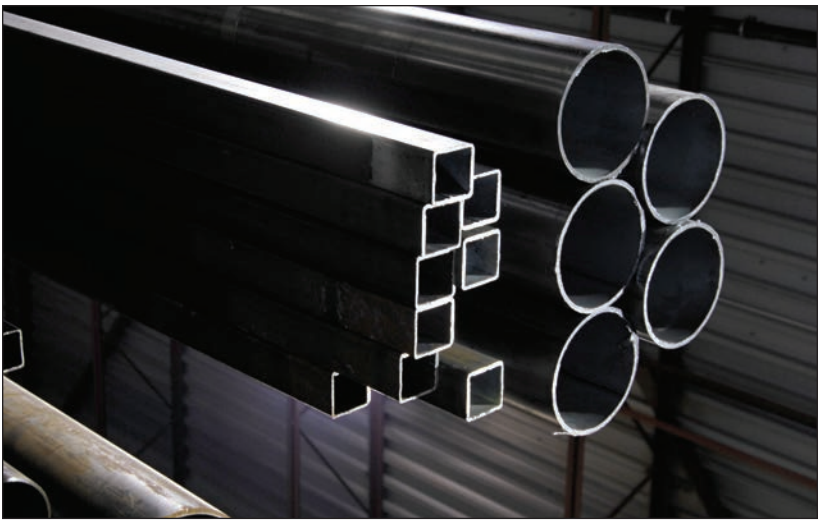
Size	Wall Thickness Inches	Weight per ft.	24 ft. Length	
1 x 1	.083	1.04	25	
	.100	1.14	28	
	.125	1.35	32	
	.150	1.53	37	
1-1/4 x 1-1/4	.100	1.48	36	
	.125	1.78	43	
	.150	2.05	49	
1-1/2 x 1-1/2	.100	1.82	44	
	.125	2.21	53	
	.150	2.56	62	
	.188	3.35	81	
1-3/4 x 1-3/4	.083	1.18	29	
	.100	2.24	54	
	.125	2.76	67	
2 x 2	.100	2.58	62	
	.110	2.69	65	
	.125	3.06	74	
	.150	3.58	86	
	.188	4.33	104	
	.250	5.41	130	
2-1/2 x 2-1/2	.125	3.91	94	
	.150	4.60	111	
	.188	5.61	135	
	.210	6.16	148	Hitch Material
	.250	7.11	171	
3 x 3	.125	4.76	114	
	.150	5.62	135	
	.188	6.89	166	
	.210	7.59	182	
	.250	8.81	212	
	.313	10.59	254	
	.375	12.17	292	

HOLLOW STRUCTURAL SECTIONS SQUARE

Size	Wall Thickness Inches	Weight per ft.	24 ft. Lengths
3-1/2 x 3-1/2	.125	5.61	135
	.188	8.17	196
	.210	9.01	216
	.250	10.51	252
	.313	12.70	305
	.375	14.71	353
4 x 4	.125	6.46	155
	.150	7.66	184
	.188	9.45	227
	.210	10.51	252
	.250	12.21	293
	.313	14.83	356
	.375	17.27	414
	.500	21.63	519
5 x 5	.188	12.00	288
	.250	15.62	375
	.313	19.08	458
	.375	22.37	537
	.438	25.50	612
	.500	27.43	658
6 x 6	.188	14.56	349
	.250	19.02	456
	.313	23.33	560
	.375	27.48	660
	.500	35.24	846
	.625	42.26	1014
7 x 7	.188	17.13	411
	.250	22.42	538
	.313	27.63	663
	.375	32.58	782
	.438	37.40	898
	.500	42.05	1009
	.625	50.76	1938

HOLLOW STRUCTURAL SECTIONS SQUARE

Size	Wall Thickness Inches	Weight per ft.	24 ft. Lengths
8 x 8	.250	25.82	620
	.313	31.84	764
	.375	37.69	905
	.500	48.85	1172
	.625	59.32	1424
10 x 10	.250	32.63	783
	.3125	40.35	968
	.375	47.90	1150
	.500	62.46	1499
	.625	76.33	1832
12 x 12	.250	39.43	946
	.3125	48.86	1173
	.375	58.10	1394
	.438	67.50	1620
	.500	76.00	1824



HOLLOW STRUCTURAL SECTIONS RECTANGULAR

Size	Wall Thickness Inches	Weight per ft.	24 ft. Lengths
2 x 1	.100	1.82	44
	.125	2.21	53
	.150	2.56	61
2-1/2 x 1-1/2	.125	3.05	73
	.188	4.32	104
3 x 1-1/2	.125	3.48	84
	.150	4.09	98
	.188	4.96	119
3 x 2	.125	3.91	94
	.150	4.60	110
	.188	5.61	135
	.210	6.16	148
	.250	7.11	171
	.313	8.43	202
3-1/2 x 2-1/2	.150	5.62	135
	.188	6.89	165
	.250	8.81	211
	.313	10.59	254
4 x 2	.125	4.76	114
	.150	5.64	135
	.188	6.90	166
	.210	7.32	176
	.250	8.80	211
	.313	10.60	254
4 x 3	.125	5.61	135
	.188	8.17	196
	.210	8.76	210
	.250	10.51	252
	.313	12.70	305
	.375	14.71	353
5 x 2	.125	5.61	135
	.188	8.17	196
	.250	10.51	252
	.313	12.70	305
	.375	14.71	353

HOLLOW STRUCTURAL SECTIONS RECTANGULAR

Size	Wall Thickness Inches	Weight per ft.	24 ft. Lengths
5 x 2-1/2	.150	7.15	172
	.188	8.80	211
	.210	9.48	227
	.250	11.30	271
	.313	13.80	331
	.375	16.00	384
5 x 3	.125	6.46	155
	.188	9.45	227
	.250	12.20	293
	.313	14.90	358
	.375	17.30	415
5 x 4	.250	13.91	334
6 x 2	.125	6.46	155
	.188	9.45	227
	.250	12.21	293
	.313	14.83	356
	.375	17.27	414
6 x 3	.125	7.31	175
	.188	10.70	257
	.250	13.91	334
	.375	19.82	476
6 x 4	.188	12.00	288
	.250	15.62	375
	.313	19.08	458
	.375	22.37	537
	.500	28.43	682
7 x 3	.188	12.00	288
	.250	15.6	374
	.313	19.10	458
	.375	22.30	535
7 x 4	.188	13.3	319
	.250	17.32	416
	.313	21.18	508
	.375	24.92	598

HOLLOW STRUCTURAL SECTIONS RECTANGULAR

Size	Wall Thickness Inches	Weight per ft.	24 ft. Lengths
7 x 5	.188	14.56	353
	.250	19.02	456
	.313	23.33	560
	.375	27.48	660
	.438	31.50	756
	.500	35.24	846
8 x 2	.125	8.20	197
	.188	11.90	286
	.250	15.40	370
	.313	18.80	451
	.375	21.90	526
8-1/2 x 2	.125	8.56	305
	.188	12.60	302
	.250	16.50	396
8 x 3	.188	13.28	319
	.250	17.32	416
	.313	21.18	509
	.375	24.92	598
8 x 4	.188	14.56	349
	.250	19.02	456
	.313	23.33	560
	.375	27.48	668
	.500	35.24	846
	.625	42.26	1014
8 x 6	.188	17.13	411
	.250	22.42	538
	.313	27.63	663
	.375	32.58	782
	.500	42.05	1009
	.625	50.76	1218
9 x 5	.188	17.13	411
	.250	22.42	538
	.313	27.63	663
	.375	32.58	782
9 x 7	.188	19.63	471
	.250	25.82	620
	.313	31.84	764
	.375	37.69	904

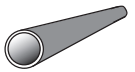
HOLLOW STRUCTURAL SECTIONS RECTANGULAR

Size	Wall Thickness Inches	Weight per ft.	24 ft. Lengths
10 x 4	.188	17.13	411
	.250	22.42	538
	.313	27.63	663
	.375	32.58	782
10 x 6	.250	25.82	620
	.313	31.84	764
	.375	37.69	905
	.500	48.85	1172
	.625	59.32	1424
12 x 6	.188	21.96	527
	.250	28.90	694
	.313	35.49	852
	.375	41.90	1006
	.500	54.10	1298
12 x 8	.250	32.63	783
	.313	40.35	968
	.375	47.90	1150
	.438	55.18	1324
	.500	62.46	1499

HSS CAN BE SAW CUT TO ANY SPECIFIED LENGTH

OFFCUTS AND SHORTS AVAILABLE ON REQUEST

HOLLOW STRUCTURAL SECTIONS ROUND (TUBE)

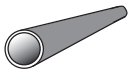


O.D.	Wall Thickness Inches	Weight per Ft. Lbs.
1.05	.100	1.01
	.125	1.23
1.315	.100	1.30
	.125	1.59
1.660	.100	1.67
	.125	2.05
1.900	.100	1.92
	.125	2.38
	.150	2.80
	.188	3.43
2.375	.100	2.43
	.125	3.01
	.150	3.57
	.188	4.40
	.250	5.68
2.875	.125	3.68
	.188	5.40
	.250	7.01
3.500	.125	4.51
	.188	6.65
	.250	8.68
	.300	10.25
4.000	.150	6.17
	.188	7.67
	.210	8.51
	.250	10.02
	.313	12.34
4.500	.188	8.68
	.210	9.63
	.250	11.36
	.313	14.01
5.562	.250	14.20
	.375	20.80

PIPE CAN BE SAW CUT TO ANY SPECIFIED LENGTH

Can be used with EuroKlemp modular pipe/tube connectors

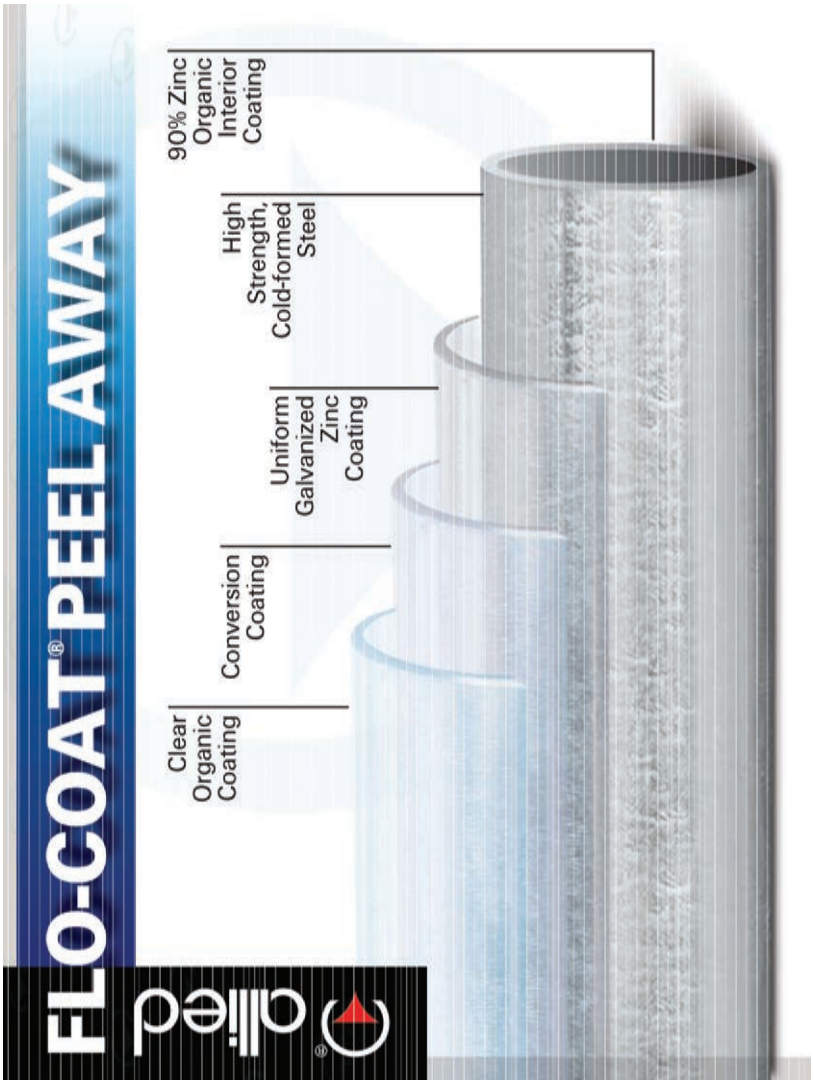
HOLLOW STRUCTURAL SECTIONS ROUND (TUBE)



O.D.	Wall Thickness Inches	Weight per Ft. Lbs.
6.000	.125	7.83
	.188	11.66
	.250	15.34
6.625	.125	8.68
	.188	12.92
	.250	17.00
	.375	25.00
8.625	.125	11.53
	.188	16.94
	.250	22.36
	.375	33.00
	.500	43.40
10.750	.250	28.00
	.313	34.80
	.375	41.60
	.438	82.20
	.500	54.70
12.750	.188	25.22
	.250	33.40
	.313	41.60
	.375	49.60
	.500	65.40
14.000	.250	36.71
	.375	54.57
	.500	72.09
16.000	.250	42.05
	.375	62.58
	.500	82.77

HSS CAN BE SAW CUT TO ANY SPECIFIED LENGTH

FLO-COAT® TUBULAR PRODUCTS



FLO-COAT® TUBULAR PRODUCTS

Flo-Coat galvanized tubing is product of choice where strength & superior corrosion protection is required. Flo-Coat tubing is fabricator friendly and in most cases is suitable for bending, flattening, welding, drilling and painting.

Flo-Coat is also environmentally friendly boasting 99.9% pure zinc coating. Alternatively, hot dip galvanized products usually contain various undesired impurities including lead.
Flo-Coat is already widely used in playground, agri, greenhouse, shelters and many other related applications.

The patented rolling process used to manufacture Flo-coat products also fosters high strength properties over conventional or fence related products - up to 50,000 ksi yield and 55,000 ksi tensile strength.
Flo-coat is a tube that consistently performs, thus enabling cost & service efficiencies over hot dip galvanized applications.

Flow-Coat® Product Features

- Attractive, smooth, shiny surface appearance.
- Resistant to oxidization or “grey down” with age. Resists “white surface rust”
- Superior strength & corrosion resistance properties.
- Zinc - rich interior paint to protect inner tube.
- Clear Organic Coating acts as a primer for liquid/spray paints or powder coats

Flo-Coat® Galvanized Tube

O.D. Inches	Equiv. Size	Wall Thickness	EuroKlemp Size
1.05	3/4" NPS	13 gauge 0.095”	B
1.315	1" NPS	11 gauge 0.120”	C
1.66	1-1/4" NPS	11 gauge 0.120”	D
1.9	1-1/2" NPS	11 gauge 0.120”	E
2.375	2" NPS	10 gauge 0.134”	F

Flo-Coat® & Euroklemp Connectors

- Preferred combination: tube & connector fittings.
- Nice “part-to-part” fit
- Easy “cut- to- length” options.
- Additional Flo-Coat sizes and similar angle related products

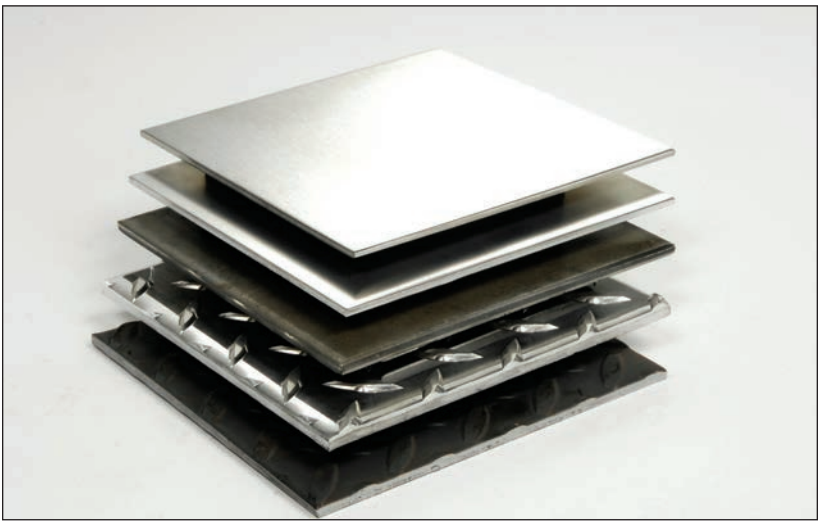
Boss Steel Limited

METAL REFERENCE BOOK

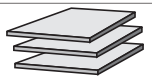
VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

PLATES



SHEETS HR P&O
HOT ROLLED PICKLED AND OILED



Size		Thickness 10 GA. (.1345")	11 GA. (.1196")	12 GA. (.1046")	14 GA. (.0747")	16 GA. (.0598")
Wt.perSq.Ft.		5.625	5.00	4.375	3.125	2.500
36	x 96	135.00	120.00	105.00	75.00	60.00
	120	168.80	150.00	131.30	93.80	75.00
	144	202.50	180.00	157.50	112.50	90.00
48	x 96	180.00	160.00	140.00	100.00	80.00
	120	225.00	200.00	175.00	125.00	100.00
	144	270.00	240.00	210.00	150.00	120.00
60	x 120	281.30	250.00	218.80	156.30	125.00
	144	337.50	300.00	262.50	187.50	150.00
72	x 120	337.50	300.00	262.50	187.50	—
	144	405.00	360.00	315.00	225.00	—
84	x 120	393.75	350.00	306.25	—	—
	144	472.50	420.00	367.50	—	—
96	x 120	450.00	400.00	350.00	—	—
	144	540.00	480.00	420.00	—	—

COLD ROLLED SHEETS

SATIN COTE SHEETS

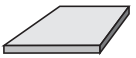
GALVANIZED SHEETS

STANDARD SIZES: 4' x 8' and 4' x 10'

Size		Thickness 10 GA. (.1345")	11 GA. (.1196")	12 GA. (.1046")	14 GA. (.0747")	16 GA. (.0598")
48	x 96	180.00	160.00	140.00	100.00	80.00
	120	225.00	200.00	175.00	125.00	100.00

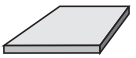
OTHER SIZES AVAILABLE UPON REQUEST

STANDARD STEEL PLATES



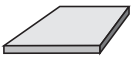
Size			Thickness			
			3/16	1/4	5/16	3/8
36	x	96	184	245	306	367
		120	230	306	383	459
		144	275	368	459	551
48	x	96	245	327	408	490
		120	306	408	510	612
		144	367	490	612	735
		240	613	817	1021	1225
		288	735	980	1225	1470
60	x	120	383	511	638	766
		144	460	613	766	919
		240	766	1021	1276	1531
		288	920	1225	1531	1837
72	x	120	460	613	766	919
		144	552	735	919	1102
		240	919	1225	1531	1837
		288	1130	1470	1836	2205
84	x	120	536	715	893	1072
		144	643	859	1072	1286
		240	1072	1429	1786	2143
		288	1287	1715	2144	2579
96	x	120	613	817	1021	1225
		144	735	980	1225	1470
		240	1226	1634	2042	2450
		288	1471	1960	2450	2940
		360	1836	2450	3062	3674

STANDARD STEEL PLATES



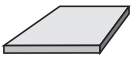
Size			Thickness 7/16	1/2	9/16	5/8
48	x	96	572	653	735	817
		120	715	816	919	1021
		144	858	980	1103	1225
		240	1430	1633	1837	2042
		288	1716	1960	2205	2450
60	x	120	894	1021	1149	1276
		144	1072	1225	1378	1531
		240	1787	2042	2297	2552
		288	2144	2450	2756	3062
72	x	120	1072	1225	1378	1531
		144	1286	1470	1654	1837
		240	2142	2450	2756	3062
		288	2573	2490	3308	3675
		360	3216	3675	4135	4594
84	x	120	1251	1429	1608	1786
		144	1501	1715	1929	2144
		240	2502	2858	3216	3573
		288	3002	3430	3859	4287
		360	3753	4288	4824	5359
96	x	120	1430	1633	1838	2042
		144	1715	1960	2205	2450
		240	2859	3267	3675	4083
		288	3431	3920	4410	4899
		360	4288	4900	5513	6124

STANDARD STEEL PLATES



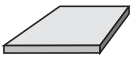
Size			Thickness			
			3/4	7/8	1	1-1/8
48	x	96	980	1144	1307	1470
		120	1225	1430	1634	1838
		144	1470	1715	1960	2206
		240	2450	2859	3267	3676
60	x	120	1532	1787	2042	2297
		144	1838	2144	2450	2757
		240	3063	3574	4084	4595
		288	3676	4288	4901	5514
72	x	120	1838	2144	2450	2757
		144	2205	2573	2940	3308
		240	3676	4288	4900	5514
		288	4410	5146	5881	6617
		360	5513	6433	7351	8271
84	x	120	2144	2502	2859	3217
		144	2572	3002	3431	3860
		240	4288	5004	5718	6433
		288	5146	6004	6861	7720
		360	6432	7505	8576	9650
96	x	120	2450	2859	3267	3676
		144	2940	3431	3921	4411
		240	4901	5718	6534	7345
		288	5881	6862	7841	8820
		360	7351	8578	9801	11028

STANDARD STEEL PLATES



Size			Thickness			
			1-1/4	1-3/8	1-1/2	1-5/8
48	x	96	1634	1797	1960	2124
		120	2042	2246	2450	2654
		144	2450	2695	2940	3185
		240	4084	4492	4900	5309
60	x	120	2553	2808	3063	3318
		144	3063	3369	3676	3982
		240	5105	5615	6126	6636
72	x	120	3063	3369	3676	3982
		144	3676	4042	4410	4778
		240	6126	6738	7351	7963
		288	7351	8086	8821	9556
96	x	120	4084	4492	4901	5309
		144	4901	5390	5881	6371
		240	8168	8984	9802	10618
		288	9802	10780	11762	12741

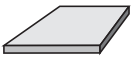
STANDARD STEEL PLATES



Size			Thickness			
			1-3/4	2	2-1/4	2-1/2
48	x	96	2287	2614	2490	3267
		120	2859	3267	3676	4084
		144	3431	3921	4412	4901
		240	5718	6534	7351	8168
60	x	120	3574	4084	4595	5105
		144	4288	4901	5513	6126
		240	7147	8168	9189	10210
72	x	120	4288	4901	5513	6126
		144	5146	5881	6616	7351
		240	8576	9802	11027	12252
96	x	120	5718	6534	7351	8168
		144	6861	7841	8821	9802
		240	11435	13069	14702	16336

Size			Thickness			
			2-3/4	3	3-1/4	3-1/2
48	x	96	3594	3921	4247	4574
		120	4492	4901	5309	5717
		144	5391	5881	6371	6861
		240	8985	9802	10618	11434
60	x	120	5616	6126	6636	7147
		144	6739	7351	7963	8576
		240	11231	12252	13272	14293
72	x	120	6739	7351	7963	8576
		144	8086	8821	9556	10291
		240	13477	14702	15926	17152

STANDARD STEEL PLATES

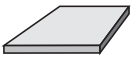


Size			Thickness			
			3-3/4	4	4-1/4	4-1/2
48	x	96	4900	5227	5554	5881
		120	6126	6534	6942	7351
		144	7351	7841	8331	8821
60	x	120	7657	8168	8678	9189
		144	9188	9801	10414	11026
		240	15314	16335	17356	18377
72	x	120	9188	9801	10414	11026
		144	11026	11761	12496	13231

Size			Thickness			
			4-3/4	5	5-1/2	6
48	x	96	6207	6534	7188	7841
		120	7759	8168	8984	9801
60	x	120	9699	10210	11231	12252
		144	11639	12251	13477	14702
		240	19398	20419	22461	24503

Size			Thickness			
			6-1/2	7	7-1/2	8
48	x	96	8494	9148	9801	10455
		120	10618	11435	12252	13068
60	x	120	13273	14294	15315	16336
		144	15927	17152	18377	19603
		240	26545	28587	30629	32671

STANDARD STEEL PLATES



Size			Thickness			
			8-1/2	9	9-1/2	10
48	x	96	11108	11762	12415	13068
		120	13885	14702	15519	16335
60	x	120	17357	18378	19399	20419
72	x	120	20828	22053	23278	24502

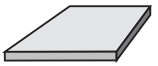
Size			Thickness			
			10-1/2	11	11-1/2	12
48	x	96	13722	14376	15029	15683
60	x	120	21440	22462	23483	24504

STEEL CHECKER PLATES

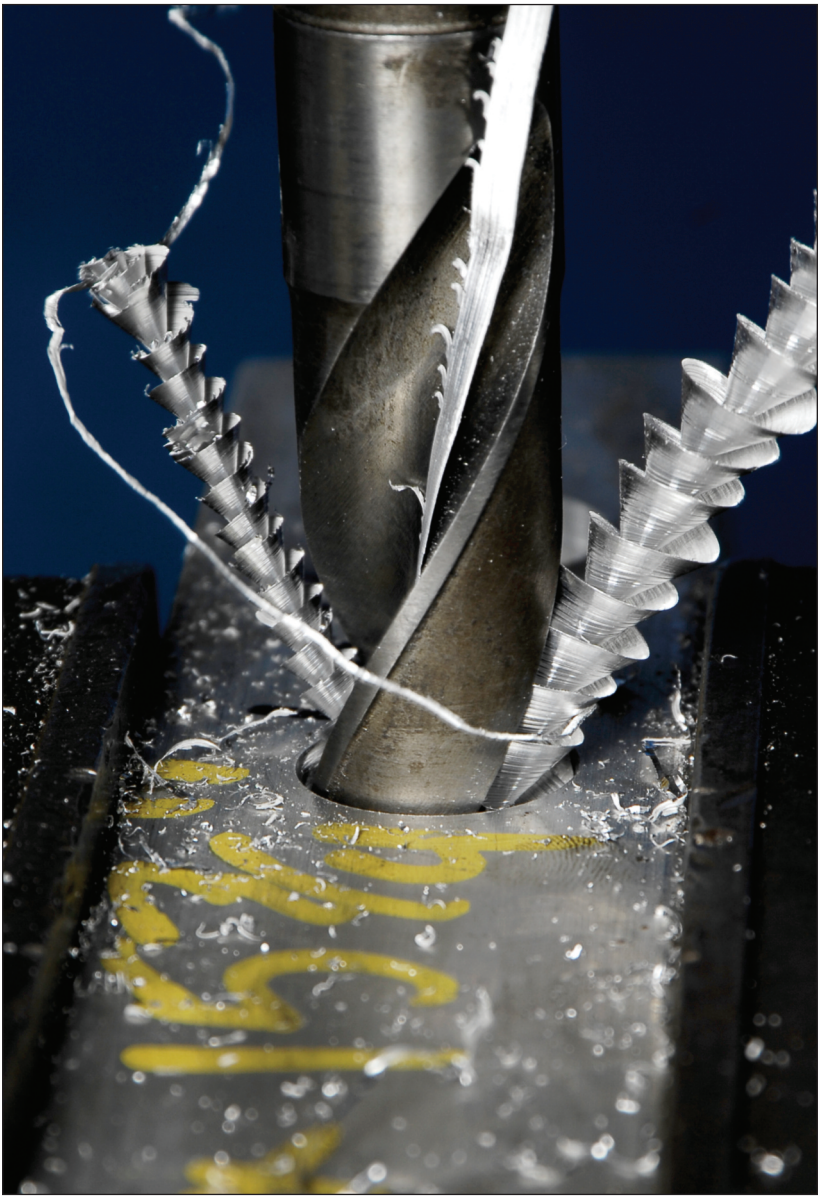
Metric Thickness Imperial			2.0 14 ga.	2.8 12 ga.	3.2 1/8	4.8 3/16
Wt.Lbs.Sq.Ft.			3.52	4.79	5.45	8.12
48	x	96	113	153	174	260
		120	141	192	218	321
		144	169	230	262	385
60	x	120	—	—	273	401
		240	—	—	546	802
72	x	120	—	—	—	481
		240	—	—	—	962

Metric Thickness Imperial			6.0 1/4	8.0 5/16	10.0 3/8	12.0 1/2
Wt.perSq.Ft.			11.26	13.16	16.39	19.58
48	x	96	360.00	421.00	525.00	627.00
		120	450.00	526.00	656.00	783.00
		144	541.00	632.00	787.00	940.00
60	x	120	563.00	658.00	820.00	979.00
		240	1126.00	1316.00	1639.00	1958.00
72	x	120	676.00	790.00	983.00	1175.00
		240	1351.00	1579.00	1967.00	2349.00

THEORETICAL WEIGHT OF STEEL PLATES



Size in Inches	Wt. Per Sq.Ft.Lbs.	Size in Inches	Wt. Per Sq.Ft.Lbs.	Size in Inches	Wt. Per Sq.Ft.Lbs.
1/16	2.55	3	122.52	9	367.55
1/8	5.10	3-1/4	132.72	9-1/4	377.76
3/16	7.66	3-1/2	142.93	9-1/2	387.97
1/4	10.21	3-3/4	153.14	9-3/4	398.18
5/16	12.76				
3/8	15.31	4	163.35	10	408.38
7/16	17.87	4-1/4	173.56	10-1/2	428.80
1/2	20.42	4-1/2	183.77		
9/16	22.97	4-3/4	193.98	11	449.24
5/8	25.52			11-1/2	469.66
11/16	28.08	5	204.19		
3/4	30.63	5-1/4	214.40	12	490.08
13/16	33.18	5-1/2	224.61	12-1/2	510.50
7/8	35.73	5-3/4	234.82		
15/16	38.29			13	530.92
		6	245.03	13-1/2	551.34
1	40.84	6-1/4	255.24		
1-1/8	45.94	6-1/2	265.45	14	571.76
1-1/4	51.05	6-3/4	275.66	14-1/2	592.18
1-3/8	56.15				
1-1/2	61.26	7	285.87	15	612.60
1-5/8	66.37	7-1/4	296.08		
1-3/4	71.47	7-1/2	306.29		
1-7/8	76.57	7-3/4	316.50		
2	81.68	8	326.71		
2-1/8	86.78	8-1/4	336.92		
2-1/4	91.89	8-1/2	347.13		
2-3/8	96.99	8-3/4	357.34		
2-1/2	102.10				
2-5/8	107.20				
2-3/4	112.31				
2-7/8	117.41				



Drill Press

Boss Steel Limited

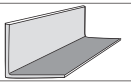
METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

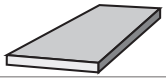
STAINLESS STEEL

STAINLESS STEEL ANGLES



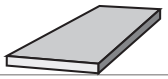
Size in Inches	Weight in Pounds	
	Per Foot	20′ Bar
3/4 x 3/4 x 1/8	.59	11.8
1 x 1 x 1/8	.80	16.0
3/16	1.16	23.2
1/4	1.49	29.8
1-1/4 x 1-1/4 x 1/8	1.01	20.2
3/16	1.48	29.6
1/4	1.92	38.4
1-1/2 x 1-1/2 x 1/8	1.23	24.6
3/16	1.80	36.0
1/4	2.34	46.8
2 x 2 x 1/8	1.65	33.0
3/16	2.44	48.8
1/4	3.19	63.8
3/8	4.70	94.0
2-1/2 x 2-1/2 x 1/4	4.10	82.0
3/8	5.90	118.0
3 x 3 x 1/4	4.90	98.0

STAINLESS STEEL FLAT BAR



Size in Inches	Weight in Pounds	
	Per Foot	12' Bar
1/8 x 1/2	.21	2.52
3/4	.32	3.84
1	.43	5.16
1-1/4	.53	6.36
1-1/2	.64	7.68
2	.85	10.20
2-1/2	1.06	12.72
3	1.28	15.36
4	1.70	20.40
3/16 x 1/2	.32	3.84
3/4	.48	5.76
1	.64	7.68
1-1/4	.80	9.60
1-1/2	.96	11.52
2	1.28	15.36
2-1/2	1.59	19.08
3	1.91	22.92
4	2.55	30.60
6	3.83	45.96
1/4 x 1/2	0.43	5.16
3/4	0.64	7.68
1	0.85	10.20
1-1/4	1.06	12.72
1-1/2	1.28	15.36
2	1.70	20.40
2-1/2	2.13	25.56
3	2.55	30.60
4	3.40	40.80
5	4.25	51.00
6	5.10	61.20
3/8 x 1/2	0.64	7.68
3/4	0.96	11.52
1	1.28	15.36
1-1/4	1.59	19.08
1-1-2	1.91	22.92
2	2.55	30.60
2-1/2	3.19	38.28
3	3.83	45.96
4	5.10	61.20
5	6.38	76.56
6	7.65	91.80

STAINLESS STEEL FLAT BAR

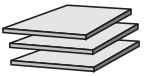


Size in Inches	Weight in Pounds	
	Per Foot	12′ Bar
1/2 x 1	1.70	20.40
1-1/4	2.13	25.56
1-1/2	2.55	30.60
2	3.40	40.80
2-1/2	4.25	51.00
3	5.10	61.20
4	6.80	81.60
6	10.20	122.40
5/8 x 1	2.13	25.56
1-1/4	2.66	31.92
1-1/2	3.19	38.28
2	4.25	51.00
2-1/2	5.31	63.72
3/4 x 1	2.55	30.60
1-1/4	3.19	38.28
1-1/2	3.83	45.96
2	5.10	61.20
2-1/2	6.38	76.56
3	7.65	91.80
1 x 1-1/4	4.25	51.00
1-1/2	5.10	61.20
2	6.80	81.60
3	10.20	122.40
4	13.60	163.20

STAINLESS STEEL PLATES AND SHEETS

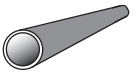
Size			Thickness 1/4 (.250")	3/16 (.187")	11 GA. (.120")	12 GA. (.105")	14 GA. (.075")
Wt.perSq.Ft.			10.210	7.854	5.040	4.410	3.150
48	x	96	326.720	251.328	161.280	141.120	100.800
		120	408.400	314.160	201.600	176.400	126.000

STAINLESS STEEL SHEETS



Size			Thickness 16 GA. (.060")	18 GA. (.048")	20 GA. (.036")	22 GA. (.030")	24 GA. (.024")
Wt.perSq.Ft.			2.520	2.016	1.512	1.260	1.008
48	x	96	80.640	64.512	48.384	40.320	32.256
		120	100.800	80.640	60.480	50.400	40.320

STAINLESS STEEL ROUND TUBES

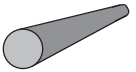


O.D.	Wall Thickness Inches	Weight per Ft. Lbs.
.375	.049	.171
	.065	.215
.500	.049	.236
	.065	.302
.625	.049	.301
	.065	.389
.750	.049	.367
	.065	.476
.875	.049	.432
	.065	.562
1.000	.049	.498
	.065	.649
	.083	.813
	.120	1.128
1.250	.049	.629
	.065	.823
	.083	1.034
	.120	1.448
1.500	.049	.759
	.065	.996
	.083	1.256
	.120	1.769
1.900	.125	2.380
2.000	.049	1.021
	.065	1.343
	.083	1.699
	.120	2.409
2.500	.049	1.283
	.065	1.690
	.083	2.143
	.120	3.050
3.000	.049	1.544
	.065	2.037
	.083	2.586
	.120	3.691
3.500	.065	2.385
	.125	4.506
	.188	6.650
	.250	8.678
4.000	.065	2.732
	.125	5.173
	.188	7.654
	.250	

PIPE CAN BE SAW CUT TO ANY SPECIFIED LENGTH

Can be used with EuroKlemp modular pipe/tube connectors

STAINLESS STEEL ROUND BARS

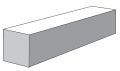


Diameter Size in Inches	Weight in Pounds	
	Per Foot	12' Bar
1/8	.042	0.50
3/16	.094	1.13
1/4	.167	2.00
5/16	.261	3.13
3/8	.376	4.51
7/16	.511	6.13
1/2	.668	8.02
9/16	.845	10.14
5/8	1.043	12.52
11/16	1.260	15.12
3/4	1.502	18.02
13/16	1.763	21.16
7/8	2.044	24.53
15/16	2.357	28.28
1	2.670	32.04
1-1/8	3.380	40.56
1-1/4	4.172	50.06
1-3/8	5.049	60.59
1-1/2	6.008	72.10
1-5/8	7.051	84.61
1-3/4	8.178	98.14
1-7/8	9.388	112.66
2	10.681	128.17
2-1/4	13.519	162.23
2-1/2	16.690	200.28
3	24.033	288.40
3-1/2	32.710	392.52
4	42.730	512.76
5	66.760	801.12
6	96.130	1153.56

STAINLESS STEEL SQUARE TUBES

Size	Wall Thickness Inches	Weight per ft.	20 ft Length
3/4 x 3/4	.049	.467	9.34
	.065	.606	12.12
1 x 1	.049	.634	12.68
	.065	.827	16.54
	.120	1.436	28.72
1-1/4 x 1-1/4	.049	.800	16.00
	.065	1.048	20.96
	.120	1.930	38.60
1-1/2 x 1-1/2	.065	1.269	25.38
	.120	2.252	45.04
2 x 2	.065	1.711	34.22
	.120	3.068	61.36
	.250	5.950	119.00
2-1/2 x 2-1/2	.120	3.880	77.60
	.250	7.670	153.40
3 x 3	.120	4.701	94.02
	.250	9.350	187.00

STAINLESS STEEL SQUARE BARS



Size in Inches	Weight in Pounds	
	Per Foot	12' Bar
1/4	.213	2.56
5/16	.332	3.98
3/8	.478	5.74
1/2	.850	10.20
5/8	1.328	15.94
3/4	1.913	22.96
7/8	2.603	31.24
1	3.400	40.80
1-1/4	5.313	63.76
1-1/2	7.650	91.80
2	13.600	163.20
3	30.600	367.20
4	54.400	652.80

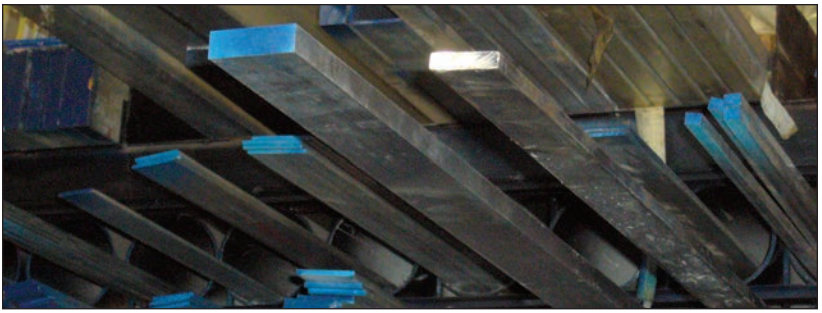
Boss Steel Limited

METAL REFERENCE BOOK

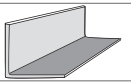
VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

ALUMINUM

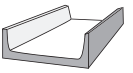


ALUMINUM ANGLES



Size in Inches	Weight in Pounds	
	Per Foot	20' Bar
1/2 x 1/2 x 1/8	.131	2.62
3/4 x 3/4 x 1/8	.206	4.12
1 x 1 x 1/8	.281	5.62
3/16	.409	8.18
1/4	.510	10.20
1-1/4 x 1-1/4 x 1/8	.340	6.80
3/16	.510	10.20
1/4	.660	13.20
1-1/2 x 3/4 x 1/8	.319	6.38
1-1/2 x 1 x 1/8	.356	7.12
1-1/2 x 1-1/2 x 1/8	.420	8.40
3/16	.620	12.40
1/4	.810	16.20
2 x 2 x 1/8	.570	11.40
3/16	.850	17.00
1/4	1.110	22.20
3/8	1.590	31.80
2-1/2 x 2-1/2 x 1/8	.720	14.40
1/4	1.400	28.00
3 x 2 x 1/8	.731	14.62
1/4	1.400	28.00
3 x 3 x 3/16	1.280	25.60
1/4	1.680	33.60
3/8	2.470	49.40
1/2	3.410	68.20
4 x 3 x 3/8	2.930	58.60
1/2	3.830	76.60
4 x 4 x 1/4	2.280	45.60
3/8	3.380	67.60
1/2	4.410	88.20
6 x 6 x 3/8	5.120	102.40

ALUMINUM CHANNELS

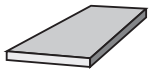


Nominal Size	Flange Width	Web Thickness Inches	Weight in Pounds	
			Per Foot	20′ Bar
1	1/2	1/8	.262	5.24
	3/4	1/8	.350	7.00
2	1	1/8	.563	11.26
3	1-1/4	1/4	1.855	37.10
	2	1/4	2.191	43.82
4	2	3/16	2.012	40.24
	2	1/4	2.540	50.80
5	2	3/16	2.450	49.00
6	2	9/32	3.669	73.38

ALUMINUM CHECKER PLATES

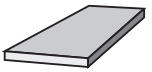
Thickness Inches		1/16 .063	1/8	3/16	1/4	3/8
Wt.Lbs.Sq.Ft.		.970	1.90	2.79	3.67	5.43
48	x 96	31.04	60.80	89.28	117.44	173.76
	120	38.80	76.00	111.60	146.80	217.20
60	x 120	48.50	95.00	139.50	183.50	271.50

ALUMINUM FLAT BARS



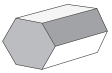
Size in Inches	Weight in Pounds	
	Per Foot	20′ Bar
1/8 x 1/2	.074	1.48
3/4	.110	2.20
1	.147	2.94
1-1/4	.184	3.68
1-1/2	.221	4.42
2	.295	5.90
2-1/2	.368	7.36
3	.440	8.80
3/16 x 1/2	.110	2.20
3/4	.166	3.32
1	.221	4.42
1-1/2	.331	6.62
2	.442	8.84
3	.663	13.26
1/4 x 1/2	.147	2.94
3/4	.221	4.42
1	.295	5.90
1-1/4	.368	7.36
1-1/2	.442	8.84
2	.589	11.78
2-1/2	.736	14.72
3	.883	17.66
3-1/2	1.030	20.60
4	1.180	23.60
6	1.760	35.20
10	2.940	58.80
3/8 x 3/4	.331	6.62
1	.442	8.84
1-1/2	.662	13.24
2	.883	17.66
2-1/2	1.100	22.00
3	1.320	26.40
4	1.770	35.40
6	2.650	53.00
12	5.300	106.00
1/2 x 3/4	.442	8.84
1	.589	11.78
1-1/4	.736	14.72
1-1/2	.883	17.66

ALUMINUM FLAT BARS



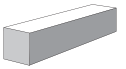
Size in Inches	Weight in Pounds	
	Per Foot	20′ Bar
1/2 x 2	1.180	23.60
2-1/2	1.470	29.40
3	1.770	35.40
3-1/2	2.060	41.20
4	2.350	47.00
6	3.530	70.60
8	4.710	94.20
10	5.890	117.80
3/4 x 1	.883	17.66
1-1/4	1.100	22.00
1-1/2	1.320	26.40
2	1.770	35.40
3	2.650	53.00
4	3.530	70.60
5	4.410	88.20
6	5.300	106.00
1 x 1-1/2	1.770	35.40
2	2.350	47.00
2-1/2	2.950	59.00
3	3.530	70.60
4	4.710	94.20
6	7.070	141.40
8	9.430	188.60
10	11.800	236.00
1-1/4 x 1-1/2	2.210	44.20
2	2.950	59.00
2-1/2	3.680	73.60
3	4.420	88.40
4	5.890	117.80
1-1/2 x 2	3.530	70.60
2-1/2	4.420	88.40
3	5.300	106.00
3-1/2	6.180	123.60
4	7.070	141.40

ALUMINUM HEXAGON BARS

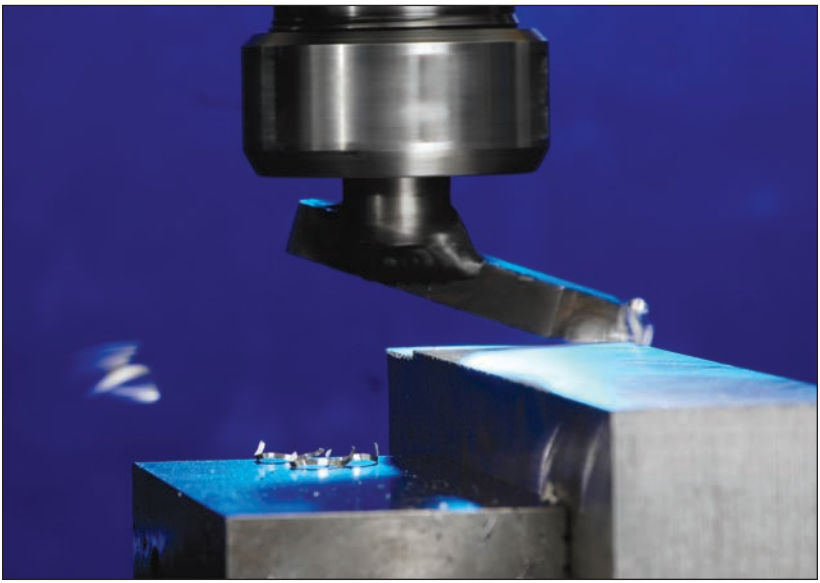


Size in Inches	Weight in Pounds	
	Per Foot	12′ Bar
1/8	.0166	.199
1/4	.0662	.794
3/8	.1491	1.789
1/2	.2650	3.180
5/8	.4141	4.969
3/4	.5962	7.154
7/8	.8116	9.739
1	1.0600	12.720
1-1/8	1.3415	16.098
1-1/4	1.6562	19.874
1-3/8	2.0040	24.048
1-1/2	2.3850	28.620
1-5/8	2.7990	33.588
1-3/4	3.2462	38.954
1-7/8	3.7265	44.718
2	4.2399	50.879
2-1/4	5.3662	64.394
2-1/2	6.6249	79.499
2-3/4	8.0161	96.193
3	9.5399	114.479
3-1/2	12.9848	155.818
4	16.9597	203.516

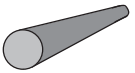
ALUMINUM SQUARE BARS



Size in Inches	Weight in Pounds	
	Per Foot	12′ Bar
1/4	.0765	.9180
3/8	.1721	2.0652
1/2	.3060	3.6720
5/8	.4781	5.7372
3/4	.6885	8.2620
7/8	.9371	11.2452
1	1.2240	14.6880
1-1/4	1.9125	22.9500
1-1/2	2.7540	33.0480
2	4.8960	58.7520
2-1/2	7.6500	91.8000
3	11.0160	132.1920



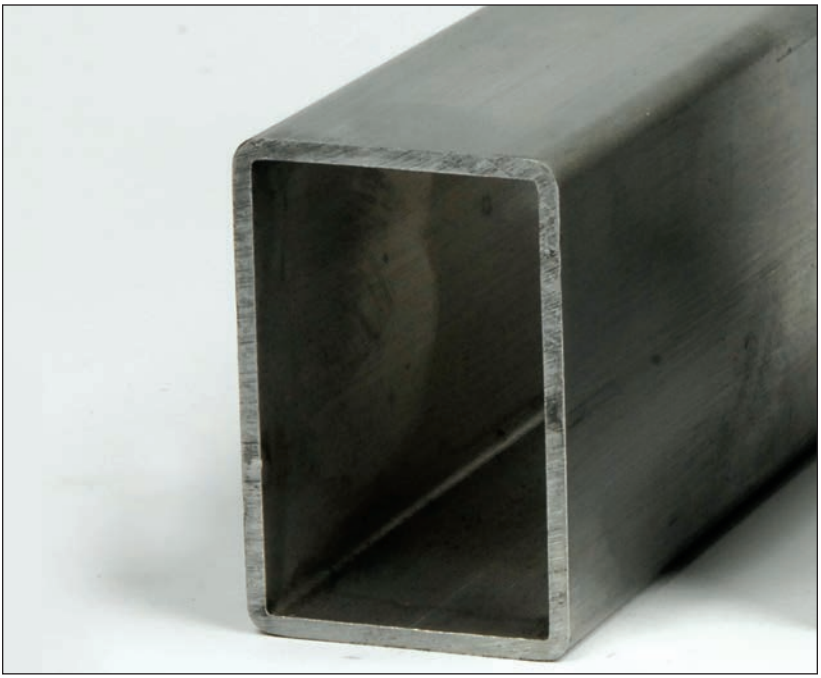
ALUMINUM ROUND BARS



Diameter Size in Inches	Weight in Pounds	
	Per Foot	12′ Bar
1/8	.0150	.1800
3/16	.0338	.4056
1/4	.0601	.7212
5/16	.0939	1.1268
3/8	.1352	1.6224
1/2	.2403	2.8836
5/8	.3755	4.5060
3/4	.5407	6.4884
7/8	.7360	8.8320
1	.9613	11.5356
1-1/16	1.0852	13.0224
1-1/8	1.2167	14.6004
1-1/4	1.5021	18.0252
1-3/8	1.8175	21.8100
1-1/2	2.1630	25.9560
1-3/4	2.9441	35.3292
2	3.8453	46.1436
2-1/4	4.8667	58.4004
2-1/2	6.0083	72.0996
3	8.6519	103.8228
3-1/4	10.1540	121.8480
3-1/2	11.7763	141.3156
4	15.3812	184.5744
4-1/2	19.4669	233.6028
5	24.0332	288.3984
6	34.6078	415.2936

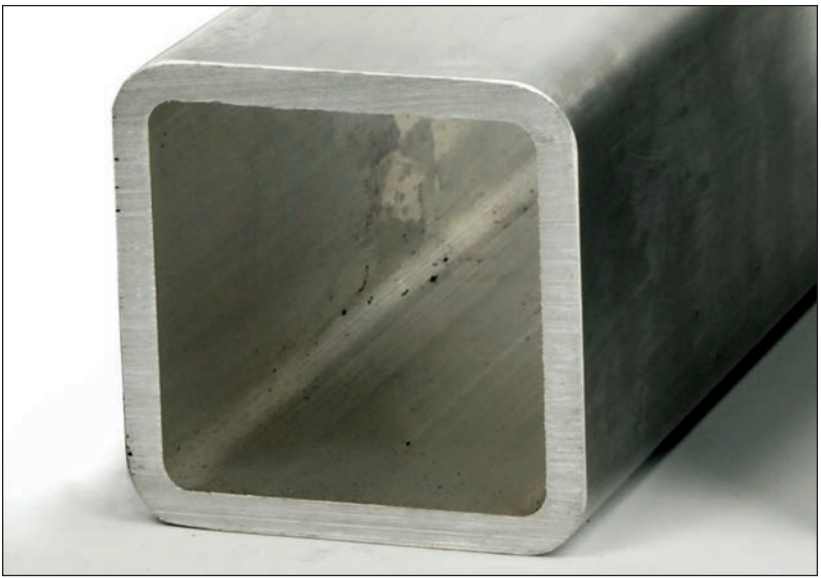
ALUMINUM RECTANGULAR HOLLOW SECTIONS

Size		Wall Thickness Inches	Weight per ft.	20 ft Length
1-1/2	x 1	.125	.675	13.5
2	x 1	.125	.825	16.5
2-1/2	x 1-1/2	.120	1.070	21.4
3	x 1	.125	1.125	22.5
3	x 1-1/2	.125	1.275	25.5
3	x 2	.125	1.425	28.5
4	x 2	.125	1.725	34.5

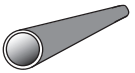


ALUMINUM SQUARE HOLLOW SECTIONS

Size	Wall Thickness Inches	Weight per ft.	20 ft Length
3/4 x 3/4	.062	.2047	4.094
	.125	.3750	7.500
1 x 1	.065	.2920	5.840
	.125	.5120	10.240
1-1/4 x 1-1/4	.095	.5270	10.540
	.125	.6750	13.500
1-1/2 x 1-1/2	.062	.4279	8.558
	.125	.8250	16.500
1-3/4 x 1-3/4	.120	.9762	19.524
2 x 2	.125	1.1250	22.500
	.188	1.6350	32.700
	.250	2.1000	42.000
3 x 3	.125	1.7250	34.500

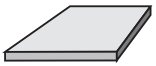


ALUMINUM ROUND HOLLOW SECTIONS



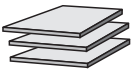
O.D.	Wall Thickness Inches	Weight per Ft.
1/4"	.035	.028
3/8"	.035	.044
	.049	.059
	.065	.074
1/2"	.035	.060
	.049	.082
	.065	.105
5/8"	.049	.104
	.065	.135
3/4"	.035	.093
	.065	.165
	.083	.205
7/8"	.065	.195
1"	.049	.172
	.065	.225
	.083	.281
	.125	.404
1-1/4"	.049	.217
	.065	.285
	.120	.501
	.250	.924
1-1/2"	.065	.345
	.125	.635
	.250	1.155
2"	.065	.465
	.125	.866
	.250	1.616
2-1/2"	.125	1.097
	.188	1.606
	.250	2.078
3"	.125	1.328
4"	.125	1.790

ALUMINUM STANDARD PLATES



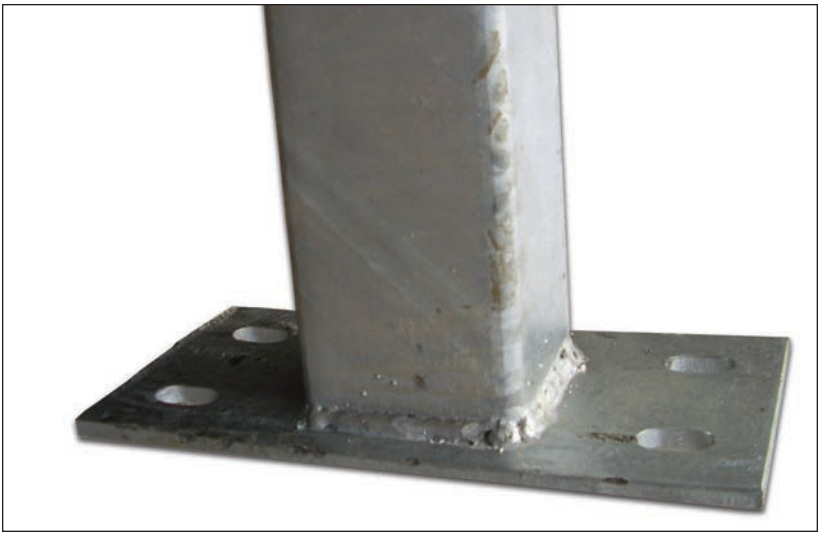
Thickness	Wt. per Sq. Ft. Lbs	4′ x 8′	4′ x 10′	5′ x 10′
.125	1.80	57.60	72.00	90.00
.188	2.71	86.72	108.40	135.50
.250	3.53	112.96	141.20	176.50
.313	4.42	141.44	176.80	221.00
.375	5.29	169.28	211.60	264.50
.500	7.06	225.92	282.40	353.00
.625	8.82	282.24	352.80	441.00
.750	10.60	339.20	424.00	530.00
.875	12.30	393.60	492.00	615.00
1.000	14.10	451.20	564.00	705.00
1.250	17.60	563.20	704.00	880.00
1.500	21.20	678.40	848.00	1060.00
1.750	24.70	790.40	988.00	1235.00
2.000	28.20	902.40	1128.00	1410.00
2.500	35.30	1129.60	1412.00	1765.00
3.000	42.30	1353.60	1692.00	2115.00
3.500	49.40	1580.80	1976.00	2470.00
4.000	56.40	1804.80	2256.00	2820.00

ALUMINUM STANDARD SHEETS



Thickness	Wt. per Sq. Ft. Lbs	4′ x 8′	4′ x 10′	5′ x 10′
24 Ga.				
.020	.288	9.22	11.52	14.40
22 Ga.				
.025	.360	11.52	14.40	18.00
20 Ga.				
.032	.461	14.75	18.44	23.05
18 Ga.				
.040	.576	18.43	23.04	28.80
16 Ga.				
.050	.720	23.04	28.80	36.00
14 Ga.				
.063	.907	29.02	36.28	45.35
12 Ga.				
.080	1.150	36.80	46.00	57.50
11 Ga.				
.090	1.300	41.60	52.00	65.00
10 Ga.				
.100	1.440	46.08	57.60	72.00


Boss Steel Limited



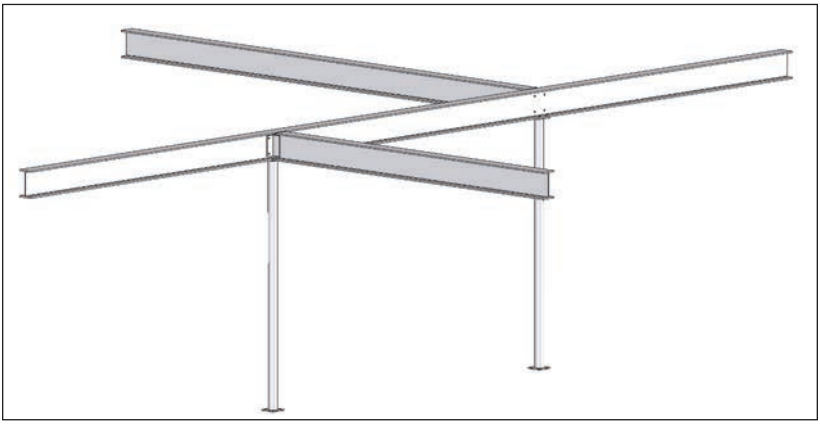
Boss Steel Limited

METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

SPECIAL ITEMS



INTRO
Special Fabricated Items

In this chapter we have grouped our most requested special order items together to illustrate what products are available from Boss Steel, when fabrication according to customized specifications are required.

1) Beam Connections: If your project requires beam to beam connections then choose from our standard connections to get connected.

2) Posts: Simply fill out the blanks on the “post specification form” or choose from the material preference list to order your own custom built post.

3) Post – Beam connections: Choose from our standardized connections or specify your own.

4) Lintel/Rolled Lintel: Pick a size from the Angle section and then specify size and location of the holes/slots or send us a drawing with the appropriate dimensions.

5) Formed Rebar: Pick a size from the Reinforcing/Rebar section and select one of the standardized bends or provide us with a drawing to have it customized.

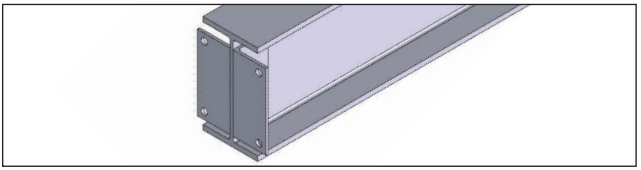
6) Bollard Covers: With six difference sizes and two anchoring options to choose from, just specify the required height and your Bollard will be fabricated to withstand the toughest of environments.

7) A325 Bolts, Nuts & Washers: We carry the most common sizes in stock for beam and post connections.

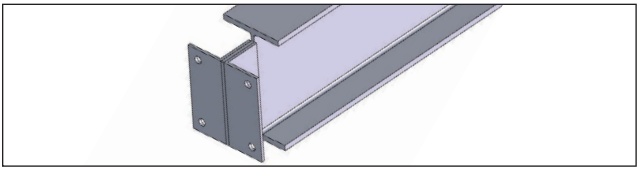
Special Fabricated Items: Beam Connections

In order to connect beams in different configurations there are two types of connections that are most commonly used.

Type 1: Clip
Used to connect same size beam in a straight line.



Type 2: Cope & Clip
Used to make a T-connection for same or different size beam.

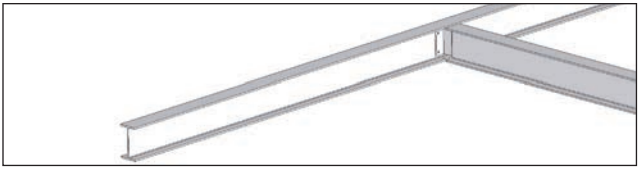


Order example for a type 1:

Beam Size: W250 x 33 CDN Metric (10@22 Imperial)
Beam Length: 5.64 meter (18′ 6″)
Beam Connection: Clip one end
Note clip will be flush with the end of the beam.

Order example for a type 2:

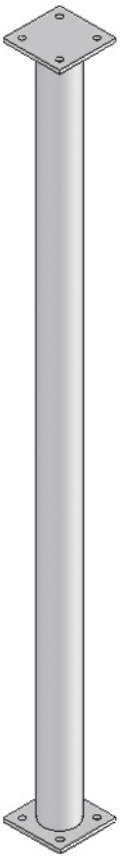
Beam Size: W310 x 97 CDN Metric (12@65)
Beam Length: 3.86 meter (12′ 8″)
Beam Connection: Cope & Clip one end
Beam Size: W310 x 97 CDN Metric (12@65)
Beam Length: 8.59 Meter (28′ 2″)
Beam Connection: 4 holes that match clip; centerline @ 3.20 (10′ 6″) meter from either end.



Note: Other connections as per drawing; Standard prime painted, galvanized optional.

Special Fabricated Items: Posts

In this section we have simplified post customizing in eight easy steps.



Step 1: Adjustable Yes/No
A 1-1/4" adjustable screw located at the bottom of the post allows a 3" height adjustment of the jack post.

Step 2: Tube size
Specify outer diameter/dimensions and wall thickness or pick a size from the most common used list.

Step 3: Top Plate >
Thickness …. x Width…. x Length ….
(please fill in the blanks)
The most common thickness is 3/8",
the width and length are usually sized to match the beam that the post is holding up.

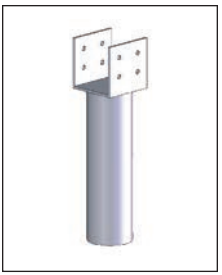
Step 4: Holes in top plate Yes/No
If yes specify hole size. (diameter)

Step 5: Straps/U (saddle-type)/none
In case bolting the top plate to the beam is not an option, then straps might be required. Specify beam size to determine strap lengths. For wood beams a U-type top plate is recommended. Specify wood beam size to determine U- dimensions.

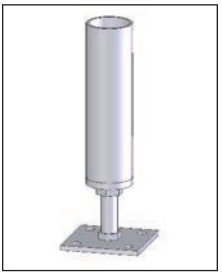
Step 6: Bottom Plate >
Thickness …. x Width …. x Length ….
(please fill in the blanks)

Step 7: Holes in bottom plate Yes/No
If yes specify hole size. (diameter)

Straps



U Saddle Type



Adjustable Post

Step 8: Overall length – top to bottom including plates
(if adjustable, measurement with screw adjuster closed)

Special Fabricated Items: Posts

Tube sizes (most commonly used in posts)

Hollow Structural Sections (HSS) round

HSS 3-1/2″ OD x .188″ wall

HSS 3-1/2″ OD x .250″ wall

HSS 3-1/2″ OD x .300″ wall

Hollow Structural Sections (HSS) square

HSS 4″ x 4″ x .125″ wall

HSS 4″ x 4″ x .188″ wall

HSS 4″ x 4″ x .250″ wall

Other sizes available upon request.

Top & Bottom plates (most common used in posts)

3/8″ x 6″ x 6″

3/8″ x 8″ x 8″

3/8″ x 10″ x 10″

3/8″ x 12″ x 12″

Other sizes available upon request.

Clearance Holes (for top & bottom plates)

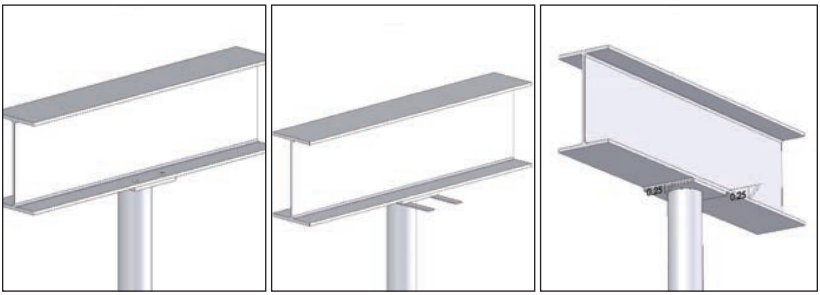
3/4″ diameter for a 5/8″ bolt

7/8″ diameter for a 3/4″ bolt

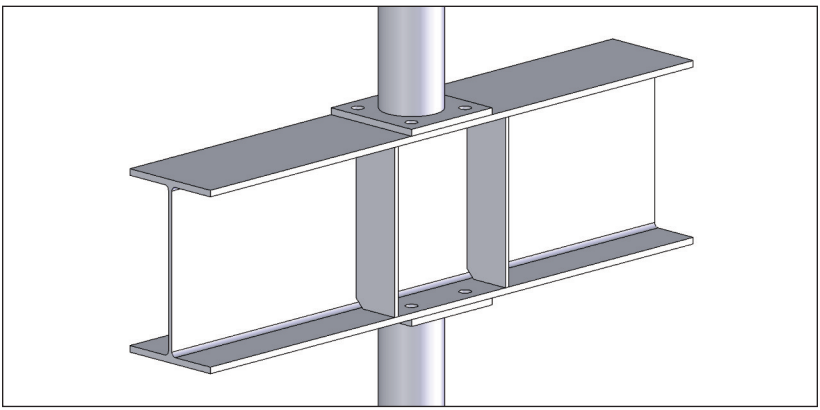
Special Fabricated Items: Post-Beam Connections

In order to connect posts to beams in different configurations there are two types of connections that are most commonly used.

Type 1: Post supporting the Beam: top plate of the post will generally match the width of the beam and in most cases the two will be bolted together. Other options are straps or welding..



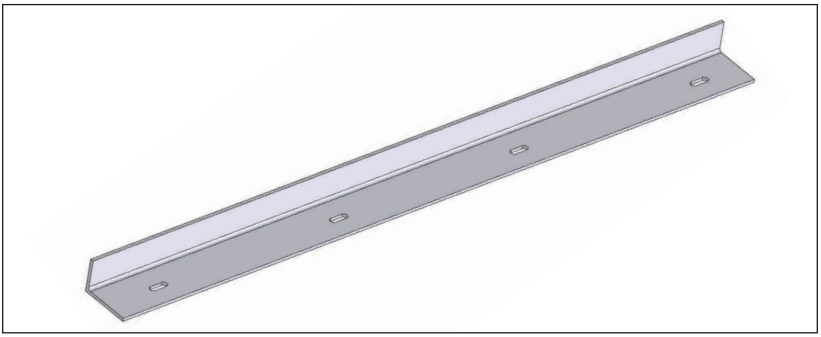
Type 2: Beam supporting the post: bottom plate of the post will generally match the width of the beam and the beam will be outfitted with a set of stiffeners to transfer the load from one story to the other. Bolting the two together is done about 90% of the time but using straps or welding is still an option to be considered alternatively.



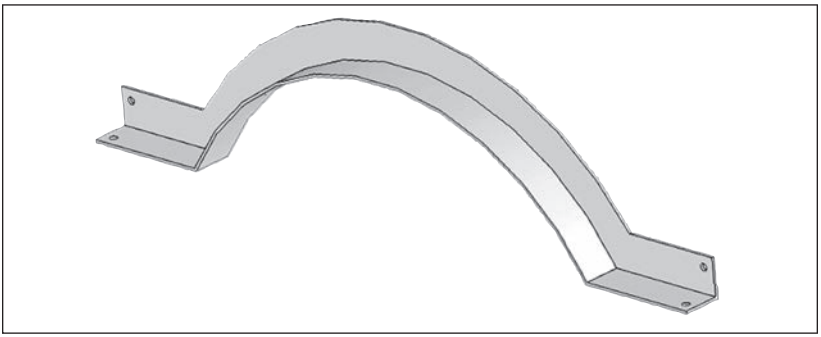
Special Fabricated Items: Lintel/Rolled Lintel

In order to hold up brickwork over windows, doors, and garage doors, the plan will call for a structural Lintel or Rolled Lintel (example: arched window). A Lintel is basically a structural angle that is modified to suit your purpose. If all you need is a straight Lintel with no modifications. Then refer to the angle section of this book, pick the required size, and specify the length. In this Special Fabricated Items section we will show you an example of the two most requested kinds of modified Lintels.

Type 1: Straight Lintel with clearance holes and or slots. First specify angle size, thickness and length. Then provide a drawing or sketch of the size and location of the holes or slots.



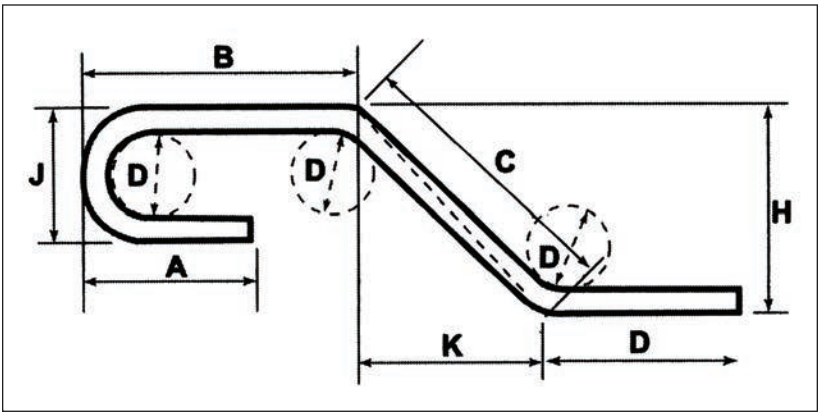
Type 2: Rolled Lintel; fabricated as per drawing.



Special Fabricated Items: Formed Rebar (Reinforcing Bars)

When plans call for formed rebar, then it can be as simple as picking the right size from the Reinforcing/Rebar section and specifying the "Typical Bar Bends" from the "Reinforcing Steel Institute of Canada" or provide us with a detailed drawing to have it customized.

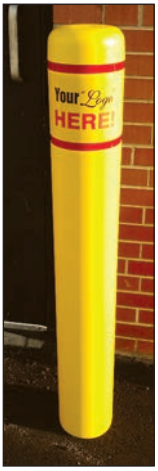
Unless otherwise noted diameter "D" is the same for all bends and hooks on a bar.



ENLARGED VIEW SHOWING BAR BENDING DETAILS

Special Fabricated Items: Bollard Covers

With many different sizes and two anchoring options to choose from, just specify the required height and your Bollard will be fabricated to withstand the toughest of environments.
Available in: 4", 7", 9".
Available in: Yellow, Red, Black, Grey, Blue
Available with custom logos



Tube sizes most commonly used for Bollards
Hollow Structural Sections (HSS) round

HSS 4" OD x .188" wall
HSS 4" OD x .250" wall

HSS 4-1/2" OD x .188" wall
HSS 4-1/2" OD x .250" wall

HSS 6" OD x .125" wall
HSS 6" OD x .188" wall
HSS 6" OD x .250" wall

HSS 6-5/8" OD x .188" wall
HSS 6-5/8" OD x .250" wall

HSS 8-5/8" OD x .250" wall
Other sizes available upon request.

Bottom plates (most common used in Bollards)

3/8" x 6" x 6"
3/8" x 8" x 8"
3/8" x 10" x 10"
3/8" x 12" x 12"
Other sizes available upon request.

Clearance Holes (bottom plates)

3/4 "diameter for a 5/8" bolt
7/8" diameter for a 3/4" bolt

Square tubing available upon request.

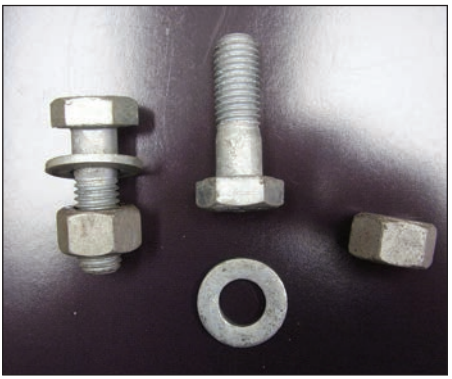
Special Fabricated Items: A 325 Bolts

The ASTM A325 specification covers high strength heavy hexagon structural bolts from 1/2″ diameter through 1-1/2″ diameter. These bolts are intended for use in structural connections and therefore have shorter thread lengths than standard hexagon bolts.

At Boss Steel we stock the three most commonly used sizes in two different lengths along with the appropriate nuts and washers. These Bolts, nuts, and washers are hot dipped galvanized to further enhance their life span.

Bolt sizes:

A 325 hex	1/2" x 1-1/2″
A 325 hex	1/2" x 2″
A 325 hex	5/8" x 1-1/2″
A 325 hex	5/8" x 2″
A 325 hex	3/4" x 1-1/2″
A 325 hex	3/4" x 2″



Technical specifications:

Bolts: Tensile strength 120,000 psi (pounds per square inch)
Yield strength 92,000 psi

Nuts: Hardness HRC 24/38 (Hardness Rockwell Cone)
Yield strength 150,000 psi

Washers: Carbon Steel quenched and temper to HRC 26/45

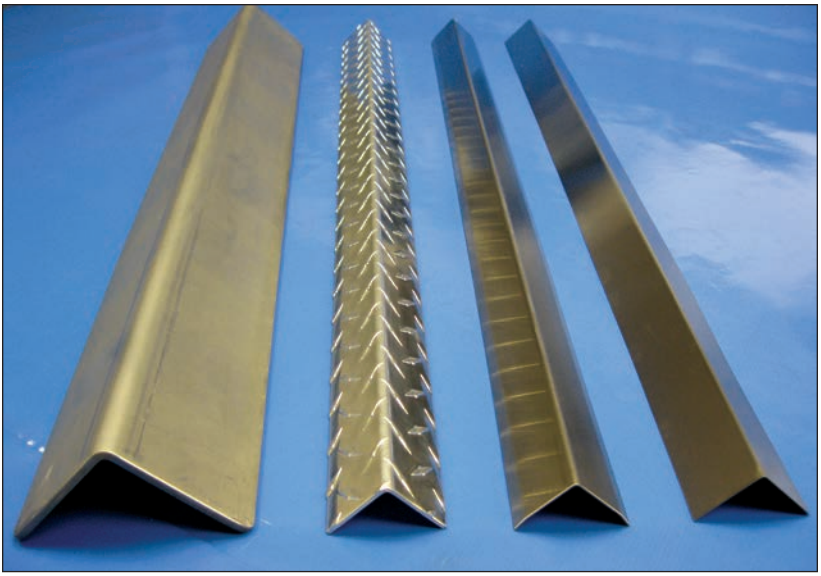
Special Fabricated Items: Corner Guards

We form these functional corner guards/wall protectors from only the highest quality 304-grade Stainless Steel, with a beautiful #4 brushed finish. All are MADE IN CANADA. This provides wall and corner protection that is a must-have in any high-traffic area such as your Home, Retail, Commercial, Office and Industrial spaces, Hospitals, Nursing Homes, Restaurants, Airports, Train stations and Condominium buildings. Prevent costly repairs to plaster, drywall, marble or ceramic wall surfaces!

Our standard size comes 2" x 2" x 48" long 22 gauge with custom sizing available. They come with a PVC protective coating on the outside, to protect the finish until installed. These look great, and really add a luxurious air to any room or hallway.

Also available in other materials and for industrial applications.
For more information please go to:

www.cornerguardsonline.com



Tire Racking

Pier Dock

Industrial Workbench

Furniture

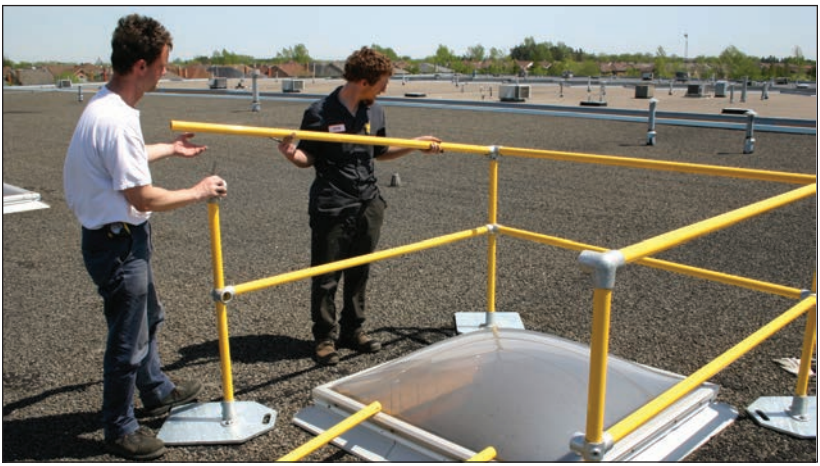
Boss Steel Limited

METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

EUROKLEMP MODULAR PIPE CONNECTORS



INTRO
Modular Pipe/Tube Connectors

With EuroKlemp, our universal modular pipe connection system, there's no limit to what you can do. Engineers, Industrial Professionals and Do-It-Yourselfers will be able to build anything they can think of.

Available in most common pipe sizes. The EuroKlemp already means simple solutions to thousands of customers and is now available to you exclusively through Boss Steel -- your Quality Service Professionals.

Euroklemp Pipe Fittings

All Euroklemp fittings are made of ductile iron and manufactured in accordance to ISO 9002 standards. Due to high mechanical strength values and better behaviours of ductile iron higher loads can be applied to the structures constructed by euroklemp-fittings. A large selection of euroklemp fittings can be used with five different sizes of standard steel pipes, that range from 3/4 inch to 2 inch nominal bore. Although euroklemp fittings are designed for professional applications, they are also ideal for “do-it-yourself” projects, as they are easily, quickly, and cost-effectively erected.

Production and Quality

All Euroklemp-fittings are produced with the latest foundry technology. Patterns for fittings are accurately designed and made by professional pattern makers and used for making moulds in our high-pressure automatic moulding lines. Electric induction furnaces supply molten iron and quality tests and metallurgic analysis are carried out. Castings are heat-treated to achieve better ductility and shot blasted for better surface finish. Finally Euroklemp-fittings are hot-dip galvanized in accordance with ISO 1461 for corrosion resistance hence longer product life. Setscrews are designed and manufactured such that they lock the pipes rigidly by hand tightening (40 N/m torque). For their repeated use and maximum safety they are specially heat-treated.

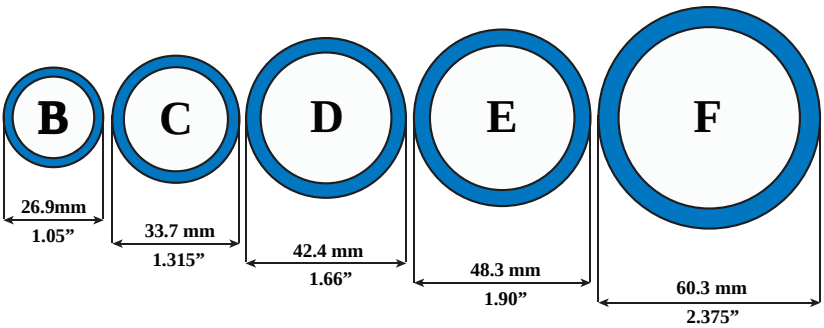
No Limit to Applications

Euroklemps come in a wide range of sizes and shapes to help you assemble your structures quickly and efficiently. You can use Euroklemps for a wide variety of applications.

There are no limits to what you can do. We are also producing custom made clamp fittings upon request.
Some of the common applications:

Cages
Railings
Animal Feed
Agricultural Buildings
Aqua Park
Exhibition Stands
Fences
Playgrounds
Greenhouses
Security Guard-rails
Dam Guard-rails
Railway & Subway
Stock Racks
Guard-rails
Furniture
Shelving
Barriers

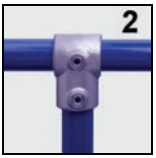
EUROKLEMP (PIPE SIZES)

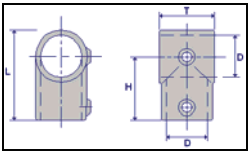


Euroklemp size	B	C	D	E	F
Nominal Pipe size	3/4	1	1 1/4	1 1/2	2

Short Tee

Type 2





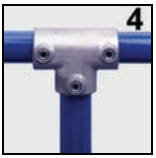
SIZE D	H mm.	T mm.	L mm.	WT. Kg.
B	46	40.5	64.5	0.210
C	54	49	77	0.260
D	61	63	87	0.475
E	69	70	100	0.780
F	84	89	122	1.400

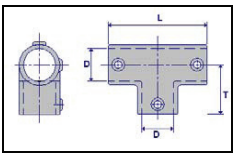
*

Provides a perpendicular connection between two pipes. Top fitting for straight and level railing uprights. This fitting cannot be used to join horizontal pipe within the fitting.

Long Tee

Type 4





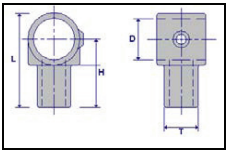
SIZE D	T mm.	L mm.	WT. Kg.
B	42	83.5	0.373
C	46	91	0.503
D	60	137	0.768
E	68	136	1.147
F	85	168	2.400

*

Similar to Type 2. This fitting can be used where a join is required in the horizontal pipe.

Swivel Tee

Type 5



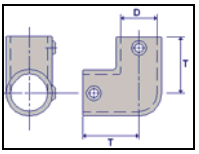
SIZE D	H mm.	T mm.	L mm.	WT. Kg.
C	35	33.5	53	0.320
D	39.5	42	61	0.615
E	42	49	67	0.870

*

Male spigot may be secured within another fitting for variable angles in hand railings for staircases, ramps and similar structures.

Elbow 90°

Type 6



SIZE D	T mm.	WT. Kg.
B	41	0.245
C	47	0.367
D	60	0.581
E	67	0.780
F	85	2.000

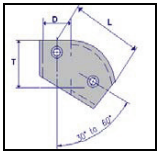
*

Elbow joint fitting used as an end fitting for the top rail.

*** For imperial measurement chart visit www.bossteel.com**

Adjustable Short

Type 7



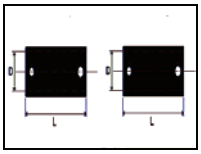
SIZE D	T mm.	L mm.	WT. Kg.
C	68	87	0.504
D	73	97	0.746
E	83	107	1.110

*

This adjustable angle clamp is used to join pipes between 30º and 60º.
Use for diagonal braces, struts and an angled top rail joint to vertical posts on stairs.

Straight Coupling

Type 8



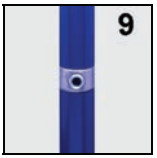
SIZE D	L mm.	WT. Kg.
B	76	0.250
C	92.5	0.373
D	102	0.664
E	102	0.760
F	124	1.400

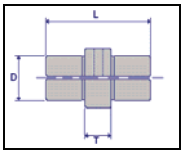
*

Joint clamp for pipes of the same diameter. Do not use for heavy vertical loads.
Alternative clamp is Type 9 used as an internal spigot.

Internal Coupling

Type 9





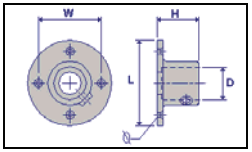
SIZE D	T mm.	L mm.	WT. Kg.
B	22	76	0.140
C	21	76.5	0.145
D	22	78	0.189
E	23	79	0.254

*

A streamlined flush joint in two pipes of the same size. Wall thickness must be 3.2mm. Do not apply direct loads to this joint.

Flange

Type 10



SIZE D	W mm.	L mm.	H mm.	Ø	WT. Kg.
B	57	80	40	6	0.342
C	64	85	50	6	0.455
D	77	102	52	8	0.617
E	91	116	61	8	0.921
F					

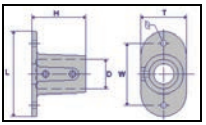
*

This clamp is used on structures where positional fixing is required.
Do not use as a base flange to support guard railings or similar systems.

*** For imperial measurement chart visit www.bossteel.com**

Railing Base Flange

Type 12



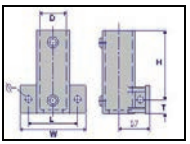
SIZE D	W mm.	L mm.	H mm.	T mm.	Ø	WT. Kg.
B	75	114	77	64	11	0.608
C	87.5	126	91	78.5	14	0.893
D	102	142	104	81	14	1.261
E	113	152	112	91	14	1.530
F	126	165	128	103	17.5	2.700

*

Strong baseplate to support vertical post. Vertical wide rib with two setscrews increases the strength of the clamp. The fixing holes in the base flange should be in line with the applied load.

Horizontal Base Railing Support

Type 13



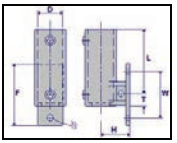
SIZE D	W mm.	L mm.	H mm.	T mm.	Ø	WT. Kg.
C	100	66	89	21	14	1.016
D	110	72	86	22	14	1.253
E	124	90	96	23	14	1.680

*

Side-mounting clamp for vertical posts. Pipe cannot pass through this clamp. Designed for palm fixing guard railings and balustrades to walls, parapets, steps and ramps.

Vertical Base Railing Support

Type 14



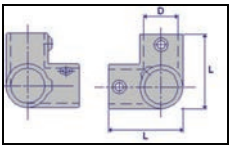
SIZE D	W mm.	F mm.	L mm.	H mm.	T mm.	Ø	WT. Kg.
C	67.5	96	89	58	20	14	0.950
D	72	110	85	65	24	14	1.279
E	90	125	95	65	23	14	1.617

*

Similar to Type 13.

Three Way Top Corner

Type 18



SIZE D	L mm.	WT. Kg.
B	39	0.372
C	46	0.507
D	59	0.894
E	69	1.268
F	124	2.400

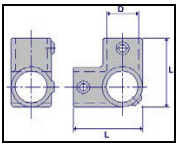
*

Corner joint (90°) clamp used for top rail corners and any other rectangular system.

*** For imperial measurement chart visit www.bossteel.com**

Corner With Trough Tube

Type 20

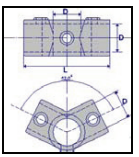


SIZE D	L mm.	WT. Kg. *
B	42	0.292
C	47	0.342
D	60	0.653
E	67	0.915
F	124	1.750

Often used on intermediate rail corners to match Type 18, pipe passes through the clamp.

120° Corner With Trough Tube

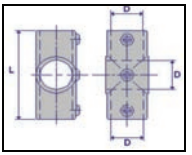
Type 21



SIZE D	L mm.	WT. Kg. *
E	152	1.150

Two Socket Cross

Type 22

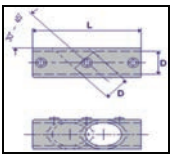


SIZE D	L mm.	WT. Kg. *
B	92	0.302
C	108	0.473
D	120	0.629
E	137	1.109
F	167	1.900

90º- joint clamp between the middle rail and an upright on railings.

Adjustable Two Socket Cross

Type 23



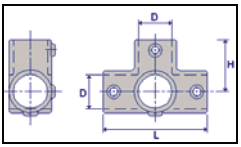
SIZE D	L mm.	WT. Kg. *
C	150	0.697
D	192	1.135
E	218	1.851

This variable angled clamp may be used at any selected angle between 30 and 45 degrees. Type 7 can be used for the top rail.

*** For imperial measurement chart visit www.bossteel.com**

Side Outlet Tee

Type 24



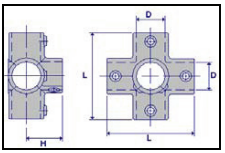
SIZE D	H mm.	L mm.	WT. Kg.
B	42	84	0.353
C	45	92	0.457
D	59	118	0.782
E	67	136	1.043
F	84	168	2.250

*

3-direction clamp used to fix uprights with 3 horizontal pipes that are perpendicular to each other. Upright pipe passes through the clamp.

Four Socket Cross

Type 26



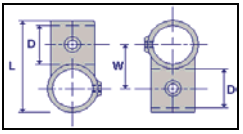
SIZE D	H mm.	L mm.	WT. Kg.
B	33	84	0.447
C	35	91	0.612
D	44	120	1.012
E	53	136	1.600
F	84	167	2.600

*

4-direction clamp used to fix uprights with 4 horizontal pipes that are perpendicular to each other. Upright pipe passes through the clamp.

Crossover 90°

Type 28



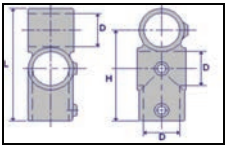
SIZE D	W mm.	L mm.	WT. Kg.
B	34	71	0.206
C	42	86	0.329
D	50	104	0.534
E	54	117	0.717
F	65	145	1.600

*

Crossover clamp (90°). Used for long pipe intersections with uprights where decreasing cutting cost and increasing strength of the system with continuity of the pipe is desired.

Combi Socket Tee and Cross

Type 30



SIZE D	H mm.	L mm.	WT. Kg.
B	80	100	0.307
C	95	117	0.437
D	109	135	0.680
E	123	155	1.052
F			

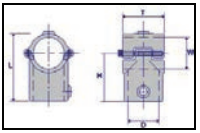
*

Frequently used for racking. Upright hole can be changed according to the application. For shelved racking the outside hole is the upright, and for pallet racking the upright is inside the carrying rails.

*** For imperial measurement chart visit www.bossteel.com**

Add-on Tee

Type 31

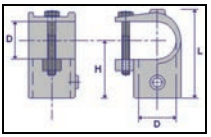


SIZE D	T mm.	W mm.	H mm.	L mm.	WT. Kg.
E	60	51	70	108	0.900

*

Clamp-On Tee

Type 32



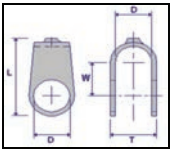
SIZE D	H mm.	L mm.	WT. Kg.
B	51	78	0.263
C	54.5	85	0.423
D	69	102	0.673
E	69	114	0.900
F			

*

Used for adding to and modifying an existing structure.

Clamp-On Crossover

Type 33



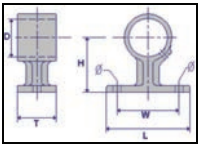
SIZE D	W mm.	T mm.	L mm.	WT. Kg.
B	27	41	74	0.163
C	32	50	87	0.257
D	45	65	105	0.479
E	50	68	124	0.611

*

90° crossover joint fitting for adding to an existing structure.

Handrail Support

Type 34



SIZE D	W mm..	L mm.	H mm.	T mm.	Ø	WT. Kg.
B	57	77.5	56	47	8	0.428
C	63	82.5	56	47	8	0.479
D	82	100.5	64	47	8	0.657
E	82	107	64	47	8	0.803

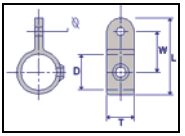
*

For fixing handrails and structures to walls.

*** For imperial measurement chart visit www.bossteel.com**

Male Single Lug

Type 36



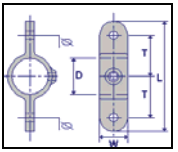
SIZE D	W mm..	L mm.	T mm.	Ø	WT. Kg.
B	37	71	38	11	0.188
C	41	81	38	11	0.204
D	50	93	49	11	0.323
E	54	101	46	11	0.416
F					

*

Used with Type 42 for swivel fittings, also used for fixing panels and boards.

Male Double Lug

Type 38



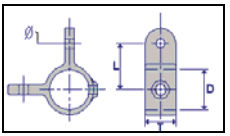
SIZE D	W mm..	L mm.	T mm.	Ø	WT. Kg.
B	39	119	38	11	0.234
C	34	120	43	11	0.284
D	49	132	50	11	0.444
E	49	140	55	11	0.506

*

Similar to Type 36 with two lugs on the same axis.

Male Corner Lug

Type 40



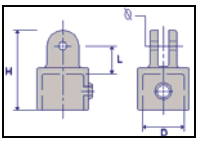
SIZE D	L mm.	T mm.	Ø	WT. Kg.
B	38	38	11	0.245
C	42	34	11	0.287
D	50	49	11	0.450
E	55	48	11	0.518

*

Similar to Type 36 with two lugs which are perpendicular to each other.

Female Single Socket

Type 42



SIZE D	L mm.	H mm.	Ø	WT. Kg.
B	26	79	11	0.294
C	26	77	11	0.360
D	26	88	11	0.542
E	30	94	11	0.718

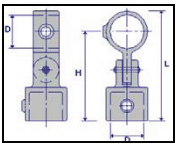
*

One part of swivel fitting, not generally used alone.

*** For imperial measurement chart visit www.bossteel.com**

Single Swivel

Type 44



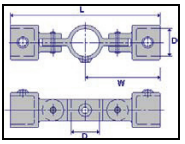
SIZE D	H mm.	L mm.	WT. Kg.
B	99	115	0.520
C	104	128	0.570
D	120	142	0.880
E	128	153	0.995

*

Swivel fitting for variable angle fixing.

Double Swivel

Type 46



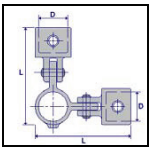
SIZE D	W mm..	L mm.	WT. Kg.
B	99	198	0.930
C	104	208	1.036
D	120	240	1.470
E	128	256	1.670

*

Swivel fitting for variable angle fixing for two sides of the post.

Corner Swivel

Type 48



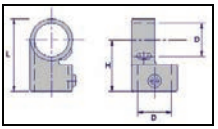
SIZE D	L mm.	WT. Kg.
B	115	0.883
C	128	1.010
D	142	1.555
E	153	1.880

*

Swivel fitting for variable angle fixing for corner post.

Adjustible Swivel Tee

Type 49



SIZE D	L mm.	H mm.	WT. Kg.
B	81	63	0.222
C	84	59	0.272
D	101	73	0.502
E	123.5	93	0.868

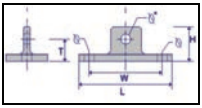
*

Always used in pairs to allow angle variation between 90 to 180 degrees.

*** For imperial measurement chart visit www.bossteel.com**

Swivel Base Plate

Type 50



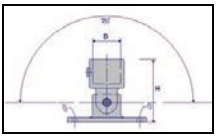
SIZE D	W mm.	T mm.	L mm.	H mm.	Ø˚	Ø	WT. Kg.
B	82	36	113	50.5	10	11	0.355
C							
D							
E							

*

For fixing structures to wall or floor, usually used with Type 42.

Swivel Base

Type 51



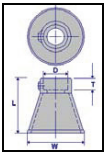
SIZE D	H mm.	Ø	WT. Kg.
B	73	11	0.692
C	91	11	0.782
D	114	11	0.945
E	130	11	1.045

*

Used for an angled wall attachment or support for an upright post.

Pallet Flange

Type 52



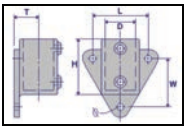
SIZE D	L mm.	T mm.	W mm.	WT. Kg.
E	113	30	120	1.197

*

Pallet racking fitting. Bottom bell used to affix the pipe to the lower rack.
Only E Type is available.

Side Palm

Type 53



SIZE D	W mm.	T mm.	L mm.	H mm.	Ø	WT. Kg.
C	63	23	72	79	10	0.653
D	72	29	83	86	10	0.951
E	78	33	85	90	10	1.279

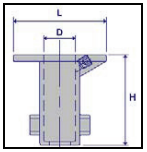
*

Side-mounting fitting for vertical post. The upright cannot pass through the fitting.

*** For imperial measurement chart visit www.bossteel.com**

Groundsocket

Type 54



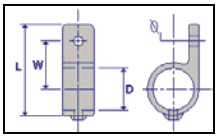
SIZE D	L mm.	H mm.	WT. Kg.
C	98	91	1.000
D	123	114	1.500
E	140	130	2.000

*

A ground socket fitting inside of concrete for affixing to upright pipe to. Post is retained with a locking setscrew, allowing easy insertion and removal (if necessary).

Collar Plate Single Side

Type 55



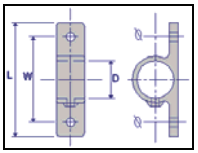
SIZE D	W mm..	L mm.	Ø	WT. Kg.
E	50	103	11	0.600

*

Fitting for panel affixing. Only E Type is available.

Collar Plate Double Side

Type 56



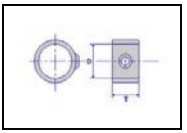
SIZE D	W mm.	L mm.	Ø	WT. Kg.
E	100	138	11	0.700

*

Panel affixing with two lugs also used for locking gates. Only E Type is available.

Collar

Type 60



SIZE D	T mm.	WT. Kg.
B	29	0.098
C	28	0.132
D	29	0.197
E	28	0.257

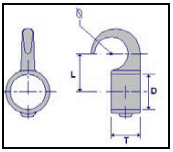
*

Support fitting to increase slip resistance of fittings that are under high loads.

*** For imperial measurement chart visit www.bossteel.com**

Hook

Type 61



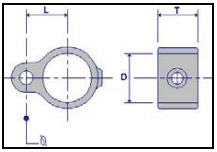
SIZE D	T mm.	L mm.	Ø	WT. Kg.
B	29	31	22	0.161
C	28	35	22.5	0.198
D	29	42	23	0.296
E	29	44	24	0.342

*

Fitting used for chain attachments.

Eye Hinge

Type 62



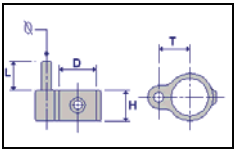
SIZE D	T mm.	L mm.	Ø	WT. Kg.
B	28	30	14.5	0.195
C	27	32.5	14.5	0.215
D	27	40	14.5	0.250
E	28	41	14.5	0.290

*

Female hinge fitting.

Pin Hinge

Type 63



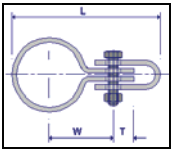
SIZE D	L mm.	T mm.	H mm.	Ø	WT. Kg.
B	37.5	29	29	13.5	0.207
C	37	32.5	28	13.5	0.227
D	36	35	29	13.5	0.274
E	36	40.5	28	13.5	0.300

*

Male hinge pin fitting used in combination with Type 62.

Single Sided Panel Clip

Type 70



SIZE D	W mm.	L mm.	T mm.	WT. Kg.
B	22	56	10	0.070
C	28	70	12,5	0.080
D	35	88	16	0.080
E	40	101	18	0.090

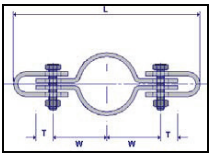
*

One-sided mesh panel clip.

*** For imperial measurement chart visit www.bossteel.com**

Double Sided Panel Clip

Type 71



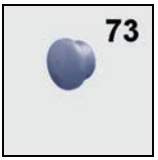
SIZE D	T mm.	L mm.	W mm.	WT. Kg.
B	10	93	24	0.110
C	13	116	30	0.120
D	16	147	38	0.130
E	18	167	43	0.140

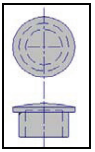
*

Two-sided mesh panel clip.

Metal Plug

Type 73





SIZE D	WT. Kg.
B	0.050
C	0.100
D	0.120
E	0.170

*

Aluminum cap used to plug the end of the pipe.

Plastic Plug

Type 74

SIZE D	WT. Kg.
B	
C	
D	
E	
F	

*

Plastic cap used to plug the end of the pipe.

Set Screws

Type 75

SIZE D	Hex Size
B	1/4
C	1/4
D	5/16
E	5/16
F	5/16

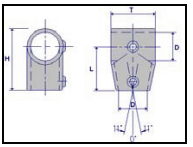
*

Zinc plated set screws heat treated for extra hardness.

*** For imperial measurement chart visit www.bossteel.com**

Short Slope Tee

Type 2SE



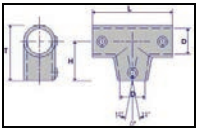
SIZE D	H mm.	T mm.	L mm.	WT. Kg.
E	104	82	78	1.020

*

Top fitting for up to 11° uprights. This fitting can not be used to join horizontal pipe within the fitting. Only E Type is available.

Long Slope Tee

Type 4SE



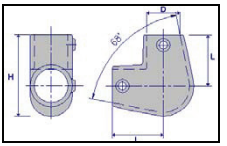
SIZE D	H mm.	T mm.	L mm.	WT. Kg.
E	70	104	157	1.700

*

Similar to Type 2SE. This fitting can be used where a join is required in the horizontal pipe. Only E Type is available.

Slope Elbow

Type 6SE



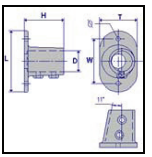
SIZE D	H mm.	L mm.	WT. Kg.
E	100	69	1.240

*

Elbow joint fitting used as an end fitting for the top rail up to 11°. Only E Type is available.

Slope Railing Base

Type 12SE



SIZE D	T mm.	H mm.	W mm.	Ø	L mm.	WT. Kg.
E	98	91.5	110	14.5	154	1.630

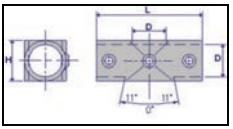
*

Base fitting for railings designed on slopes up to 11°. Only E Type is available.

*** For imperial measurement chart visit www.bossteel.com**

Two Socket Slope Cross

Type 22SE



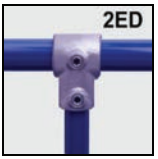
SIZE D	L mm.	H mm.	WT. Kg.
E	157	66	1.260

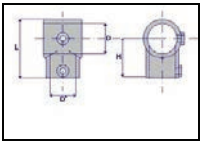
*

Joint clamp between the middle rail and upright on slope railings up to 11°. Only E Type is available.

Reducing Short Tee

Type 2ED





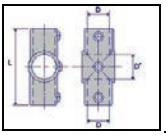
SIZE D		L mm.	H mm.	WT. Kg.
D	D*			
E	D	96	65	0.696
D	E	94	66	0.710

*

Used as Type 2. Reduction fitting makes it possible to design structures in two different pipe diameters.

Reducing Two Socket Cross

Type 22ED



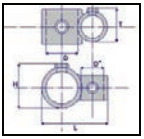
SIZE D		L mm.	WT. Kg.
D	D*		
D	E	129	0.880

*

Used as Type 22. Reduction fitting makes it possible to design structures in two different pipe diameters.

Reducing Crossover 90°

Type 28EC



SIZE D		T mm.	H mm.	L mm.	WT. Kg.
D	D*				
E	C	53	70	104	0.608
E	D	60	70	110	0.768

*

Used as Type 28. Reduction fitting makes it possible to design structures in two different pipe diameters.

*** For imperial measurement chart visit www.bossteel.com**

Boss Ballet Barres

www.balletbarresonline.com

Free standing ballet bars/senior exercise bar, or physique 57 workout exercises. Heavy-duty, professional quality – great for studio or home use. Easy to assemble and disassemble with only an allen key needed.

- strong, durable steel construction
- available in several different colours and lengths
- includes a lifetime warranty on any manufacturers defect

Princess Barres	48″ long	36″ high	1-5/16″ dia.
Boss Bar Intermediate	48″ long	44″ high	1-5/16″ dia.
	72″ long	44″ high	1-5/16″ dia.
	96″ long	44″ high	1-5/16″ dia.
Boss Bar Pro	72″ long	44″ high	1-5/8″ dia.
	96″ long	44″ high	1-5/8″ dia.
	108″ long	44″ high	1-5/8″ dia.




Modular Scoring Board




Garage Racking

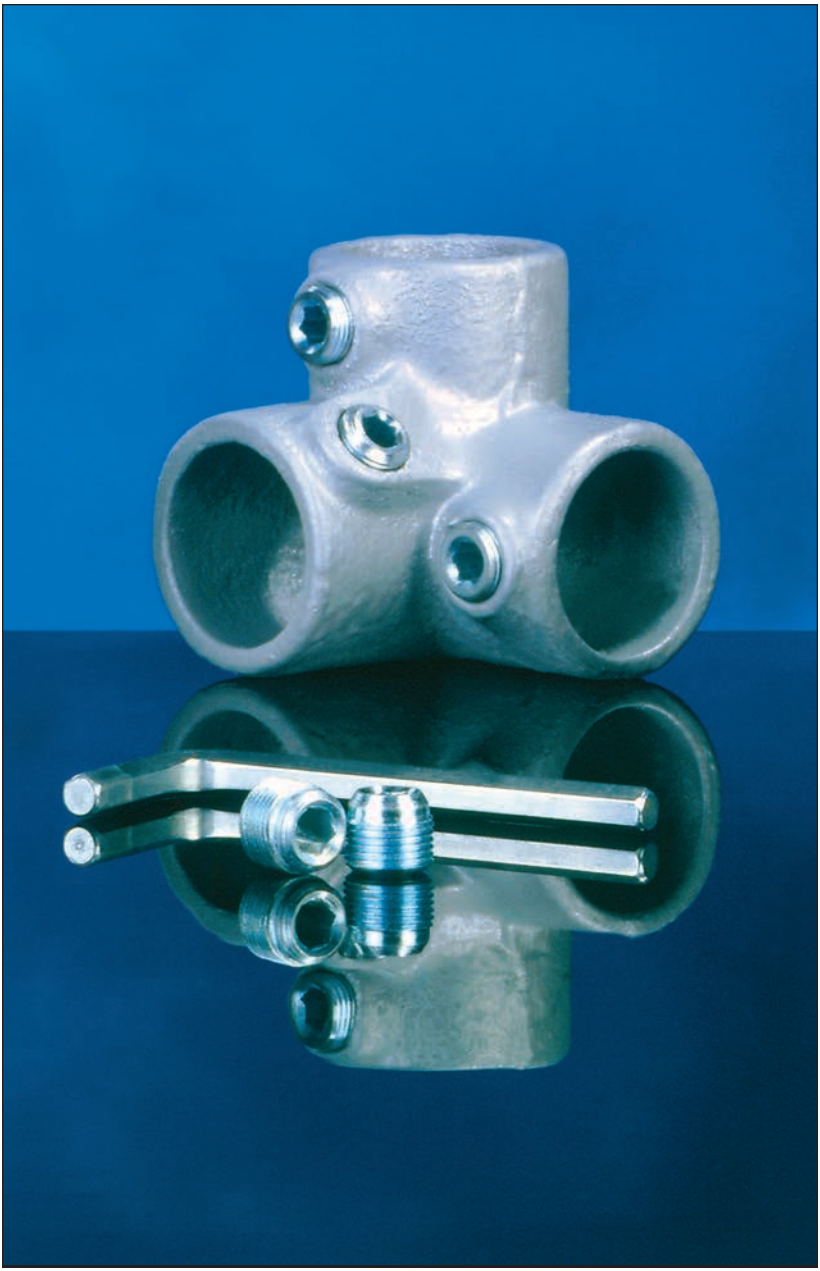
Railing

Roof Top Guard Railing

Carport Shelter

Tire Racking

Hospitality Structures



Boss Steel Limited

METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

SAFETY RAILING

www.safetyrailing.org

EUROKLEMP SAFETY RAILING

6 ft Straight Section size D 1-1/4" (OD 1.66" x 0.125" wall) Powder Coated Safety Yellow

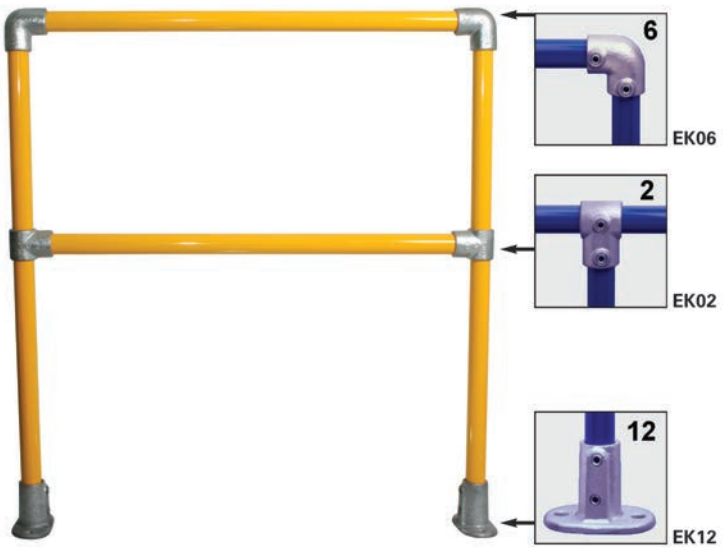
Q	Item #	Description
2	EK02D	1-1/4" Short Tee
2	EK06D	1-1/4" Elbow 90 Deg
2	EK12D	1-1/4" Railing Base Flange
2	EKT442-SY	Tube size D 42" P-SY (Vertical Post)
2	EKT472-SY	Tube size D 72" P-SY (Horizontal Post)*

* Horizontal lengths available in shorter sizes.

6 ft Straight Section size E 1-1/2" (OD 1.90" x 0.125" wall) Powder Coated Safety Yellow

Q	Item #	Description
2	EK02E	1-1/2" Short Tee
2	EK06E	1-1/2" Elbow 90 Deg
2	EK12E	1-1/2" Railing Base Flange
2	EKT642-SY	Tube size E 42" P-SY (Vertical Post)
2	EKT672-SY	Tube size E 72" P-SY (Horizontal Post)*

* Horizontal lengths available in shorter sizes.



EUROKLEMP SAFETY RAILING

6 ft Extension Section size D 1-1/4" (OD 1.66" x 0.125" wall) Powder Coated Safety Yellow

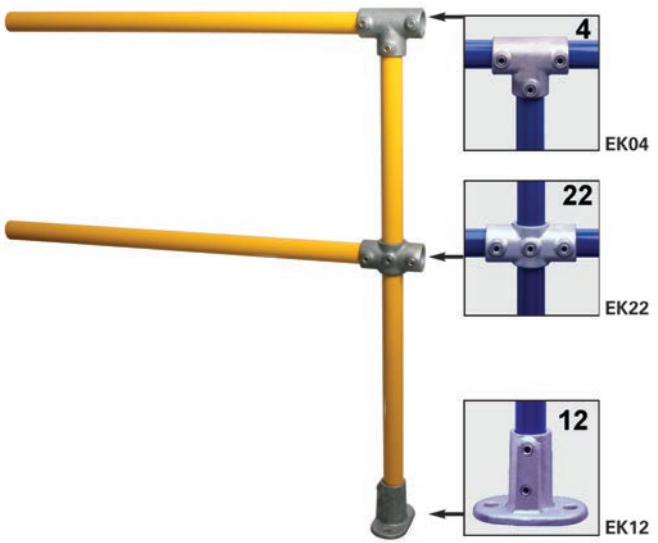
Q	Item #	Description
1	EK04D	1-1/4" Long Tee
1	EK12D	1-1/4" Railing Base Flange
1	EK22D	1-1/4" Two Socket Cross
1	EKT442-SY	Tube size D 42" P-SY (Vertical Post)
2	EKT472-SY	Tube size D 72" P-SY (Horizontal Post)*

* Horizontal lengths available in shorter sizes.

6 ft Extension Section size E 1-1/2" (OD 1.90" x 0.125" wall) Powder Coated Safety Yellow

Q	Item #	Description
1	EK04E	1-1/2" Long Tee
1	EK12E	1-1/2" Railing Base Flange
1	EK22E	1-1/2" Two Socket Cross
1	EKT642-SY	Tube size E 42" P-SY (Vertical Post)
2	EKT672-SY	Tube size E 72" P-SY (Horizontal Post)*

* Horizontal lengths available in shorter sizes.



EUROKLEMP SAFETY RAILING

12 ft Straight Section size D 1-1/4" (OD 1.66" x 0.125" wall) Powder Coated Safety Yellow

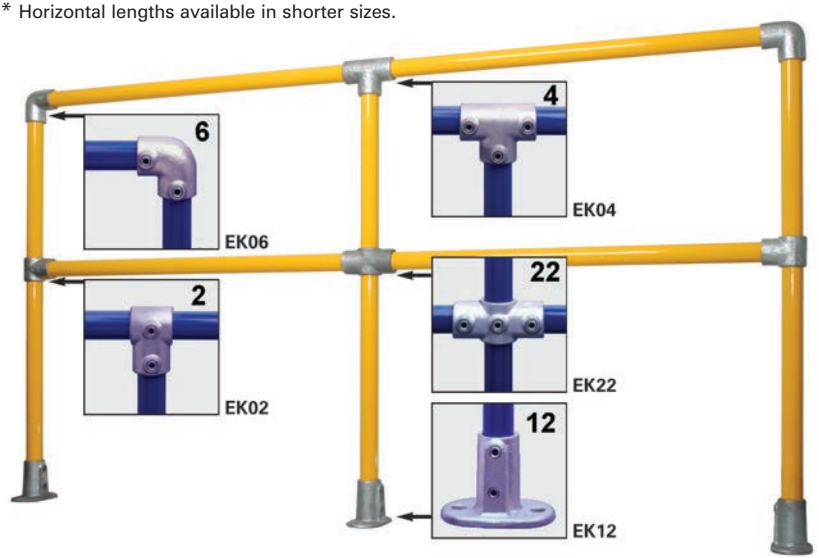
Q	Item #	Description
2	EK02D	1-1/4" Short Tee
1	EK04D	1-1/4" Long Tee
2	EK06D	1-1/4" Elbow 90 Deg
3	EK12D	1-1/4" Railing Base Flange
1	EK22D	1-1/4" Two Socket Cross
3	EKT442-SY	Tube size D 42" P-SY (Vertical Post)
4	EKT472-SY	Tube size D 72" P-SY (Horizontal Post)*

* Horizontal lengths available in shorter sizes.

12 ft Straight Section size E 1-1/2" (OD 1.90" x 0.125" wall) Powder Coated Safety Yellow

Q	Item #	Description
2	EK02E	1-1/2" Short Tee
1	EK04E	1-1/2" Long Tee
2	EK06E	1-1/2" Elbow 90 Deg
3	EK12E	1-1/2" Railing Base Flange
1	EK22E	1-1/2" Two Socket Cross
3	EKT642-SY	Tube size E 42" P-SY (Vertical Post)
4	EKT672-SY	Tube size E 72" P-SY (Horizontal Post)*

* Horizontal lengths available in shorter sizes.



EUROKLEMP SAFETY RAILING

6 ft x 6 ft Corner Section size D 1-1/4" (OD 1.66" x 0.125" wall) Powder Coated Safety Yellow

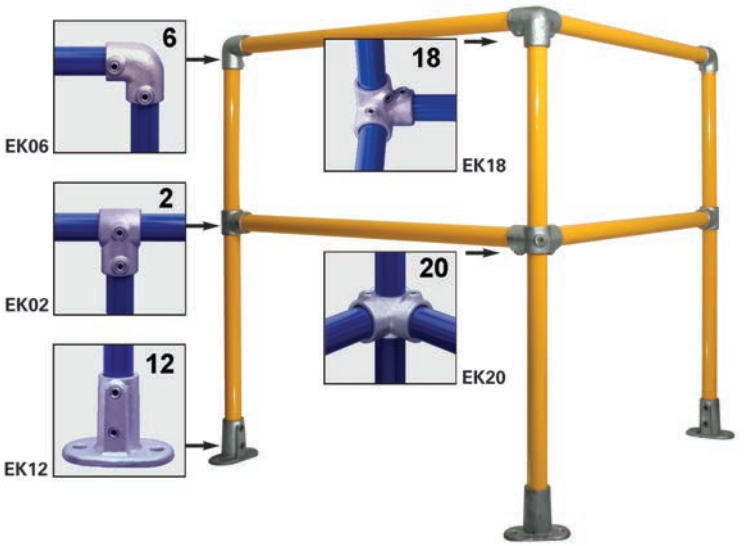
Q	Item #	Description
2	EK02D	1-1/4" Short Tee
2	EK06D	1-1/4" Elbow 90 Deg
3	EK12D	1-1/4" Railing Base Flange
1	EK18D	1-1/4" Three Way Top Corner
1	EK20D	1-1/4" Corner with through Tube
3	EKT442-SY	Tube size D 42" P-SY (Vertical Post)
4	EKT472-SY	Tube size D 72" P-SY (Horizontal Post)*

* Horizontal lengths available in shorter sizes.

6 ft x 6 ft Corner Section size E 1-1/2" (OD 1.90" x 0.125" wall) Powder Coated Safety Yellow

Q	Item #	Description
2	EK02E	1-1/2" Short Tee
2	EK06E	1-1/2" Elbow 90 Deg
3	EK12E	1-1/2" Railing Base Flange
1	EK18E	1-1/2" Three Way Top Corner
1	EK20E	1-1/2" Corner with through Tube
3	EKT642-SY	Tube size E 42" P-SY (Vertical Post)
4	EKT672-SY	Tube size E 72" P-SY (Horizontal Post)*

* Horizontal lengths available in shorter sizes.



Free Standing Rooftop Safety Railing

- Modular sections, no welding required
- Easy to install, no special tools required
- Railing System OSHA Compliant, Connectors TUV Certified
- Easily customized to almost any configuration
- No rooftop membrane penetration

SAFEBILD

Generic Floor Post

- **MOUNT TO WOOD OR CONCRETE**
- **OVERALL LENGTH:** 42"
- **MAXIMUM SPAN B/W POSTS:** 8 ft
- **Available with 1.5 in. & 3 in. Bracket**
- **WEIGHT:** 7.5 lbs
- Floor Mounted. Engineered & Tested for use with wood railings and commercial steel railing sections.
- **APPLICATION:** On stairs and around other openings, commercial construction and roof perimeter railing.

Full product catalog available upon request.

SAFEBILD

2 Piece Wall Post

- **OVERALL LENGTH:** 50"
- **MAXIMUM SPAN B/W POSTS:** 8 ft
- **Available with 1.5 in. & 3 in. Bracket**
- **WEIGHT:** 9.5 lbs (Post & Plate)
- **APPLICATION:** Balconies, temporary stairs, around finished floors, on stairs and around other openings, commercial roof perimeter railing, open pit perimeter welded to piles.

Full product catalog available upon request.

Boss Steel Limited

METAL REFERENCE BOOK

VERSION 9

Your one stop structural shop
SERVICE YOU CAN DEPEND ON

STATISTICAL INFORMATION

NUMERICAL EQUIVALENTS OF FRACTIONS, DECIMALS & MILLIMETERS

Inch Fractions	Inch Decimals	Milli-meters	Inch Fractions	Inch Decimals	Milli-meters
1/64	.0156	.3962	33/64	.5156	13.0962
1/32	.0312	.7925	17/32	.5312	13.4925
3/64	.0469	1.1913	35/64	.5469	13.8912
1/16	**.0625**	**1.5875**	9/16	**.5625**	**14.2875**
5/64	.0781	1.9844	37/64	.5781	14.6837
3/32	.0937	2.3799	19/32	.5937	15.0799
7/64	.1093	2.7762	39/64	.6094	15.4787
1/8	**.1250**	**3.1750**	5/8	**.6250**	**15.8750**
9/64	.1406	3.5712	41/64	.6406	16.2712
5/32	.1562	3.9675	21/32	.6562	16.6675
11/64	.1719	4.3663	43/64	.6719	17.0662
3/16	**.1875**	**4.7625**	11/16	**.6875**	**17.4625**
13/64	.2031	5.1587	45/64	.7031	17.8587
7/32	.2187	5.5549	23/32	.7187	18.2549
15/64	.2344	5.5938	47/64	.7344	18.6538
1/4	**.2500**	**6.3500**	3/4	**.7500**	**19.0500**
17/64	.2656	6.7462	49/64	.7656	19.4462
9/32	.2812	7.1425	25/32	.7812	19.8425
19/64	.2969	7.5412	51/64	.7969	20.2413
5/16	**.3125**	**7.9375**	13/16	**.8125**	**20.6375**
21/64	.3281	8.3337	53/64	.8281	21.0337
11/32	.3437	8.7299	27/32	.8437	21.4299
23/64	.3594	9.1287	55/64	.8594	21.8287
3/8	**.3750**	**9.5250**	7/8	**.8750**	**22.2250**
25/64	.3906	9.9212	57/64	.8906	22.6212
13/32	.4062	10.3174	29/32	.9062	23.0175
27/64	.4219	10.7167	59/64	.9212	23.4162
7/16	**.4375**	**11.1125**	15/16	**.9375**	**23.8125**
29/64	.4531	11.5087	61/64	.9531	24.2087
15/32	.4687	11.9049	31/32	.9687	24.6049
31/64	.4844	12.3037	63/64	.9844	25.0037
1/2	**.5000**	**12.7000**	**1**	**1.000**	**25.4000**

METRIC SYSTEM EQUIVALENTS

Length Equivalents

Unit	Milli-meters	Centi-meters	Inches	Feet	Yards	Meters
1 Millimeter =	1	0.1	.03937	.003281	.001094	.001
1 Centimeter =	10	1	.3937	.032808	.010936	.01
1 Inch =	25.4001	2.54001	1	.083333	.027778	.025400
1 Foot =	304.801	30.4801	12	1	.333333	.304801
1 Yard =	914.402	91.4402	36	3	1	.914402
1 Meter =	1000	100	39.37	3.28083	1.09361	1

Unit	Feet	Yards	Meters	Rods	Furlongs	Miles (Statute)
1 Rod =	16.5	5.5	5.02921	1	.025 (1/40)	.003125(1/320)
1 Furlong =	660	220	201.168	40	1	.125 (1/8)
1 Kilometer =	3280.8	1093.6	1000	199	4.971	.62137
1 Mile (statute)=	5380	1760	1609.35	320	8	1

1 Nautical Mile = 6080.2 feet = 1.15155 statute miles = 1/2 league.
1 Light Year = 5.879 trillion miles = 9.46 trillion kilometers.

Weight Equivalents

Unit	Grains	Grams	Ounces (Troy)	Ounces (Avoir.)	Pounds (Troy)	Pounds (Avoir.)	Kilo-grams
1 Grain =	1	.064799	.002083	.002286	.000174	.000143	.000065
1 Gram =	15.4324	1	.032151	.035274	.002679	.002205	.001
1 Ounce (Troy) =	480	31.1035	1	1.09714	.083333	.068571	.031104
1 Ounce (Avoir.) =	437.5	28.3495	.911458	1	.075955	.0625	.028350
1 Pound (Troy) =	5760	373.242	12	13.1657	1	.822857	.373242
1 Pound (Avoir.) =	7000	453.592	14.5833	16	1.21528	1	.453592
1 Kilogram =	15432.4	1000	32.1507	35.2740	2.67923	2.20462	1

Unit	Kilo-grams	Pounds (Troy)	Pounds (Avoir.)	Metric Tons	Net (Short) Tons	Gross (Long) Tons
1 Metric Ton =	1000	2679.23	2204.62	1	1.10231	.984206
1 Net (Short) Ton =	907.185	2430.56	2000	.907185	1	.892857
1 Gross (Long) Ton =	1016.05	2722.22	2240	1.01605	1.12	1

Area Equivalents

Unit	Square Inches	Square Feet	Square Yards	Square Meters
1 Square Foot =	144	1	.1111	.09290
1 Square Yard =	1296	9	1	.83613
1 Square Meter =	1550	10.7639	1.19599	1
1 Square Rod =	39204	272.25	30.25	25.293
1 Are =	155000	1076.39	119.599	100
1 Acre =	6272640	43560	4840	4046.86
1 Square Mile (640 Acres) =	—	27878400	3097600	2589999
1 Square Kilometer =	—	10763867	1195985	1000000

STANDARD SHEET GAUGES

Gage No.	Thickness In.		Lbs.Sq.Ft.		Gage No.	Thickness In.		Lbs.Sq.Ft.	
	Dec. Equiv.	Order Limits	Wght. Equiv.	Order Limits		Dec. Equiv.	Order Limits	Wght. Equiv.	Order Limits
					16	.0598	.0635 .0568	2.5	2.656 2.375
2		.2499 .2466		10.451 10.313	**17**	.0538	.0567 .0509	2.25	2.374 2.125
3	.2391	.2465 .2317	10.	10.312 9.688	**18**	.0478	.0508 .0449	2.	2.124 1.875
4	.2242	.2316 .2168	9.375	9.687 9.063	**19**	.0418	.0448 .0389	1.75	1.874 1.625
5	.2092	.2167 .2018	8.75	9.062 8.438	**20**	.0359	.0388 .0344	1.5	1.624 1.438
6	.1943	.2017 .1869	8.125	8.437 7.813	**21**	.0329	.0343 .0314	1.375	1.437 1.313
7	.1793	.1868 .1719	7.5	7.812 7.188	**22**	.0299	.0313 .0284	1.25	1.312 1.188
8	.1644	.1718 .1570	6.875	7.187 6.563	**23**	.0269	.0283 .0255	1.125	1.187 1.063
9	.1495	.1569 .1420	6.25	6.562 5.938	**24**	.0239	.0254 .0225	1.	1.062 .938
10	.1345	.1419 .1271	5.625	5.937 5.313	**25**	.0209	.0224 .0195	.875	.937 .813
11	.1196	.1270 .1121	5.	5.312 4.688	**26**	.0179	.0194 .0172	.75	.812 .719
12	.1046	.1120 .0972	4.375	4.687 4.063	**27**	.0164	.0171 .0157	.688	.718 .657
13	.0897	.0971 .0822	3.75	4.062 3.438	**28**	.0149	.0156 .0142	.625	.656 .594
14	.0747	.0821 .0710	3.125	3.437 2.969	**29**	.0135	.0141 .0128	.562	.593 .532
15	.0673	.0709 .0636	2.812	2.968 2.657	**30**	.0120	.0127 .0118	.5	.531 .469

SERVICE YOU CAN DEPEND ON

CAN G 40.21 M81
NEW STANDARD FOR STRUCTURAL STEEL

Steels are catagorized into 8 different types of steel as follows:

Type	G	General Construction Steel
	W	Weldable Steel
	WT	Weldable Notch Tough Steel
	R	Atmospheric Corrosion - Resistant Steel
	A	Atmospheric Corrosion - Resistant Weldable Steel
	AT	Atmospheric Corrosion - Resistant Weldable Notch Tough Steel
	Q	Quenched & Tempered Low Alloy Steel Plate
	QT	Quenched & Tempered Low Alloy Notch Tough Steel Plate

DEFINITION OF TERMS

IB	I BEAMS
WF	WIDE FLANGE
LB	LOAD BEARING
HBP	HEAVY BEARING PILE

Our Sales Staff is available to assist with all of your metal requirements.

USEFUL INFORMATION

To find circumference of a circle multiple diameter by 3.1416.
To find diameter of a circle multiple circumference by .31831.
To find area of a circle multiple square of diameter by .7854.
Radius of circle equals half of diameter.

Area of rectangle. Length multiplied by breadth.

Doubling the diameter of a circle increases its area four times.

Doubling the diameter of a pipe increases its capacity four times.

To find area of a triangle multiply base by 1/2 perpendicular height.

Area of ellipse = product of both diameters x .7854.

Area of parallelogram = base x altitude.

Side of inscribed cube = radius of sphere x 1.1547.

To find cubic inches in a ball multiply cube of diameter by .5236.

To find cubic contents of a cone, multiply area of base by 1/3 the altitude.

Surface of frustum of cone or pyramid = sum of circumference of both ends x 1/2 slant height plus area of both ends.

Contents of frustum of cone or pyramid = multiply area of two ends and get square root. Add the 2 area and x 1/3 altitude.

A cubic foot of water contains 7.4805 U.S. (6.2278 Imp.) gallons, 1728 cubic inches, and weighs 62-1/2 lbs.

The Boss Product Listing

Steel Reference Book

This book contains a list of metal products many of which are carried in stock for immediate delivery. If you do not see the item that you are looking for, or if the item that you need is not in stock at that time, we will acquire the item from another warehouse. For other metal products you require please ask our sales staff.

We have included some useful information on page 156 which can assist you in deciding the correct material for your job. If you have any questions please contact your Engineer or Architect.

Cut down on the stock you carry

By purchasing metal products from Boss Steel's inventory you eliminate the need for non-productive storage space in your plant.
Buy only what you need when you need it.

Delivery

Shipment via our own fleet of trucks means prompt and dependable service. Delivery is free of charge on orders over $100 to anywhere within our regular routes. If it is not on our route, a small delivery charge may be applied.

Quality

Boss Steel is in the process of becoming both QS 9000 and ISO 9000 registered.

Quotations

Send us a fax or give us a call. We would be happy to give you a prompt quote. Terms are net 30 days. Prices are subject to change without notice and delivery promises are subject to delays which are beyond our control.

Confirmation of Orders

When our sales staff receive orders by telephone or by fax, they and the production personnel make every effort to ship exactly what is requested by the customer. Every telephone order should be immediately followed by a confirming written purchase order.

Returned Shipments

Return shipments must be authorized by Boss Steel before the item is returned. Please call any of our sales staff and inform them of the return and the reason for it. If the material has been cut or processed in any way by the buyer, the order is not returnable.

General Conditions of Sales

Our staff is available for consultation concerning your selection and required specifications. However, members of the staff are not authorized to guarantee the suitability of any of our products for any particular application. Contact your Engineer or Architect for confirmation of your information.

CANADIAN WELDING BUREAU

Acknowledges that

Boss Steel Limited

is Certified to CSA Standard W47.1

[Certification of Companies for Fusion Welding of Steel Structures]

Business Hours / Delivery Service Schedules

Monday - Thursday	7:30 AM - 5:00 PM
Friday	7:30 AM - 3:00 PM
Saturday	8:00 AM - 12:00 Noon

Closed on all holiday long weekends

Extended Priority Service

24/7 to be Arranged

Boss Steel Limited

Tel : (905) 508-8225

Fax: (905) 508-8475

METAL REFERENCE BOOK

VERSION 9