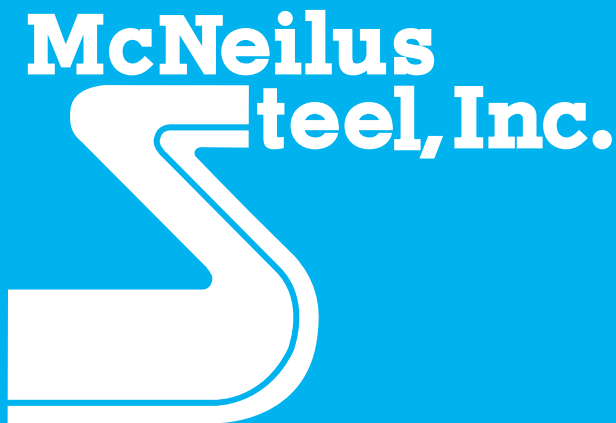


The Friendly Steel Handler
www.mcneilus.com



DODGE CENTER, MN
(507) 374-6336
1-800-733-6336
FAX: 1-800-254-6660

FARGO, ND
(701) 277-0007
1-888-577-0007
FAX: 1-888-577-7830

FOND DU LAC, WI
(920) 923-1778
1-866-223-1277
FAX: 1-866-223-1267

REFERENCE BOOK

MARCH 2009

We invite you to visit
one of our three locations:

Fargo, ND

1531 47th Street NW
Fargo, ND 58102

Dodge Center, MN

702 2nd Avenue S.E.
Post Office Box 249
Dodge Center, MN 55927

Fond du Lac, WI

123 East Larson Drive
Fond du Lac, WI 54937



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McNeilus Steel, Inc.

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**Fond du Lac, WI:
**projected Nov. 2009 opening*
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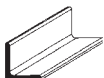
**Plate shearing to 3/4 inch
Rebar Fabrication - Brake press
Cut-to-length - Decoiling
Stretcher Leveling
Fabrication capabilities**

**- HARD TO FIND ITEMS -
OUR MILL AND WAREHOUSE
CONNECTIONS CAN HELP YOU FIND
THE ITEMS YOU NEED.**

**Most Hot-Rolled products can be
galvanized or pickled and oiled with
an approximate lead time of
7 to 10 days.**

**Visit our Retail Sales Building on site
at each of our Service Center
locations.**

**McNeilus Steel invites you to
tour our facility.
Call our sales department to
arrange a time that is
convenient for you.**

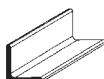


ANGLES - Bar Size

Conforms to ASTM -A36

Size	Inches	Stock Lengths	Weight	Estimate	Estimate
		20' – Some 40'	Foot Lbs.	20' Bar	40' Bar
1/2 x 1/2 x 1/8 . . . . .			.38	7.60	
5/8 x 5/8 x 1/8 . . . . .			.48	9.60	
3/4 x 3/4 x 1/8 . . . . .			.59	11.80	
7/8 x 7/8 x 1/8 . . . . .			.70	14.00	
1 x 5/8 x 1/8 . . . . .			.64	12.80	
1 x 3/4 x 1/8 . . . . .			.70	14.00	
1 x 1 x 1/8 . . . . .			.80	16.00	
3/16			1.16	23.20	
1/4			1.49	29.80	
1-1/4 x 1-1/4 x 1/8			1.01	20.20	
3/16			1.48	29.60	
1/4			1.92	38.40	
1-3/8 x 7/8 x 1/8 . . . . .			.91	18.20	
3/16			1.32	26.40	
1-1/2 x 1-1/4 x 3/16			1.64	32.80	
1-1/2 x 1-1/2 x 1/8			1.23	24.60	
3/16			1.80	36.00	
1/4			2.34	46.80	
3/8			3.35	67.00	
1-3/4 x 1-1/4 x 1/8			1.23	24.60	
3/16			1.80	36.00	
1/4			2.34	46.80	
1-3/4 x 1-3/4 x 1/8			1.44	28.80	
3/16			2.12	42.40	
1/4			2.77	55.40	
2 x 1-1/4 x 3/16			1.96	39.20	
1/4			2.55	51.00	
2 x 1-1/2 x 1/8			1.44	28.80	
3/16			2.12	42.40 . .	84.80
1/4			2.77	55.40 . .	110.80
2 x 2 x 1/8			1.65	33.00	
3/16			2.44	48.80 . .	97.60
1/4			3.19	63.80 . .	127.60
5/16			3.92	78.40	
3/8			4.70	94.00 . .	188.00
2-1/2 x 1-1/2 x 3/16			2.44	48.80	
1/4			3.19	63.80	
2-1/2 x 2 x 3/16			2.75	55.00	
1/4			3.62	72.40	
5/16			4.50	90.00	
3/8			5.30	106.00	
2-1/2 x 2-1/2 x 3/16			3.07	61.40	
1/4			4.10	82.00 . .	164.00
5/16			5.00	100.00	
3/8			5.90	118.00 . .	236.00
1/2			7.70	154.00	

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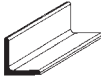
ANGLES - Structural

Conforms to ASTM -A36

Size	Inches	Stock Lengths 20' - Some 40'	Weight Foot Lbs.	Estimate 20' Bar	Estimate 40' Bar
3 x 2 x	3/16		3.07	61.40	122.80
	1/4		4.10	82.00	164.00
	5/16		5.00	100.00	
	3/8		5.90	118.00	236.00
	1/2		7.70	154.00	308.00
3 x 2-1/2 x 1/4			4.50	90.00	180.00
	5/16		5.60	112.00	
	3/8		6.60	132.00	264.00
	1/2		8.50	170.00	
3 x 3 x	3/16		3.71	74.20	148.40
	1/4		4.90	98.00	196.00
	5/16		6.10	122.00	244.00
	3/8		7.20	144.00	288.00
	1/2		9.40	188.00	376.00
3-1/2 x 2-1/2 x 1/4			4.90	98.00	196.00
	3/8		7.20	144.00	288.00
	5/16		6.10	122.00	
	1/2		9.40	188.00	
3-1/2 x 3 x 1/4			5.40	108.00	216.00
	5/16		6.60	132.00	264.00
	3/8		7.90	158.00	316.00
	1/2		10.20	204.00	408.00
3-1/2 x 3-1/2 x 1/4			5.80	116.00	232.00
	5/16		7.20	144.00	288.00
	3/8		8.50	170.00	340.00
	1/2		11.10	222.00	444.00
4 x 3 x 1/4			5.80	116.00	232.00
	5/16		7.20	144.00	288.00
	3/8		8.50	170.00	340.00
	1/2		11.10	222.00	444.00
4 x 3-1/2 x 1/4			6.20	124.00	248.00
	5/16		7.70	154.00	308.02
	3/8		9.10	182.00	363.98
	1/2		11.90	238.00	476.02
4 x 4 x 1/4			6.60	132.00	264.00
	5/16		8.20	163.99	327.98
	3/8		9.80	196.01	392.02
	1/2		12.80	256.00	512.02
	5/8		15.70	313.99	627.98
	3/4		18.50	370.01	740.02
5 x 3 x 1/4			6.60	132.00	264.00
	5/16		8.20	164.00	328.00
	3/8		9.80	196.00	392.00
	1/2		12.80	256.00	512.00

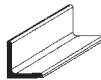
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Friendly Steel Handler



ANGLES - Structural (cont.) Conforms to ASTM -A36

Size	Inches	Stock Lengths 20' - Some 40'	Weight Foot Lbs.	Estimate 20' Bar	Estimate 40' Bar
5 x 3-1/2 x 1/4			7.00	139.99	279.98
	5/16		8.70	174.00	348.00
	3/8		10.40	208.01	416.02
	1/2		13.60	271.99	543.98
	3/4		19.80	396.00	
5 x 5 x 5/16			10.30	205.99	411.98
	3/8		12.30	246.00	492.00
	1/2		16.20	324.00	648.00
	5/8		20.00	400.08	800.16
	3/4		23.60	472.00	944.00
6 x 3-1/2 x 5/16			9.80	196.00	392.00
	3/8		11.70	234.00	468.00
	1/2		15.30	306.00	612.00
6 x 4 x 5/16			10.30	206.00	412.00
	3/8		12.30	246.00	492.00
	1/2		16.20	324.00	648.00
	5/8		20.00	400.00	
	3/4		23.60	472.00	944.02
6 x 6 x 3/8			14.90	298.01	596.02
	1/2		19.60	391.92	783.98
	5/8		24.20	484.01	968.02
	3/4		28.70	574.01	1148.02
	1		37.40	748.01	1496.02
7 x 4 x 3/8			13.60	272.00	544.00
	1/2		17.90	358.00	716.00
8 x 4 x 1/2			19.60	392.00	784.00
	3/4		28.70	574.01	1148.02
8 x 6 x 1/2			23.00	460.00	920.00
	3/4		33.80	676.00	1352.00
8 x 8 x 1/2			26.40	528.00	1056.00
	1/2			(special long 43')	1135.20
	3/4		38.90	778.00	1556.02

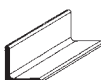


FORMED ANGLES

Produced from hot roll sheets
ASTM A1011 CS Type B

Wt. Ea.	
2 x 2 x 1/8 x 10'	16.7
2-1/2 x 2-1/2 x 1/8 x 10'	22
3 x 2 x 1/8 x 10'	22
3 x 3 x 1/8 x 10'	25
4 x 2 x 1/8 x 10'	25

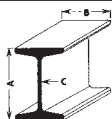
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GALVANIZED ANGLES

Conforms to ASTM -A36

Size in Inches	Weight per Ft.	Estimate 20' bar
1-1/4 x 1-1/4 x 3/16 . . .	1.600 . . .	31.992
1-1/2 x 1-1/2 x 1/8	1.330	26.59
1-1/2 x 1-1/2 x 3/16	1.944	38.88
1-1/2 x 1-1/2 x 1/4	2.527	50.54
2 x 1-1/2 x 1/8	1.550	31.00
2 x 2 x 1/8	1.780	35.59
2 x 2 x 3/16	2.635	52.70
2 x 2 x 1/4	3.445	68.90
2-1/2 x 2 x 1/4	3.910	78.19
2-1/2 x 2-1/2 x 3/16	3.316	66.32
2-1/2 x 2-1/2 x 1/4	4.430	88.60
3 x 3 x 3/16	4.010	80.20
3 x 3 x 1/4	5.292	105.84
4 x 4 x 1/4	7.130	142.61



STANDARD I-BEAMS

20' & 40' Stock Lengths

Conforms to ASTM -A36

A DESIGNATION Depth/Inches x Wt./Ft./Lbs.	C WEB Thickness Inches	B Flange Inches		Area Sq. In.
		Width	Thickness	
S 3 x ... 5.7	.170	2.330	0.260	1.67
7.5	.349	2.509	0.260	2.21
S 4 x ... 7.7	.193	2.663	0.293	2.26
9.5	.326	2.796	0.293	2.79
S 5 x ... 10.0	.214	3.004	0.326	2.94
S 6 x ... 12.5	.232	3.332	0.359	3.67
17.25	.465	3.565	0.359	5.07
S 7 x ... 15.3	.252	3.662	0.392	4.50
S 8 x ... 18.4	.271	4.001	0.425	5.41
23.0	.441	4.171	0.425	6.77
S10 x... 25.4	.311	4.661	0.491	7.46
35.0	.594	4.944	0.491	10.30
S12 x... 31.8	.350	5.000	0.544	9.35
S15 x... 42.9	.411	5.501	0.622	9.59

JR BEAMS

Conforms to ASTM -A36

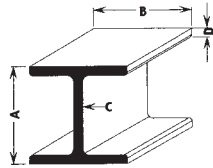
M 3 x... 2.9	.090	2.250	.130	.853
M 4 x... 3.2	.092	2.250	.130	.940
M 6 x... 3.7	.098	2.000	.129	1.090
M 6 x... 4.4	.114	1.844	.171	1.290

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Friendly Steel Handler

WIDE FLANGE BEAMS

Conforms to ASTM A-36
and
A992 / A572-50



STOCK LENGTHS

Size 12" and Smaller 20', 40', and 60'
We Cut To Length

Nominal Size	Weight Per Ft. Lb	A Depth Inches	B Width Inches	D Flange Thickness Inches	C Web Thickness Inches
W 4 x ...	13.0	4.16	4.060	.345	.280
W 5 x ...	16.0	5.01	5.000	.360	.240
	19.0	5.15	5.030	.430	.270
W 6 x ...	9.0	5.90	3.940	.215	.170
	12.0	6.03	4.000	.280	.230
	15.0	5.90	5.990	.260	.230
	16.0	6.28	4.030	.405	.260
	20.0	6.20	6.020	.365	.260
	25.0	6.38	6.080	.455	.320
W 8 x ...	6.5				
	10.0	7.89	3.940	.205	.170
	13.0	7.99	4.000	.255	.230
	15.0	8.11	4.015	.315	.245
	18.0	8.14	5.250	.330	.230
	21.0	8.28	5.270	.400	.250
	24.0	7.93	6.495	.400	.245
	28.0	8.06	6.535	.465	.285
	31.0	8.00	7.995	.435	.285
	35.0	8.12	8.020	.495	.310
	40.0	8.25	8.070	.560	.360
	48.0	8.50	8.110	.685	.400
	67.0	9.00	8.270	.935	.570
W10 x ..	12.0	9.87	3.960	.210	.190
	15.0	9.99	4.000	.270	.230
	17.0	10.11	4.010	.330	.240
	19.0	10.24	4.020	.395	.250
	22.0	10.17	5.750	.360	.240
	26.0	10.33	5.770	.440	.260
	30.0	10.47	5.810	.510	.300
	33.0	9.73	7.960	.435	.290

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DODGE CENTER 1-800-733-6336

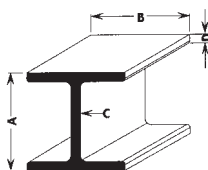
McNeilus Steel, Inc.

WIDE FLANGE BEAMS

Conforms to ASTM A-36 or
A992/A572

5150. STOCK LENGTHS
Size 12" and Smaller 20', 40',
and 60'

We Cut To Length

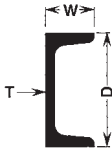


Nominal Size	Weight Per Ft. Lb	A Depth Inches	B Width Inches	D Flange Thickness Inches	C Web Thickness Inches
W10 x	39.0	9.92	7.986	.513	.315
	45.0	10.10	8.020	.620	.350
	49.0	9.98	10.000	.560	.340
	54.0	10.90	10.030	.615	.370
	77.0	10.60	10.190	.870	.530
W12 x	14.0	11.91	3.970	.225	.200
	16.0	11.99	3.990	.265	.220
	19.0	12.16	4.005	.350	.235
	22.0	12.31	4.030	.425	.260
	26.0	12.22	6.490	.380	.230
	30.0	12.34	6.520	.440	.260
	35.0	12.50	6.560	.520	.300
	40.0	11.94	8.005	.515	.295
	45.0	12.06	8.045	.575	.335
	50.0	12.19	8.080	.640	.370
53.0	12.06	9.995	.575	.345	
W14 x	22.0	13.74	5.000	.335	.230
	26.0	13.91	5.025	.420	.255
	30.0	13.84	6.730	.385	.270
34.0	13.98	6.745	.455	.285	
	38.0	14.10	6.770	.515	.310
	48.0	13.79	8.030	.595	.340
	61.0	13.89	9.995	.645	.375
W16 x	26.0	15.69	5.500	.345	.250
	31.0	15.88	5.525	.440	.275
	36.0	15.88	6.985	.430	.295
	40.0	16.01	6.995	.505	.305
	45.0	16.13	7.035	.565	.345
50.0	16.26	7.070	.630	.380	
W18 x	35.0	17.70	6.000	.425	.300
	40.0	17.90	6.015	.525	.315
	46.0	18.06	6.060	.605	.360
	50.0	17.99	7.495	.570	.355
W21 x	44.0	20.66	6.500	.450	.340
	57.0	21.06	6.555	.650	.405
W24 x	68.0	23.73	8.965	.585	.415

Larger Sizes Available by Order

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Friendly Steel Handler



C CHANNELS (Structural)

Conforms to ASTM-A36

STOCK LENGTHS: 20', 40', some 50'

D Designation Depth of Channel & Wt. Per Foot in Lbs.	T Web Thickness Inches	W Flange Width Inches	Weight Per 20'	
C 3" x ...	3.5	.130	1.350	70
	4.1	.170	1.410	82
	5.0	.258	1.498	100
	6.0	.356	1.596	120
C 4" x ...	4.5	.137	1.520	90
	5.4	.184	1.584	108
	7.25	.321	1.721	145
C 5" x ...	6.7	.190	1.750	134
	9.0	.325	1.885	180
C 6" x ...	8.2	.200	1.920	164
	10.5	.314	2.034	210
	13.0	.437	2.157	260
C 7" x ...	9.8	.210	2.090	196
	12.25	.314	2.194	245
	14.75	.419	2.299	295
	22.7	.500	3.600	454
C 8" x ...	8.5	.179	1.874	170
	11.5	.220	2.260	230
	13.75	.303	2.343	275
	18.75	.487	2.527	375
C 9" x ...	13.4	.233	2.433	268
	15.0	.285	2.485	300
C 10" x .	15.3	.240	2.600	306
	20.0	.379	2.739	400
	25.0	.526	2.886	500
	30.0	.673	3.033	600
C 12" x .	10.6	.190	1.500	318
	20.7	.282	2.942	414
	25.0	.387	3.047	500
	30.0	.510	3.170	600
C 15" x .	33.9	.400	3.400	678
	50.0	.716	3.716	1000

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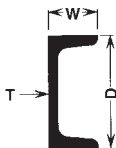
McNeilus Steel, Inc.

BAR CHANNELS H.R. - 20'
Conforms to ASTM-A36

Size Inches	Wt. Lbs. Per Ft.	Wt. Per Length
3/4 x 3/8 x 1/8 . . . . .	.56 . . .	11.2
1 x 1/2 x 1/8 . . . . .	.84 . . .	16.8
1-1/4 x 1/2 x 1/8 . . . . .	.99 . . .	19.8
1-1/2 x 1/2 x 1/8	1.12 . . .	22.4
1-1/2 x 9/16 x 3/16	1.45 . . .	29.0
1-1/2 x 3/4 x 1/8	1.17 . . .	23.4
2 x 1/2 x 1/8	1.43 . . .	28.6
2 x 9/16 x 3/16	1.86 . . .	37.2
2 x 5/8 x 1/4	2.28 . . .	45.6
2 x 1 x 1/8	1.59 . . .	31.8
2 x 1 x 3/16	2.32 . . .	46.4
2-1/2 x 5/8 x 3/16	2.27 . . .	45.4

MC CHANNELS
(Ship & Car)

Conforms to ASTM A36

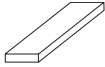


D Designation Depth of Channel & Wt. Per Foot in Lbs.	T Web Thickness in Inches	W Flange Width in Inches	Weight 20' Pc.
MC 3	7.1 . . .	0.312 . . .	1.938 . . . 142
MC 4	13.8 . . .	0.500 . . .	2.500 . . . 276
MC 6	12.0 . . .	0.310 . . .	2.497 . . . 240
	15.3 . . .	0.340 . . .	3.500 . . . 306
	16.3 . . .	0.375 . . .	3.000 . . . 326
	18.0 . . .	0.375 . . .	3.500 . . . 360
MC 8	18.7 . . .	0.353 . . .	2.978 . . . 374
	20.0 . . .	0.400 . . .	3.025 . . . 400
	22.8 . . .	0.427 . . .	3.502 . . . 456
MC 10	8.4 . . .	0.170 . . .	1.500 . . . 168
MC 12	10.6 . . .	0.190 . . .	1.500 . . . 212

TEE BARS - 20'

Size Inches	Wt.. Lbs. Per Ft.	20' Bar
1 x 1 x 1/8.	0.850	17.00
1-1/2 x 1-1/2 x 3/16.	1.900	38.00
2 x 2 x 1/4	3.620	72.40
2-1/2 x 2-1/2 x 1/4	4.600	92.00

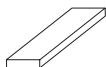
Friendly Steel Handler



FLATS H.R. - 20' Conforms to ASTM A-36 (CQ)

Size Inches	Weight Per Ft. Lbs.	Wt. of 20' Bar
<u>1/8 x</u>		
1/2	0.213	4.26
5/8	0.266	5.32
3/4	0.319	6.38
7/8	0.372	7.44
1	0.425	8.50
1-1/4	0.531	10.62
1-1/2	0.638	12.76
1-3/4	0.744	14.88
2	0.850	17.00
2-1/4	0.956	19.12
2-1/2	1.063	21.26
2-3/4	1.152	23.03
3	1.275	25.50
3-1/2	1.488	29.76
4	1.700	34.00
4-1/2	1.913	38.27
5	2.125	42.50
5-1/2	2.338	46.76
6	2.550	51.00
8	3.400	68.00
10	4.250	85.00
12	5.100	102.00
<u>3/16 x</u>		
1/2	0.319	6.38
5/8	0.398	7.96
3/4	0.478	9.56
7/8	0.558	11.16
1	0.638	12.76
1-1/8	0.720	14.34
1-1/4	0.797	15.94
1-1/2	0.956	19.12
1-3/4	1.116	22.32
2	1.275	25.50
2-1/4	1.434	28.68
2-1/2	1.594	31.88
2-3/4	1.753	35.06
3	1.913	38.26
3-1/4	2.072	41.44
3-1/2	2.231	44.62
4	2.550	51.00
4-1/2	2.865	57.30
5	3.188	63.77
5-1/2	3.508	70.15
6	3.826	76.51
8	5.100	102.00
12	7.650	153.00

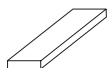
McNeilus Steel, Inc.



FLATS H.R. - 20' (cont.)
Conforms to ASTM A-36

Size Inches	Weight Per Ft. Lbs.	Wt. of 20' Bar
<u>1/4 x</u>		
3/8	0.319	6.38
1/2	0.425	8.50
5/8	0.532	10.63
3/4	0.638	12.77
7/8	0.744	14.88
1	0.850	17.00
1-1/4	1.063	21.26
1-3/8	1.169	23.38
1-1/2	1.275	25.50
1-5/8	1.380	27.60
1-3/4	1.488	29.76
2	1.700	34.00
2-1/4	1.913	38.26
2-1/2	2.125	42.50
2-3/4	2.338	46.76
3	2.550	51.00
3-1/4	2.760	55.20
3-1/2	2.976	59.52
3-3/4	3.190	63.79
4	3.400	67.99
4-1/4	3.613	72.25
4-1/2	3.826	76.51
5	4.250	85.00
5-1/2	4.675	93.50
6	5.100	102.00
6-1/2	5.525	110.50
7	5.950	118.99
8	6.800	136.00
9	7.650	153.00
10.	8.500	170.23
11.	9.350	187.00
12.	10.200	204.00
<u>5/16 x</u>		
1/2	0.532	10.63
5/8	0.665	13.30
3/4	0.797	15.94
1	1.063	21.26
1-1/4	1.328	26.57
1-1/2	1.594	31.88
1-3/4	1.859	37.18
2	2.125	42.50
2-1/4	2.392	47.83
2-1/2	2.656	53.11
3	3.188	63.77
3-1/2	3.719	74.38
4	4.250	85.00
4-1/2	4.781	95.62
5	5.314	106.27
6	6.376	127.51

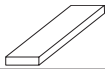
Friendly Steel Handler



FLATS H.R. - 20' (cont.)

Conforms to ASTM A-36

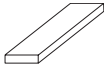
Size Inches	Weight Per Ft. Lbs.	Wt. of 20' Bar
<u>3/8 x</u>		
1/2	0.638	12.77
3/4	0.956	19.13
1.	1.275	25.50
1-1/8	1.436	28.73
1-1/4	1.594	31.87
1-3/8	1.756	35.11
1-1/2	1.913	38.26
1-5/8	2.070	41.40
1-3/4	2.231	44.62
2.	2.550	51.00
2-1/4	2.869	57.38
2-1/2	3.188	63.77
2-3/4	3.506	70.13
3.	3.826	76.51
3-1/4	4.186	83.71
3-1/2	4.463	89.26
4.	5.100	102.00
4-1/2	5.738	114.77
5.	6.376	127.51
5-1/2	7.013	140.26
6.	7.650	153.00
6-1/2	8.296	165.91
7.	8.930	178.61
8.	10.200	204.00
9.	11.479	229.60
10.	12.750	255.00
12.	15.300	306.00
<u>1/2 x</u>		
3/4	1.276	25.51
1.	1.700	34.00
1-1/8	1.910	38.21
1-1/4	2.125	42.50
1-1/2	2.550	51.00
1-3/4	2.975	59.50
2.	3.400	68.00
2-1/4	3.826	76.51
2-1/2	4.250	85.00
2-3/4	4.675	93.50
3.	5.100	102.00
3-1/4	5.525	110.50
3-1/2	5.950	118.99
3-3/4	6.376	127.51
4.	6.800	136.01
4-1/2	7.650	153.00
5.	8.500	170.00
5-1/2	9.350	187.01
6.	10.200	204.00



FLATS H.R. - 20' (cont.)

Conforms to ASTM A-36

Size Inches	Weight Per Ft. Lbs.	Wt. of 20' Bar
7	11.900	238.01
8	13.600	271.99
9	15.300	306.00
10	17.000	340.01
11	18.700	373.99
12	20.400	408.00
5/8 x		
3/4	1.590	31.80
1	2.125	42.50
1-1/8.	2.393	47.86
1-1/4.	2.656	53.11
1-1/2.	3.188	63.77
1-3/4.	3.719	74.38
2	4.250	85.01
2-1/2.	5.314	106.27
2-3/4.	5.840	116.81
3	6.376	127.51
3-1/2.	7.438	148.75
4	8.500	169.99
4-1/2.	9.563	191.26
5	10.625	212.50
5-1/2.	11.690	233.76
6	12.750	255.00
7	14.880	297.50
8	17.000	340.01
9	19.130	382.60
10	21.250	424.99
11	23.370	467.50
12	25.500	510.00
14	29.760	595.20
3/4 x		
1	2.550	51.00
1-1/4.	3.188	63.77
1-1/2.	3.826	76.51
1-3/4.	4.463	88.26
2	5.100	102.00
2-1/4.	5.743	114.86
2-1/2.	6.376	127.51
2-3/4.	7.019	140.38
3	7.650	153.00
3-1/2.	8.926	178.51
4	10.200	204.00
4-1/2.	11.480	229.51
5	12.750	255.00
5-1/2.	14.030	280.60
6	15.300	306.00
7	17.850	357.00
8	20.400	408.00
9	22.950	459.00
10	25.500	510.00
12	30.600	612.00
7/8 x		
3-1/2.	10.410	208.20
4	11.900	238.00
4-1/2.	13.390	267.80



FLATS H.R. - 20' (cont.)

Conforms to ASTM A-36

Size Inches	Weight Per Ft. Lbs.	Wt. of 20' Bar
<u>1 x</u>		
1-1/4	4.250	85.01
1-1/2	5.100	102.00
1-3/4	5.950	118.99
2	6.800	136.01
2-1/2	8.500	169.99
2-3/4	9.350	187.01
3	10.200	204.00
3-1/2	11.900	238.01
4	13.600	271.99
4-1/2	15.300	306.00
5	17.000	340.01
5-1/2	18.700	374.00
6	20.400	408.00
7	23.800	475.99
8	27.200	544.01
9	30.600	612.00
10	34.000	679.99
12	40.800	816.00
<u>1-1/4 x</u>		
2	8.500	169.99
2-1/4	9.563	191.26
2-1/2	10.625	212.50
3	12.750	255.00
3-1/2	14.890	297.79
4	17.000	340.01
5	21.249	424.99
5-1/2	23.380	467.52
6	25.500	510.00
7	29.750	595.01
8	34.000	679.99
<u>1-1/2 x</u>		
2	10.200	204.00
2-1/2	12.750	255.00
2-3/4	14.040	280.80
3	15.300	306.00
3-1/2	17.850	357.00
4	20.400	408.00
5	25.500	510.00
6	30.600	612.00
<u>1- 3/4 x</u>		
3	17.870	357.41
4	23.820	476.40
8	47.640	952.80
<u>2 x</u>		
2-1/2	17.000	340.01
3	20.400	408.00
4	27.200	544.01
4-1/2	30.600	612.00
5	34.000	679.99
6	40.800	816.00
7	47.600	952.00
<u>2-1/4 x</u>		
4	18.630	372.60



SQUARES H.R. - 20'

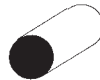
Conforms to ASTM -A36

Size Inches	Weight Per Ft. Lbs.	Wt. of 20' Bar
3/8	0.478	9.56
1/2	0.850	16.99
5/8	1.330	26.59
3/4	1.910	38.21
7/8	2.600	52.01
1	3.400	67.99
1-1/8	4.300	85.99
1-1/4	5.310	106.20
1-1/4 (RND CORNER)	5.310	106.20
1-1/2	7.650	153.00
2 (RND CORNER)	13.600	272.00
2-1/4	17.417	348.33
2-1/2	21.250	425.00

ROUNDS H.R. - 20'

7/16 & under low carbon uncertified;

1/2 & over conforms to ASTM -A36



Size Inches	Weight Per Ft. Lbs.	Wt. of 20' Bar
3/16	0.094	1.87
1/4	0.167	3.34
5/16	0.261	5.23
3/8	0.376	7.51
7/16	0.511	10.22
1/2	0.668	13.36
9/16	0.845	16.90
5/8	1.040	20.81
11/16	1.260	25.20
3/4	1.500	30.00
7/8	2.040	40.80
1	2.670	53.40
1-1/8	3.380	67.61
1-1/4 (12'2" AVAIL)	4.170	83.40
1-3/8	5.050	100.99
1-1/2	6.010	120.19
1-3/4	8.180	163.61
2	10.680	213.60
2-1/4	13.520	270.41
2-1/2	16.690	333.79
3	24.030	480.60
6	96.224	1924.00

Most hot finished items can be ordered pickled and oiled or galvanized upon request with a turn around of approximately 7 to 10 days.

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

Cold Finished Carbon Steel Bars

Cold finished bars are produced by cold drawing oversized hot rolled bars (that have been cleaned to remove scale) through dies to the required size. This process gives cold finished bars a clean surface finish with tighter tolerances and higher mechanical properties than hot rolled steels of comparable chemistry.

1018

A low-carbon steel with medium manganese content. This alloy is easily case hardened and welded, and has a fair machinability. Conforms to ASTM A-108. Identification color: Green.

1045

A medium carbon steel having higher strength than 1018. Responds well to heat treatment. Commonly used for shafts, gears, and bolts. Conforms to ASTM A-108. Identification color: Red

12L14

A low carbon steel with lead added to greatly improve machining properties. Conforms to ASTM A-108. Identification color: White

1144 Stress Relieved

This grade of bar has been severely cold worked to produce high mechanical properties. The bars are then specially treated to relieve the stresses caused by cold working. These steels have the high strength, hardness, and wearability usually only associated with heat treated bars. Conforms to ASTM A-311. Identification color: Yellow.

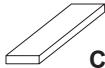
Random Length

Due to the nature of cold finishing. Bars may come in random length (i.e. 12' could be 10' to 14'). Normally 11'6" to 12'6". If you have special requirements please ask inside sales.

McNeilus Steel, Inc.

Notes:

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336



COLD ROLLED FLAT 12' Random

Conforms to ASTM A-108 / 1018 Alloy

Size Inches	Weight Per Ft. Lbs.	12' Wt.
----------------	---------------------------	------------

1/16 x

5/8 (A109) 0.138 1.66

1/8 x

1/4 0.107 1.28

3/8 0.160 1.92

1/2 0.213 2.56

5/8 0.266 3.19

3/4 0.319 3.83

7/8 0.372 4.46

1 0.425 5.10

1-1/4 0.531 6.37

1-1/2 0.638 7.66

1-3/4 0.744 8.93

2 0.850 10.20

2-1/4 0.956 11.47

2-1/2 1.063 12.76

3 1.275 15.30

3-1/2 1.488 17.86

4 1.700 20.40

5 2.125 25.50

6 2.550 30.60

3/16 x

1/4 0.159 1.91

3/8 0.239 2.87

1/2 0.319 3.83

5/8 0.398 4.78

3/4 0.478 5.74

7/8 0.558 6.70

1 0.638 7.66

1-1/4 0.797 9.56

1-1/2 0.956 11.47

1-3/4 1.117 13.39

2 1.275 15.30

2-1/4 1.434 17.21

2-1/2 1.594 19.13

3 1.913 22.96

3-1/2 2.231 26.77

4 2.550 30.60

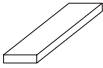
4-1/2 2.869 34.43

5 3.188 38.26

6 3.825 45.90

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

Friendly Steel Handler



**COLD ROLLED FLAT
12' Random**

Conforms to ASTM A-108 / 1018 Alloy

Size Inches	Weight Per Ft. Lbs.	12' Wt.
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1/4 x

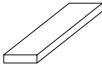
3/8	0.319	3.83
1/2	0.425	5.10
5/8	0.531	6.37
3/4	0.638	7.66
7/8	0.744	8.93
1	0.850	10.20
1-1/8	0.956	11.47
1-1/4	1.063	12.76
1-3/8	1.170	14.04
1-1/2	1.275	15.30
1-3/4	1.488	17.86
2	1.700	20.40
2-1/4	1.913	22.96
2-1/2	2.125	25.50
2-3/4	2.337	28.04
3	2.550	30.60
3-1/4	2.760	33.12
3-1/2	2.975	35.70
3-3/4	3.190	38.28
4	3.400	40.80
4-1/2	3.825	45.90
5	4.250	51.00
6	5.100	61.20
8	6.800	81.60
10	8.500	102.00
12	10.200	122.40

5/16 x

3/8	0.398	4.78
1/2	0.531	6.37
3/4	0.797	9.56
7/8	0.931	11.17
1	1.063	12.76
1-1/4	1.328	15.94
1-1/2	1.594	19.13
1-3/4	1.859	22.31
2	2.125	25.50
2-1/4	2.393	28.71

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

Friendly Steel Handler



**COLD ROLLED FLAT
12' Random**

Conforms to ASTM A-108 / 1018 Alloy

Size Inches	Weight Per Ft. Lbs.	12' Wt.
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5/16 x (cont.)

2-1/2	2.656	31.87
3	3.188	38.26
3-1/2	3.719	44.63
4	4.250	51.00
4-1/2	4.786	57.43
5	5.313	63.76
6	6.375	76.50

3/8 x

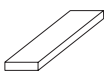
1/2	0.638	7.66
5/8	0.797	9.56
3/4	0.956	11.47
7/8	1.116	13.39
1	1.275	15.30
1-1/4	1.594	19.13
1-1/2	1.913	22.96
1-3/4	2.231	26.77
2	2.550	30.60
2-1/4	2.869	34.43
2-1/2	3.188	38.26
2-3/4	3.506	42.07
3	3.830	45.96
3-1/2	4.463	53.56
4	5.100	61.20
4-1/2	5.738	68.86
5	6.376	76.51
5-1/2	7.010	84.12
6	7.650	91.80
8	10.200	122.40
10	12.750	153.00
12	15.300	183.60

7/16 x

1	1.488	17.86
2	2.977	35.73

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

Friendly Steel Handler



**COLD ROLLED FLAT
12' Random**

Conforms to ASTM A-108 / 1018 Alloy

Size Inches	Weight Per Ft. Lbs.	12' Wt.
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1/2 x

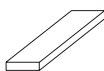
5/8	1.063	12.76
3/4	1.276	15.30
7/8	1.488	17.86
1	1.700	20.40
1-1/4	2.125	25.50
1-1/2	2.550	30.60
1-3/4	2.975	35.70
2	3.400	40.80
2-1/4	3.825	45.91
2-1/2	4.250	51.00
2-3/4	4.675	56.10
3	5.100	61.20
3-1/2	5.950	71.40
4	6.800	81.60
4-1/2	7.650	91.80
5	8.500	102.00
6	10.200	122.40
7	11.900	142.80
8	13.600	163.20
10	17.000	204.00
12	20.400	244.80

5/8 x

3/4	1.594	19.12
1	2.125	25.50
1-1/4	2.656	31.87
1-1/2	3.188	38.26
1-3/4	3.719	44.63
2	4.250	51.00
2-1/4	4.788	57.34
2-1/2	5.314	63.76
3	6.376	76.51
3-1/2	7.439	89.27
4	8.498	101.97
5	10.625	127.50
6	12.750	153.00
8	17.000	204.00

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

Friendly Steel Handler



COLD ROLLED FLAT 12' Random

Conforms to ASTM A-108 / 1018 Alloy

Size Inches	Weight Per Ft. Lbs.	12' Wt.
----------------	---------------------------	------------

3/4 x

1	2.550	30.60
1-1/8	2.872	34.46
1-1/4	3.188	38.26
1-1/2	3.826	45.90
1-3/4	4.462	53.55
2	5.100	61.20
2-1/4	5.738	68.86
2-1/2	6.376	76.51
3	7.650	91.80
3-1/4	8.296	99.55
3-1/2	8.926	107.11
4	10.200	122.40
4-1/2	11.476	137.71
5	12.750	153.00
5-1/2	14.300	168.35
6	15.300	183.60
7	17.867	214.40
8	20.400	244.80
10	25.000	300.00
12	30.600	367.20

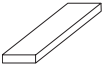
1 x

1-1/8	3.826	45.91
1-1/4	4.250	51.00
1-3/8	4.679	56.15
1-1/2	5.100	61.20
1-3/4	5.950	71.40
2	6.800	81.60
2-1/4	7.650	91.80
2-1/2	8.500	102.00
3	10.200	122.40
3 RND EDGE	10.200	122.40
3-1/2	11.900	142.80
4	13.600	163.15
4-1/2	15.300	183.60
5	17.000	204.00
6	20.400	244.80
7	23.800	285.60
8	27.200	326.40
10	34.000	408.00
12	40.800	489.60

1-1/8 x

3	11.480	137.80
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Friendly Steel Handler

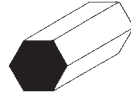


**COLD ROLLED FLAT
12' Random**

Conforms to ASTM A-108 / 1018 Alloy

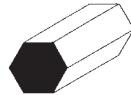
Size Inches	Weight Per Ft. Lbs.	12' Wt.
<u>1-1/4 x</u>		
1-1/2	6.376	76.51
2	8.500	102.00
2-1/4	9.575	114.90
2-1/2	10.625	127.50
3	12.750	153.00
3-1/2	14.880	178.50
4	17.000	204.00
5	21.250	255.00
6	25.500	306.00
8	34.000	408.00
12	51.000	612.00
<u>1-1/2 x</u>		
1-3/4	8.93	107.19
2	10.20	122.40
2-1/2	12.75	153.00
3	15.30	183.60
3-1/2	17.87	214.42
4	20.40	244.80
5	25.50	306.00
6	30.60	367.20
8	40.80	489.60
12	61.20	734.40
<u>1-3/4 x</u>		
2	11.900	142.80
2-1/2	14.890	178.67
3	17.850	214.20
4	23.799	285.60
<u>2 x</u>		
2-1/2	17.00	204.00
3	20.40	244.84
3-1/2	23.80	285.60
4	27.20	326.40
4-1/2	30.60	367.20
5	34.00	408.00
6	40.80	489.60
8	54.40	652.80
12	81.60	979.20
<u>2-1/2 x</u>		
3	25.50	306.00
4	34.00	408.00
5	42.50	510.00
<u>3 x</u>		
4	40.80	489.60
6	61.20	734.40

**HEXAGON BARS COLD FINISHED-
1018 12' Random Lengths**
Conforms to ASTM A108 / 1018



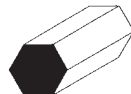
Size Inches	Weight Per Ft. Lbs.	12' Wt.
3/16	0.104.	1.25
3/8	0.414.	4.97
7/16	0.564.	6.77
1/2	0.737.	8.84
9/16	0.931.	11.17
5/8	1.150.	13.80
11/16	1.393.	16.72
3/4	1.658.	19.90
7/8	2.256.	27.07
15/16	2.588.	31.06
1-1/16	3.324.	39.89
1-1/8.	3.727.	44.73
1-3/8.	5.567.	66.80
1-1/2.	6.625.	79.50
1-3/4.	9.018.	108.22
1-7/8.	10.358.	124.30
2	11.780.	141.36
2-1/2.	18.400.	220.80

**HEXAGON BARS COLD FINISHED-
12L14 12' Random Lengths**
Conforms to ASTM A108 / 12L14



Size Inches	Weight Per Ft. Lbs.	12' Wt.
1/4	0.184	2.21
5/16.	0.288	3.46
3/4	1.658	19.90
1	2.956	35.47
1-1/4	4.601	55.21

**HEXAGON BARS COLD FINISHED-
Stressproof - 12' R. L.**
Conforms to ASTM A311/1144

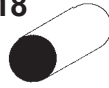


Size Inches	Weight Per Ft. Lbs.	12' Wt.
7/8	2.256	27.07
1	2.956	35.47

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

COLD FINISHED ROUNDS-1018

Conforms to ASTM A108 / 1018



Size Inches	Weight / Ft Lbs	12'	20'
1/8 . . . . .	.042	0.50	
3/16 . . . . .	.094	1.12	
1/4 . . . . .	.167	2.00	
5/16 . . . . .	.260	3.12	
3/8 . . . . .	.376	4.51 . .	7.51
7/16 . . . . .	.511	6.13	
1/2 . . . . .	.668	8.02	
9/16 . . . . .	.845	10.14	
5/8	1.04	12.48 . .	20.81
11/16	1.26	15.12	
3/4	1.50	18.00 . .	30.00
13/16	1.76	21.12	
7/8	2.04	24.48	
15/16	2.35	28.20 . .	47.00
1	2.67	32.04 . .	53.40
1-1/16	3.01	36.12	
1-1/8	3.38	40.565	
1-3/16	3.77	45.24	
1-1/4	4.17	50.04 . .	83.40
1-5/16	4.60	55.20 . .	91.99
1-3/8	5.05	60.60	
1-7/16	5.52	66.24 . .	110.40
1-1/2	6.01	72.12 . .	120.20
1-9/16	6.52	78.24 . .	130.39
1-5/8	7.05	84.60	
1-11/16	7.60	91.20 . .	151.99
1-3/4	8.18	98.16 . .	163.61
1-13/16	8.77	105.24 . .	175.39
1-7/8	9.39	112.68 . .	187.80
1-15/16	10.02	120.24 . .	200.40
2	10.68	128.16 . .	213.60
2-1/16	11.36		227.20
2-1/8	12.06		241.20
2-3/16	12.78	153.36 . .	255.60
2-1/4	13.52		270.41
2-5/16	14.28		285.60
2-3/8	15.06		301.20
2-7/16	15.87		317.40
2-1/2	16.69	200.28 . .	333.79
2-5/8	18.40		367.99
2-11/16	19.29		385.80
2-3/4	20.20	242.40 . .	403.99
2-7/8	22.07	264.84 . .	441.41
2-15/16	23.04		460.80
3	24.03		480.60
3-1/8	26.08		521.59
3-1/4	28.21		564.19
3-7/16	31.59		631.70
3-1/2	32.71		654.19
3-3/4	37.55		751.00
3-7/8	40.13		802.61

COLD FINISHED ROUNDS 1018 (cont.)

Size Inches	Weight / Ft Lbs	12'	20'
3-15/16	41.44		828.79
4.	42.73	512.76	854.59
4-7/16	52.58		1051.58
4-1/2.	54.08		1081.60
4-3/4.	60.25		1204.99
4-15/16	65.10		1302.00
5.	66.76		1335.19
6.	96.13		1922.59

COLD FINISHED ROUNDS 1045 STOCK LENGTH 12' - 20' - 24' RANDOM



Size Inches	Weight / Ft Lbs	12'	20'	24'
3/8.	.376	4.51	7.51	
1/2.	.668	8.02		
5/8.	1.040	12.48		
3/4.	1.500		30.00	
7/8.	2.040	24.48		
1.	2.670	32.04	53.40	
1 TGP	2.670			64.08
1-1/16	3.010		60.19	
1-1/8.	3.380	40.56	67.60	
1-3/16	3.770	45.24		
1-1/4.	4.200	50.40	83.40	
1-3/8.	5.050	60.60		
1-7/16	5.520	66.24		
1-1/2.	6.010	72.12	120.20	
1-5/8.	7.050	84.60		
1-3/4.	8.180		163.60	
2.	10.680	128.16		
2-1/16	11.360	227.21		
2-3/16	12.780		255.60	
2-3/8.	15.060		301.20	
2-7/16	15.870		317.40	
2-1/2.	16.690	200.30	333.84	
3.	24.030		480.60	
3-7/16	31.590		631.70	
3-3/4.	37.550		751.01	
4.	42.730		854.60	

COLD FINISHED ROUNDS 12L14 STOCK LENGTH 12' RANDOM



Size Inches	Weight / Ft Lbs	12'
1/4	0.155	1.86
5/16	0.260	3.12
3/8	0.376	4.51
7/16	0.511	6.13
1/2	0.668	8.02
5/8	1.040	12.48
3/4	1.500	18.00
7/8	2.040	24.48
1	2.670	32.04
1-1/16	3.096	37.15
1-1/8.	3.380	40.56

COLD FINISHED ROUNDS 12L14

continued....



Size Inches	Weight / Ft Lbs	12'
1-1/4	4.200	50.04
1-5/16	4.600	55.20
1-3/8	5.050	60.60
1-7/16	5.52	66.24
1-1/2	6.010	72.12
1-3/4	8.18	98.16
1-13/16	8.77	105.24
2	10.68	128.16
2-1/2	16.90	200.275
3	24.03	288.36

COLD FINISHED ROUNDS 1215

STOCK LENGTH 12' Random Length



Size Inches	Weight / Ft Lbs	12'
3/8	0.376	4.51

COLD FINISHED ROUNDS

4140 / 4142 PURPLE 12' RL



Size Inches	Weight / Ft Lbs	12'
1	2.670	32.04
2	10.680	128.16

COLD FINISHED SQUARES

C1018 - 12' RL



Size Inches	Weight / Ft Lbs	12'
1/8	0.053	0.64
3/16	0.120	1.44
1/4	0.214	2.56
5/16	0.331	3.97
3/8	0.479	5.74
7/16	0.650	7.80
1/2	0.850	10.20
9/16	1.080	12.96
5/8	1.330	15.96
11/16	1.610	19.32
3/4	1.910	22.92
7/8	2.600	31.20
15/16	2.990	35.88
1	3.400	40.80
1-1/16	3.830	45.96
1-1/8	4.300	51.60
1-3/16	4.800	57.60
1-1/4	5.310	63.72
1-5/16	5.862	70.34
1-3/8	6.430	77.16
1-1/2	7.650	91.80
1-3/4	10.410	124.92
1-7/8	12.000	144.00
2	13.600	163.20
2-1/4	17.220	206.70
2-1/2	21.250	255.00
3	30.600	367.20
4	54.450	653.40

STRESS RELIEVED ROUNDS 1144



Cold Finish, Conforms to A31112'
Random Length

Size Inches	Weight Per Ft. Lbs.	12'
1/4	0.167	2.00
5/16	0.260	3.13
3/8	0.376	4.51
7/16	0.511	6.13
1/2	0.668	8.02
9/16	0.845	10.14
5/8	1.040	12.48
11/16	1.260	15.12
3/4	1.500	18.00
13/16	1.760	21.12
7/8	2.040	24.48
15/16	2.350	28.20
1	2.670	32.04
1-1/16	3.010	36.12
1-1/8	3.380	40.56
1-3/16	3.770	45.24
1-1/4	4.170	50.04
1-5/16	4.600	55.20
1-3/8	5.050	60.60
1-7/16	5.520	66.24
1-1/2	6.010	72.12
1-9/16	6.520	78.24
1-5/8	7.050	84.60
1-11/16	7.600	91.20
1-3/4	8.180	98.16
1-7/8	9.390	112.68
1-15/16	10.020	120.24
2	10.680	128.16
2-1/16	11.360	136.32
2-1/8	12.060	144.72
2-3/16	12.780	153.36
2-1/4	13.520	162.24
2-3/8	15.060	180.71
2-7/16	15.870	190.44
2-1/2	16.690	200.28
2-5/8	18.400	220.80
2-11/16	19.310	231.70
2-3/4	20.190	242.40
2-7/8	22.070	264.84
2-15/16	23.040	276.48
3	24.030	288.36
3-1/4	28.210	338.52
3-7/16	31.590	379.02
3-1/2	32.710	392.52
3-3/4	37.550	450.60
4	42.730	512.76
4-1/2	54.130	649.50

Friendly Steel Handler

Pipe-Carbon Steel

Intended for mechanical and pressure applications. This pipe most commonly used for steam, water, gas, and air lines. Pressure tested.

Furnace Continuous Butt Welded

Not intended for close coiling, bending, or high temperature service. Conforms to ASTM A53 Type F Grade A.

Electric Resistance Welded (ERW)

Suitable for welding, coiling, bending, and flaring. Conforms to ASTM A53 Type E Grade B.

Pipe Size (ERW) Tubing

Tubing sized the same as pipe, intended for structural use only. This tube has a better finish and higher strength than pipe. Often used for railings. Conforms to ASTM A500 Grade B.

McNeilus Steel, Inc.

BLACK PIPE PLAIN END

TESTED - LINE PIPE

Sched 40 - 21' Length, Conforms to ASTM-A53

Passivated or Lacquer Coated

Size	OD	Wall	Wt./Ft.
1/8" . . .	0.405 . . .	0.068 . . .	0.24
1/4" . . .	0.540 . . .	0.088 . . .	0.42
3/8" . . .	0.675 . . .	0.091 . . .	0.56
1/2" . . .	0.840 . . .	0.109 . . .	0.85
3/4" . . .	1.050 . . .	0.113 . . .	1.13
1"	1.315 . . .	0.133 . . .	1.68
1-1/4" . .	1.660 . . .	0.140 . . .	2.27
1-1/2" . .	1.900 . . .	0.145 . . .	2.72
2"	2.375 . . .	0.154 . . .	3.65
2-1/2" . .	2.875 . . .	0.203 . . .	5.79
3"	3.500 . . .	0.216 . . .	7.58
3-1/2" . .	4.000 . . .	0.226 . . .	9.11
4"	4.500 . . .	0.237 . . .	10.79
5"	5.563 . . .	0.258 . . .	14.62
6"	6.625 . . .	0.280 . . .	18.97
8"	8.625 . . .	0.322 . . .	28.55
10"	10.750 . . .	0.365 . . .	40.48
12"	12.750 . . .	0.375 . . .	49.57

GALVANIZED PIPE PLAIN END

Sched 40 - 21' Length

Conforms to ASTM-A53

Size	OD	Wall	Wt./Ft.
1/8" . . .	0.405 . . .	0.068 . . .	0.24
1/4" . . .	0.540 . . .	0.088 . . .	0.42
3/8" . . .	0.675 . . .	0.091 . . .	0.56
1/2" . . .	0.840 . . .	0.109 . . .	0.85
3/4" . . .	1.050 . . .	0.113 . . .	1.13
1"	1.315 . . .	0.133 . . .	1.68
1-1/4" . .	1.660 . . .	0.140 . . .	2.28
1-1/2" . .	1.900 . . .	0.145 . . .	2.73
2"	2.375 . . .	0.154 . . .	3.68
2-1/2" . .	2.875 . . .	0.203 . . .	5.79
3"	3.500 . . .	0.216 . . .	7.57
3-1/2" . .	4.000 . . .	0.226 . . .	9.81
4"	4.500 . . .	0.237 . . .	10.79
5"	5.563 . . .	0.258 . . .	15.81

FARGO 1-888-577-0007

DODGE CENTER 1-800-733-6336

Friendly Steel Handler

EXTRA HEAVY BLACK P.E. PIPE Sched 80 - 21' Length

Passivated or Lacquer Coated

Size	OD	Wall	Wt./Ft.
1/4" . . .	0.540 . . .	0.119 . . .	0.54
3/8" . . .	0.675 . . .	0.126 . . .	0.73
1/2" . . .	0.840 . . .	0.147 . . .	1.09
3/4" . . .	1.050 . . .	0.154 . . .	1.47
1"	1.315 . . .	0.179 . . .	2.17
1-1/4" . .	1.660 . . .	0.191 . . .	3.00
1-1/2" . .	1.900 . . .	0.200 . . .	3.63
2"	2.375 . . .	0.218 . . .	5.02
2-1/2" . .	2.875 . . .	0.276 . . .	7.66
3"	3.500 . . .	0.300 . . .	10.25
3-1/2" . .	4.000 . . .	0.318 . . .	12.51
4"	4.500 . . .	0.337 . . .	14.98
5"	5.563 . . .	0.375 . . .	20.78
6"	6.625 . . .	0.432 . . .	28.57

PIPE SIZE TUBING

21' Lengths

Conforms to ASTM-A500 Grade B

Size	OD	Wall	Wt./Ft.	Wt./21'
1/2" . . .	0.84 . . .	0.109 . . .	0.85 . . .	17.89
3/4" . . .	1.05 . . .	0.113 . . .	1.13 . . .	23.73
1"	1.31 . . .	0.133 . . .	1.68 . . .	35.28
1-1/4" . .	1.66 . . .	0.109 . . .	1.81 . . .	37.93
1-1/4"BLKOTE	1.66 12GA		1.81 . . .	37.93
1-1/4" . .	1.66 . . .	0.135 . . .	2.27 . . .	47.67
1-1/4"BLKOTE	1.66 10GA		2.18 . . .	45.87
1-1/2" . .	1.90 . . .	0.109 . . .	2.09 . . .	43.89
1-1/2" . .	1.90 . . .	0.145 . . .	2.72 . . .	57.12
2"	2.37 . . .	0.148 . . .	3.66 . . .	76.86
2-1/2 . .	2.88 . . .	0.203 . . .	5.79 . . .	121.59
3"	3.50 . . .	0.216 . . .	7.58 . . .	159.09
3-1/2" . .	4.00 . . .	0.226 . . .	9.12 . . .	191.52
4"	4.50 . . .	0.237 . . .	10.79 . . .	226.60
6"	6.625 . . .	0.280 . . .	18.99 . . .	398.79
12" . . .	12.750 . .	0.188 . . .	25.22 . . .	1008.80

Hot Rolled electric welded,
uncoated not pressure tested.

**CALL FOR LARGER SIZES
DIFFERENT SCHEDULES**

Stainless Pipe - See Stainless Section
Aluminum Pipe - See Aluminum Section

ROUND TUBING - TERMS

COLD DRAWN SEAMLESS (CDS)

Produced to OD and ID dimensions by a process that pierces a hot rolled bar. Normally furnished in the "as drawn" condition. CDS offers good surface quality and greater mechanical properties than hot finished seamless tubing. Made from 1026 grade steel. Conforms to ASTM A519.

DRAWN OVER MANDREL (DOM)

DOM has very little wall variation and no spiraling eccentricity. The tube is formed and welded from strip steel which has very little gauge variation. The tube is then cold drawn to size, causing the weld seam to virtually disappear. Tubing 10 ga and lighter is made from 1020 grade steel, heavier than 10 ga is made from 1026. Conforms to ASTM A513 Type 5 (mandrel drawn).

Drawn Over Mandrel Tubing: Advantages of DOM

1. More uniform wall thickness
2. Better surface finish
3. Less stock removal
4. No spiral on ID
5. Denser ID surface
6. Closer tolerance
7. Comparable or lower cost

ELECTRIC RESISTANCE WELDED TUBES are produced from a cold rolled or hot rolled scale-free strip which is formed by rolls at room temperature into a tubular shape. Welding takes place as an electric current heats the two edges of the strip as they are pressed together. Only a narrow band of metal is heated while the rest of the tube remains at room temperature. The weld flash is always trimmed off the outside of the tube. The flash can also be trimmed from the inside by special tooling.

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

Friendly Steel Handler



ROUND TUBING BUSHING STOCK

Random 20' Lengths

DOM - Drawn Over Mandrel
CDBW - Cold Drawn Butt Weld
CDST - Cold Drawn Seamless Tube
HFS - Hot Finished Seamless

OD	Type	Wall Thickness	Weight/ Foot
1/2"	DOM	0.049	0.235
1/2"	DOM	0.095	0.411
3/4"	DOM	0.109	0.745
3/4"	DOM	0.120	0.807
7/8"	DOM	.095	.791
7/8"	DOM	0.120	0.967
7/8"	DOM	0.187	0.380
1"	DOM	0.120	1.128
1"	DOM	0.156	1.405
1"	CDBW	0.172	1.517
1"	DOM	0.219	1.710
1"	DOM	0.250	2.000
1"	CDST	0.375	2.500
1-1/8"	DOM	0.065	0.736
1-1/8"	DOM	0.250	2.330
1-1/4"	DOM	0.120	1.448
1-1/4"	DOM	0.134	1.597
1-1/4"	DOM	0.250	2.670
1-1/4"	DOM	0.281	2.900
1-1/4"	DOM	0.313	3.132
1-3/8"	DOM	0.250	3.000
1-3/8"	DOM	0.313	3.551
1-1/2"	DOM	0.188	2.640
1-1/2"	DOM	0.234	3.164
1-1/2"	DOM	0.250	3.338
1-1/2"	DOM	0.281	3.658
1-1/2"	DOM	0.312	3.720
1-1/2"	DOM	0.344	4.247
1-1/2"	DOM	0.375	4.500
1-5/8"	DOM	0.250	3.670
1-5/8"	DOM	0.281	4.033
1-5/8"	DOM	0.312	4.380
1-3/4"	DOM	0.095	1.680
1-3/4"	DOM	0.187	3.136
1-3/4"	DOM	0.219	3.581
1-3/4"	DOM	0.250	4.000
1-3/4"	DOM	0.281	4.409
1-3/4"	DOM	0.375	5.500
1-7/8"	DOM	0.250	4.340
1-7/8"	DOM	0.375	6.008
1-7/8"	DOM	0.438	6.600
2"	DOM	0.120	2.400
2"	DOM	0.250	4.670
2"	DOM	0.375	6.500
2"	DOM	0.485	7.847
2"	CDST	0.500	8.010
2-1/8"	DOM	0.156	3.280
2-1/8"	DOM	0.313	6.057
2-1/8"	DOM	0.500	8.680
2-1/4"	DOM	0.375	7.500
2-1/4"	CDST	0.500	9.350
2-1/2"	DOM	0.188	4.642
2-1/2"	DOM	0.250	6.000
2-1/2"	DOM	0.281	6.659
2-1/2"	DOM	0.375	8.500

McNeilus Steel, Inc.



**ROUND TUBING
BUSHING STOCK**
(continued)

DOM - Drawn Over Mandrel
CDBW - Cold Drawn Butt Weld
CDST - Cold Drawn Seamless Tube
HFS - Hot Finished Seamless

OD	Type	Wall Thickness	Weight/ Foot
2-1/2"	DOM	0.500	10.680
2-5/8"	DOM	0.250	6.341
2-5/8"	DOM	0.312	7.730
2-5/8"	DOM	0.375	9.010
2-3/4	DOM	0.500	12.000
2-7/8"	DOM	0.375	10.000
3"	DOM	0.250	7.343
3"	DOM	0.375	10.510
3"	DOM	0.500	13.350
3"	CDST	0.750	18.020
3-1/8"	DOM	0.375	11.010
3-1/4"	DOM	0.250	8.010
3-1/4"	DOM	0.500	14.690
3-3/8"	DOM	0.500	15.350
3-1/2"	DOM	0.250	8.678
3-1/2"	DOM	0.281	9.660
3-1/2"	DOM	0.375	12.520
3-1/2"	DOM	0.500	16.020
3-1/2"	DOM	0.625	19.200
3-1/2"	CDST	0.750	22.000
3-5/8"	DOM	0.375	13.020
3-3/4	DOM	0.375	13.520
3-7/8	DOM	0.188	7.404
4"	DOM	0.219	14.520
4"	DOM	0.437	16.660
4"	DOM	0.500	18.690
4"	CDST	0.750	26.030
4"	CDST	1.000	32.000
4-1/2"	DOM	0.250	11.340
4-1/2"	DOM	0.438	19.000
4-1/2"	CDST	0.625	25.900
5"	DOM	0.375	18.520
5"	DOM	0.500	24.030
5-1/4"	DOM	0.313	16.500
5-1/2"	DOM	0.375	20.530
5-1/2"	DOM	0.625	32.540
7"	DOM	0.625	42.550
7-1/2"	SMLS	1.000	69.420
8-1/2"	DOM	0.375	32.540
8-3/4"	HFSM	0.750	64.000
10-1/2"	DOM	0.375	40.550

**FARGO 1-888-577-0007
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Friendly Steel Handler



ROUND TUBING ELECTRIC WELD

Random 20' Lengths
Conforms to ASTM A-513

Type 1: A.W.H.R. "as welded"
from hot rolled steel

Type 2: A.W.C.R. "as welded"
from cold Rolled steel

OD	Type	Wall Thickness	Weight/ Foot
1/2"	1	0.065	0.300
3/4"	1	0.065	0.476
3/4"	1	0.120	0.807
7/8"	1	0.062	0.562
1"	2	0.065	0.650
1"	1	0.083	0.815
1"	1	0.120	1.128
1-1/8"	1	0.120	1.288
1-1/4"	1	0.065	0.825
1-1/4"	1	0.083	1.034
1-1/4"	1	0.095	1.170
1-1/4"	1	0.120	1.448
1-1/2"	1	0.065	0.996
1-1/2"	1	0.083	1.253
1-1/2"	1	0.095	1.426
1-1/2"	1	0.120	1.769
1-5/8"	1	0.095	1.550
1-3/4"	1	0.095	1.680
1-3/4"	1	0.125	2.089
2"	1	0.083	1.700
2"	1	0.095	1.933
2"	1	0.109	2.201
2"	1	0.120	2.592
2"	1	0.120	2.400
2"	1	0.134	2.670
2-1/2"	1	0.083	2.143
2-1/2"	1	0.120	3.050
3"	1	0.065	2.037
3"	1	0.109	3.365
3"	1	0.120	3.694
3"	1	0.134	4.102
3"	1	0.180	5.421
4"	1	0.120	4.972
5"	1	0.120	6.250
5"	1	0.250	12.680
6"	1	0.120	7.530
8"	1	0.120	10.510
10"	1	0.120	13.180
10" (20' + 40')	1	0.188	19.700

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

Friendly Steel Handler

Square and Rectangular Tubing

Mechanical: Conforms to ASTM A513 Type 1 (AWHR), or Type 2 (AWCR).

An electric resistance welded tubing produced from low carbon steel. Offers good surface finish and forming characteristics. All sizes have the OD flash removed, with the ID flash-in. Generally available in wall thickness lighter than 11ga., in widths less than 3 inches.

Structural: Conforms to ASTM A500-Grade B.

An electric resistance welded tube produced from a structural grade of steel. Offers a high strength-to-weight ratio, yet is easily welded, formed, punched, and drilled. All sizes have the OD flash removed, with the ID flash-in. Minimum mechanical properties: Tensile Strength = 58,000 psi, Yield Strength = 46,000 psi, % Elongation in 2" = 23%.

Gauge - Decimal Equivalents

The usual gauge designation for welded steel Tube is BWG (Birmingham Wire Gauge).

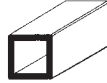
Gauge number	Decimal Eq.
6	.203
7	.180
8	.165
9	.148
10	.134
11	.120
12	.109
14	.083
16	.065
18	.049
20	.035

Note: Min / Max based on ASTM A500 & A513, +/- 10% of nominal.

SQUARE TUBING

A513 or A500 Grade B

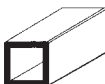
Stock Lengths 20' - 24' - 40'



Outside Dimension	Wall Thickness	Wt. Per Foot
A-513		
1/2 x 1/2	16	0.385
3/4 x 3/4	18	0.467
3/4 x 3/4	16	0.606
3/4 x 3/4	14	0.753
3/4 x 3/4	11	1.028
1 x 1	16	0.827
1 x 1	14	1.035
1 x 1	13	1.169
1 x 1	12	1.321
1 x 1	11	1.436
1-1/4 x 1-1/4	16	1.048
1-1/4 x 1-1/4	14	1.317
1-1/4 x 1-1/4	12	1.691
1-1/4 x 1-1/4	11	1.844
1-1/4 x 1-1/4	10	2.030
1-1/4 x 1-1/4	3/16	2.400
1-1/2 x 1-1/2	16	1.269
1-1/2 x 1-1/2	14	1.600
1-1/2 x 1-1/2	12	2.062
1-1/2 x 1-1/2	11	2.252
1-1/2 x 1-1/2	3/16	3.039
1-3/4 x 1-3/4	14	1.882
1-3/4 x 1-3/4	11	2.660
2 x 2	14	2.166
2 x 2	13	2.461
2 x 2	12	2.800
2 x 2	11	3.070
A-500		
1-1/4 x 1-1/4	11	1.844
1-1/4 x 1-1/4	10	2.030
1-1/4 x 1-1/4	3/16	2.400
1-1/2 x 1-1/2	11	2.252
1-1/2 x 1-1/2	3/16	3.039
1-1/2 x 1-1/2	1/4	4.070
2 x 2	11	3.070
2 x 2	3/16	4.320
2 x 2	1/4	5.400
2-1/2 x 2-1/2	11	3.900
2-1/2 x 2-1/2	3/16	5.600
2-1/2 x 2-1/2	1/4	7.100
2-1/2 x 2-1/2	14	2.670
3 x 3	14	3.300
3 x 3	11	4.750
3 x 3	3/16	6.880
3 x 3	1/4	8.800
3 x 3	5/16	10.580
3 x 3	3/8	12.150
3-1/2 x 3-1/2	11	5.660
3-1/2 x 3-1/2	3/16	8.160
3-1/2 x 3-1/2	1/4	10.500
3-1/2 x 3-1/2	5/16	12.700
4 x 4	11	6.450
4 x 4	3/16	9.440
4 x 4	1/4	12.200
4 x 4	5/16	14.840
4 x 4	3/8	17.250
4 x 4	1/2	21.610
4-1/2 x 4-1/2	3/16	10.700

SQUARE TUBING (cont.)

Stock Lengths 20' - 24' - 40'



Outside Dimension	Wall Thickness	Wt. Per Foot
4-1/2 x 4-1/2	1/4	13.900
5 x 5	11	8.160
5 x 5	3/16	11.990
5 x 5	1/4	15.600
5 x 5	5/16	19.090
5 x 5	3/8	22.350
5 x 5	1/2	28.410
6 x 6	11	9.860
6 x 6	3/16	14.550
6 x 6	1/4	19.000
6 x 6	5/16	23.350
6 x 6	3/8	27.450
6 x 6	1/2	35.210
7 x 7	3/16	17.080
7 x 7	1/4	22.400
7 x 7	3/8	32.550
7 x 7	1/2	42.050
8 x 8	3/16	19.660
8 x 8	1/4	25.800
8 x 8	3/8	37.650
8 x 8	1/2	48.810
10 x 10	1/4	32.590
10 x 10	3/8	47.850
10 x 10	1/2	62.400
12 x 12	1/4	39.430
12 x 12	3/8	58.100
12 x 12	1/2	76.070
14 x 6	1/4	43.120

Call for Stock Lengths. Larger Sizes Available

RECTANGULAR TUBING

Stock Lengths A513/A500 Grade B
20' - 24' - 40'

Outside Dimension	Wall Thickness	Weight Per Ft.
A-513		
1 x 1/2	16 . . . . .	.606
1-1/2 x 3/4	16 . . . . .	.937
1-1/2 x 3/4	14	1.176
1-1/2 x 3/4	11	1.640
1-1/2 x 1	14	1.320
1-1/2 x 1	11	1.840
2 x 1	16	1.270
2 x 1	14	1.600
2 x 1	11	2.250
2 x 1-1/4	14	1.740
2 x 1-1/4	11	2.460
2 x 1-1/2	14	1.880
2 x 1-1/2	11	2.660
2-1/2 x 1	14	1.880
2-1/2 x 1-1/2	14	2.160
3 x 1	16	1.710
3 x 1	14	2.160
3 x 1-1/2	11	3.480

McNeilus Steel, Inc.

RECTANGULAR TUBING cont'd
Stock Lengths - 20' - 24' - 40'

Outside Dimension	Wall Thickness	Weight Per Ft.
A-500		
2 x 1	3/16	3.349
2 x 1-1/2	14	1.880
2 x 1-1/2	11	2.660
2-1/2 x 1	14	1.880
2-1/2 x 1-1/2	1/4	5.400
2-1/2 x 1-1/2	3/16	4.320
2-1/2 x 1-1/2	11	3.070
2-1/2 x 1-1/2	14	2.160
2-1/2 x 1-1/2	11	3.050
2-1/2 x 1-1/2	3/16	4.320
2-1/2 x 1-1/2	1/4	5.400
3 x 1	16	1.710
3 x 1	14	2.100
3 x 1	11	3.070
3 x 1-1/2	14	2.390
3 x 1-1/2	11	3.480
3 x 1-1/2	3/16	4.960
3 x 1-1/2	1/4	6.260
3 x 2	14	2.670
3 x 2	11	3.900
3 x 2	3/16	5.600
3 x 2	1/4	7.100
3 x 2	5/16	8.430
3-1/2 x 2-1/2	3/16	6.870
3-1/2 x 2-1/2	1/4	8.810
4 x 1-1/2	11	4.292
4 x 2	14	3.300
4 x 2	11	4.750
4 x 2	3/16	6.880
4 x 2	1/4	8.800
4 x 2	5/16	10.580
4 x 3	11	5.600
4 x 3	3/16	8.160
4 x 3	1/4	10.500
4 x 3	5/16	12.670
4 x 3	3/8	14.720
5 x 2	11	5.660
5 x 2	3/16	8.160
5 x 2	1/4	10.500
5 x 2	3/8	14.710
5 x 2-1/2	3/16	8.880
5 x 3	11	6.460
5 x 3	3/16	9.440
5 x 3	1/4	12.200
5 x 3	3/8	17.250
5 x 3	1/2	21.630
5 x 4	1/4	13.920
6 x 2	11	6.450
6 x 2	3/16	9.440
6 x 2	1/4	12.200
6 x 2	5/16	14.840
6 x 2	3/8	17.270
6 x 3	11	7.330
6 x 3	3/16	10.710

RECTANGULAR TUBING cont'd

Stock Lengths - 20' - 24' - 40'

Outside Dimension	Wall Thickness	Wt./Ft.
6 x 3	1/4	13.900
6 x 3	3/8	19.800
6 x 4	11	8.160
6 x 4	3/16	11.990
6 x 4	1/4	15.600
6 x 4	5/16	19.080
6 x 4	3/8	22.350
6 x 4	1/2	28.410
7 x 3	3/16	11.990
7 x 3	1/4	15.600
7 x 3	3/8	22.370
7 x 4	3/16	13.250
7 x 4	3/8	24.930
7 x 5	3/16	14.550
7 x 5	1/4	19.000
7 x 5	3/8	27.450
7 x 5	1/2	35.210
8 x 2	3/16	11.990
8 x 2	1/4	15.600
8 x 2	3/8	22.350
8 x 3	3/16	13.270
8 x 3	1/4	17.300
8 x 3	3/8	24.900
8 x 3	1/2	31.840
8 x 4	3/16	14.550
8 x 4	1/4	19.000
8 x 4	3/8	27.450
8 x 4	1/2	35.210
8 x 6	3/16	17.080
8 x 6	1/4	22.400
8 x 6	3/8	32.550
8 x 6	1/2	42.010
10 x 2	3/16	14.550
10 x 2	1/4	19.000
10 x 3	1/4	20.720
10 x 4	3/16	17.109
10 x 4	1/4	22.400
10 x 4	3/8	32.550
10 x 4	1/2	42.050
10 x 6	3/16	19.630
10 x 6	1/4	25.800
10 x 6	3/8	37.650
10 x 6	1/2	48.850
10 x 8	1/4	29.930
12 x 2	3/16	17.110
12 x 2	1/4	22.400
12 x 4	1/4	25.800
12 x 4	3/8	37.650
12 x 4	1/2	48.850
12 x 6	1/4	29.230
12 x 6	3/8	42.750
12 x 8	1/2	62.400

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KLEENKOTE / BLACKKOTE
Square & Rectangular Tubing
A-513/A-500 Grade B 20', 24', 40'

Outside Dimension	Wall Thickness	Wt./Ft
1 x 1	16	0.827
1 x 1	14	1.035
1 x 1	11	1.436
1-1/4 x 1-1/4	16	1.048
1-1/4 x 1-1/4	14	1.317
1-1/2 x 1-1/2	16	1.269
1-1/2 x 1-1/2	14	1.600
1-1/2 x 1-1/2	11	2.252
2 x 1	14	1.600
2 x 2	3/16	4.320
2 x 2	1/4	5.400
2 x 2	11	3.070
3 x 1	11	3.070
3 x 2	11	3.900
3 x 2	3/16	5.600
3 x 2	1/4	7.100
4 x 2	11	4.750
4 x 2	3/16	6.880
4 x 2	1/4	8.800
4 x 3	3/16	8.160
4 x 4	3/16	9.440
5 x 2	1/4	10.500
5 x 5	3/16	11.990
6 x 2	11	6.450
6 x 2	3/16	9.440
6 x 3	3/16	10.710
6 x 3	1/4	13.900
6 x 3	3/8	19.800
8 x 3	3/16	13.270
8 x 3	3/8	24.900

KleenKote is mechanically cleaned, degreased and painted with a .5mil coating. It is available in Black KleenKote.

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DODGE CENTER 1-800-733-6336

CARBON STEEL SHEETS & PLATES A SUMMARY OF GRADES

A 1011 CS Type B (CQ)

This specification covers hot-rolled carbon steel sheets of commercial quality, in coils and cut lengths, having a maximum carbon of 0.15%. This material is intended for parts where bending, moderate forming or drawing, and welding may be involved.

C max.	Mn max.	P max.	S max.
.02/.15	0.60	0.030	0.035
Tensile 53,000			
Yield 30,000 to 50,000 psi			

ASTM A-36

This specification covers carbon plate of structural quality.

Thickness	C max.	Mn max.	P max.	S max.	Si max.
to 3/4"	0.25	.80/1.20	0.04	0.05	
3/4" ~ 1-1/2"	0.25	.80/1.20	0.04	0.05	
1-1/2" ~ 2-1/2"	0.26	.85/1.20	0.04	0.05	.15/.40
2-1/2" ~ 4"	0.27	.85/1.20	0.04	0.05	.15/.40
over 4"	0.29	.85/1.20	0.04	0.05	.15/.40

Tensile Strength 58/80,000 psi

Yield Strength 36,000 Min. psi

Elongation 18% Min.

ASTM A-606-sheet and ASTM A-588-plate

(CORTEN) Four or five times more resistant to atmospheric corrosion than low carbon steel. Excellent weldability and formability. Product is available in two types: Type 2 contains 0.18 min. Cu. Type 4 provides a level of corrosion resistance better than that of carbon steels with or without copper addition.

C max.	Mn max.	P max.
0.26	1.30	0.06

Tensile Strength 70,000 psi

Yield Strength 50,000 psi

Elongation in 2" 22%

AR-200

Abrasion resistant. Medium carbon. High magnesium steel designed for sliding abrasion applications.

Brinell hardness - 185 to 235

AR-400

This steel is heat treated to produce a high strength, high hardness product with a Brinell Hardness range of 360 to 440.

ASTM A-514 (T-1)

Weldable, quenched and tempered high strength steel with good impact abrasion resistance characteristics. Product is available in 13 grades in addition to Grades B and S, depending on thickness.

CARBON STEEL GRADES, Continued

Hot Roll A 1011 HSLAS Grade 50 Class 1

Cold Roll A 1008 HSLAS Grade 50 Class 1

This specification covers high-strength, low alloy hot rolled sheets or cold rolled sheets in either cut lengths or coils. The addition of alloying elements raises the yield point offering higher strength-to-weight ratios.

This material is bendable but requires larger radius. The A1011 HSLAS Grade 50, Class 1 specification covers two classes and five grades in addition to Grade 50.

C max.	Mn max.	P max.	S max.
0.23	1.35	0.04	0.04

Tensile Strength 65,000

Yield Strength 50,000

Elongation in 2" 22%

ASTM A-572 Grade 50

High strength low alloy plate used to reduce weight of finished product. Larger radius required for forming. Better resistance to wear and abrasion.

Thickness	C max.	Mn max.	P max.	S max.	Si max.
to 1-1/2"	0.23	1.35	0.04	0.05	0.40
over 1-1/2"	0.23	1.35	0.04	0.05	0.15/0.40

Tensile 65,000

Yield 50,000

Elongation in 2" 21%

A 1011 HSLAS Grade 50 Class 2

This specification covers high-strength low alloy hot rolled steel sheet and strip, and cold rolled sheet having improved formability when compared with steels covered by Specification A1011 HSLAS Grade 50, Class 1. The product is available in four strength levels.

C max.	Mn max.	P max.	S max.
0.15	1.65	0.02	0.025

Tensile Strength 60,000

Yield Strength 50,000

Elongation in 2" 24%

A 1018 HSLA-F Grade 50 Class 2

This specification covers heavy thickness high-strength low alloy hot rolled sheet and strip, in coils beyond the size limits of Specification A1011 HSLAS-F Grade 50. The product is intended for miscellaneous applications where higher strength, savings in weight, improved formability and weldability are important. It's available only in coils and in three strength levels, in addition to Grade 50.

C max.	Mn max.	P max.	S max.
0.15	1.65	0.025	0.035

Tensile Strength 60,000

Yield Strength 50,000

Elongation in 2" 22%

ASTM A656 Grade 80

This specification covers high strength, low alloy, hot rolled structural steel plate for use in truck frames, crane booms, rail cars and similar applications. The product offers good formability and is furnished in two types and four strength grades.

Thickness	C max.	Mn max.	P max.	S max.	Si max.
max. 3/4"	0.18	1.65	0.025	0.035	0.60

Tensile 90,000, Yield 80,000, Elongation in 2" 15%

Friendly Steel Handler

STANDARD SHEET GAUGE, WEIGHTS AND COLOR CODES

Carbon Sheets to U.S.S. or Mfrs. Gauge			Color Codes
Gauge No.	Thickness in Inches	Pounds Per Sq. Ft.	
3	.2391	10.000	Dark Green Gold
4	.2242	9.375	
5	.2092	8.750	
6	.1943	8.125	
7	.1793	7.500	
8	.1644	6.875	
9	.1495	6.250	
10	.1345	5.625	
11	.1196	5.000	
12	.1046	4.375	
14	.0747	3.125	White Orange Baby Blue Olive Green Red Yellow Dark Blue Baby Blue Dark Green Orange Gold
16	.0598	2.500	
18	.0478	2.000	
20	.0359	1.500	
22	.0299	1.250	
24	.0239	1.000	
26	.0179	0.7500	
28	.0149	0.6080	

Galvanized Sheets To Galvanized Sheet Gauge			Stainless Sheets To St. Sheet Ga.		Color Codes
Gauge No.	Thickness in Inches	Pounds Per Sq. Ft.	<u>Pounds Per Sq. Ft.</u>		
			Thickness in Inches	300 Series	
8	.1681	7.031	.171875	7.2187	Gold
9	.1532	6.406	.156250	6.5625	White Orange Baby Blue Olive Green Red Yellow Dark Blue Baby Blue Dark Green Orange Gold
10	.1382	5.781	.140625	5.9062	
11	.1233	5.516	.125000	5.2500	
12	.1084	4.531	.109375	4.5937	
14	.0785	3.281	.078125	3.2812	
16	.0635	2.656	.062500	2.6250	
18	.0516	2.156	.050000	2.1000	
20	.0396	1.656	.037500	1.5750	
22	.0336	1.406	.031250	1.3125	
24	.0276	1.156	.025000	1.0500	
26	.0217	0.9063	.018750	0.7875	
28	.0187	0.7813	.015625	.6562	

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

PLATE - HR
(8' Thru 20' Length)
CQ / A-36



Thickness	Size	Wt./Sq. Foot	Est. Weight
<u>1/4</u>	36 x 96. . .	10.20. . . .	244.8
	36 x 120 . .	. . . . .	306.0
	36 x 144 . .	. . . . .	367.2
	48 x 48. . .	. . . . .	163.0
	48 x 72. . .	. . . . .	244.5
	48 x 96. . .	. . . . .	326.0
	48 x 120 . .	. . . . .	408.0
	48 x 144 . .	. . . . .	489.6
	57 x 120 . .	. . . . .	484.5
	60 x 96. . .	. . . . .	408.0
	60 x 120 . .	. . . . .	510.0
	60 x 144 . .	. . . . .	612.0
	72 x 96. . .	. . . . .	489.6
	72 x 120 . .	. . . . .	612.0
	72 x 144 . .	. . . . .	734.4
	96 x 120 . .	. . . . .	815.0
96 x 240 . .	. . . . .	1630.1	
<u>5/16</u>	48 x 96. . .	12.75. . . .	408.0
	48 x 120 . .	. . . . .	510.0
	60 x 120 . .	. . . . .	637.5
	72 x 96. . .	. . . . .	612.1
	72 x 120 . .	. . . . .	765.1
	72 x 144 . .	. . . . .	918.1
<u>3/8</u>	96 x 120 . .	. . . . .	1020.1
	36 x 96. . .	15.30. . . .	367.2
	36 x 120 . .	. . . . .	459.0
	48 x 96. . .	. . . . .	490.0
	48 x 120 . .	. . . . .	612.0
	48 x 144 . .	. . . . .	734.4
	60 x 96. . .	. . . . .	612.0
	60 x 120 . .	. . . . .	765.0
	60 x 144 . .	. . . . .	918.0
	72 x 96. . .	. . . . .	734.4
	72 x 120 . .	. . . . .	918.0
	72 x 144 . .	. . . . .	1101.6
<u>1/2</u>	96 x 120 . .	. . . . .	1225.0
	96 x 240 . .	. . . . .	2450.1
	48 x 96. . .	20.40. . . .	652.0
	48 x 120 . .	. . . . .	816.0
	60 x 96. . .	. . . . .	816.0
	60 x 120 . .	. . . . .	1020.0
	72 x 120 . .	. . . . .	1224.0
	72 x 144 . .	. . . . .	1468.8
<u>5/8</u>	96 x 120 . .	. . . . .	1630.1
	96 x 240 . .	. . . . .	3259.9
	48 x 48. . .	25.50. . . .	408.0
	48 x 96. . .	. . . . .	816.0
	48 x 120 . .	. . . . .	1020.0
	60 x 96. . .	. . . . .	1020.0
	60 x 120 . .	. . . . .	1275.0
<u>3/4</u>	72 x 120 . .	. . . . .	1530.1
	96 x 240 . .	. . . . .	4080.0
	48 x 96. . .	30.60. . . .	979.0
	48 x 120 . .	. . . . .	1224.0
60 x 96. . .	. . . . .	1223.8	

PLATE - HR
(8' Thru 20' Length)
CQ / A-36



Thickness	Size	Wt./Sq. Foot	Est. Weight
<u>3/4</u>	60 x 120 . . .	30.60.	1530.0
	60 x 144 . . .	. . . . .	1836.0
	72 x 120 . . .	. . . . .	1836.0
	96 x 120 . . .	. . . . .	2447.6
	96 x 240 . . .	. . . . .	4896.0
<u>7/8</u>	48 x 120 . . .	35.74.	1429.6
	96 x 240 . . .	. . . . .	5718.3
<u>1</u>	48 x 96. . . .	40.80.	1306.0
	48 x 120 . . .	. . . . .	1632.0
	60 x 120 . . .	. . . . .	2040.0
	72 x 120 . . .	. . . . .	2448.0
	96 x 240 . . .	. . . . .	6528.0
<u>1-1/8</u>	96 x 288 . . .	. . . . .	7833.8
	96 x 240 . . .	45.89.	7342.9
<u>1-1/4</u>	48 x 96. . . .	51.00.	1632.0
	48 x 120 . . .	. . . . .	2040.0
	60 x 96. . . .	. . . . .	2040.0
	60 x 120 . . .	. . . . .	2550.0
	72 x 120 . . .	. . . . .	3060.0
	96 x 240 . . .	. . . . .	8160.1
	96 x 240 . . .	56.09.	8974.3
<u>1-1/2</u>	48 x 96. . . .	61.20.	1958.0
	48 x 120 . . .	. . . . .	2448.0
	60 x 120 . . .	. . . . .	3060.0
	72 x 120 . . .	. . . . .	3672.0
	96 x 240 . . .	. . . . .	9790.0
<u>2</u>	48 x 96. . . .	81.59.	2611.0
	96 x 240 . . .	. . . . .	13054.9
<u>2-1/4</u>	96 x 240 . . .	91.88.	14701.9
<u>2-1/2</u>	48 x 96. . . .	102.10.	3267.2
<u>3</u>	48 x 96. . . .	122.41.	3917.0
	72 x 120 . . .	. . . . .	7344.3
<u>3-1/2</u>	48 x 96. . . .	142.90.	4572.8
<u>4</u>	48 x 96. . . .	163.40.	5229.1

Other sizes available

HOT ROLLED SHEET
Mill Edge CQ/A-36

Thickness	Size	Wt/ Sq. Ft.	Est. Weight
<u>16GA</u>	36 x 96 . . .	2.500	60.00
	36 x 120 . . .	. . . . .	75.00
	48 x 96 . . .	. . . . .	80.00
	48 x 120 . . .	. . . . .	100.00
	48 x 144 . . .	. . . . .	120.00
	60 x 96 . . .	. . . . .	100.00
	60 x 120 . . .	. . . . .	125.00
	60 x 144 . . .	. . . . .	150.00
<u>14GA</u>	36 x 96 . . .	3.125	75.00
	36 x 120 . . .	. . . . .	93.74
	48 x 96 . . .	. . . . .	100.00
	48 x 120 . . .	. . . . .	124.99
	48 x 144 . . .	. . . . .	149.99
	60 x 96 . . .	. . . . .	124.99

McNeilus Steel, Inc.

HOT ROLLED SHEET (cont.)

Mill Edge CQ/A-36

Thickness	Size	Wt/ Sq. Ft.	Est. Weight
	60 x 120		156.24
	60 x 144		187.49
	72 x 96		149.99
	72 X 120		187.49
	72 x 144		224.99
12GA	36 x 96	4.375	104.99
	36 x 120		131.24
	36 X 144		157.49
	48 X 96		139.99
	48 x 120		174.99
	48 x 144		209.99
	60 x 96		174.99
	60 x 120		218.74
	60 x 144		262.49
	72 x 96		209.99
	72 x 120		262.49
	72 x 144		314.98
11GA	36 X 120	5.000	149.99
	48 x 96		159.99
	48 x 120		199.99
	48 x 144		239.98
	60 x 96		200.04
	60 x 120		249.98
	60 x 144		299.98
	72 x 96		239.98
	72 x 120		299.98
	72 X 144		359.98
10GA	36 x 96	5.625	134.99
	36 x 120		168.74
	48 x 96		180.03
	48 x 120		224.99
	48 X 144		669.98
	60 x 96		224.98
	60 x 120		281.23
	60 x 144		337.48
	72 x 96		269.98
	72 x 120		337.48
	72 x 144		404.97
8GA	48 x 96	6.880	220.17
	72 X 120		412.82
7GA	36 x 96	7.649	183.58
	36 x 120		229.48
	36 X 144		275.37
	48 x 72		183.58
	48 x 96		244.78
	48 x 120		305.97
	48 x 144		367.17
	60 x 96		305.97
	60 x 120		382.46
	60 x 144		458.96
	72 x 96		367.17
	72 x 120		458.96
	72 x 144		550.75

McNeilus Steel, Inc.

HOT ROLLED SHEETS

PICKLED & OILED

Conforms to A1011 CS Type B (CQ)

SPECIAL LENGTHS AVAILABLE

Thickness		Wt./Sq. Ft.	Est. Weight
16GA	60 x 120 . .	2.500 . . .	124.99
14GA	48 x 96 . .	3.125 . . .	99.99
	48 x 120 . .	. . . . .	124.99
	48 x 144 . .	3.125 . . .	149.99
	60 x 96 . .	3.125 . . .	124.92
	60 x 120 . .	. . . . .	156.24
	60 x 144 . .	3.125 . . .	187.488
12GA	48 x 96 . .	4.375 . . .	139.99
	48 x 120 . .	. . . . .	175.05
	48 x 144 . .	. . . . .	209.99
	60 x 96 . .	4.375 . . .	174.989
	60 x 120 . .	. . . . .	218.74
	60 x 144 . .	4.375 . . .	262.483
11GA	48 x 96 . .	5.000 . . .	159.99
	48 x 120 . .	. . . . .	199.99
	48 x 144 . .	. . . . .	239.99
	60 x 96 . .	5.0	199.987
	60 x 120 . .	. . . . .	249.99
	60 x 144 . .	5.0	299.981
10GA	48 x 96 . .	5.625 . . .	179.99
	48 x 120 . .	. . . . .	224.99
	60 x 96 . .	. . . . .	224.99
	60 x 120 . .	. . . . .	281.23
	60 x 144 . .	. . . . .	337.50
	72 x 96 . .	5.625 . . .	270.052
	72x 120 . .	. . . . .	337.57
8GA	48 x 96 . .	6.876 . . .	220.032
	48 x 120 . .	6.876 . . .	275.04
	60 x 120 . .	6.876 . . .	343.728
7GA	48 x 48 . .	7.500 . . .	120.02
	48 x 96 . .	. . . . .	240.03
	48 x 120 . .	. . . . .	300.04
	60 x 96 . .	. . . . .	300.04
	60 x 120 . .	. . . . .	382.54

Other sizes available

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

McNeilus Steel, Inc.

HOT ROLLED PLATES

Pickled & Oiled,
A1008 CS Type B



Thickness		Wt./Sq. Ft.	Est. Weight
1/4	48 x 96	10.20	326.40
	48 x 120 . . . .	. . . . .	408.00
	60 x 96 . . . .	. . . . .	408.00
	60 x 120 . . . .	. . . . .	510.00

HOT ROLLED PLATES

Pickled & Oiled, A36



Thickness		Wt./Sq. Ft.	Est. Weight
3/16	5 x 10.	7.651	382.536
1/4	5 x 10.	10.200	509.976
1/2	5 x 10.	20.376	1018.800

HOT ROLLED PLATES

Pickled & Oiled,
Grade 50 A1018HSLAS-F



Thickness		Wt./Sq. Ft.	Est. Weight
3/16	4 x 10.	7.651	306.029
1/4	4 x 8	10.188	326.016
1/4	4 x 10.	10.188	407.520
1/4	5 x 10.	10.200	509.976
5/16	4 x 10.	12.750	509.990
3/8	4 x 10.	15.300	612.00
3/8	5 x 10.	15.300	765.00
1/2	5 x 10.	20.400	1020.024

Other sizes available

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

GALVANIZED SHEETS

Conforms to A653, 10 to 22ga G-90 coating, 24 to 28ga G-60 coating

Thickness	Size	Wt./Sq.Foot	Est.Weight
28 Ga.	36 x 96 . . . . .	.779	18.7
	48 x 120 . . . . .	. . . . .	31.2
26 Ga.	36 x 96 . . . . .	.906	21.7
	48 x 96 . . . . .	. . . . .	29.0
24 Ga.	48 x 120 . . . . .	. . . . .	36.2
	36 x 96	1.156	27.8
	48 x 96 . . . . .	. . . . .	37.0
22 Ga.	48 x 120 . . . . .	. . . . .	46.2
	48 x 96	1.407	45.0
20 Ga.	36 x 96	1.656	39.7
	48 x 96 . . . . .	. . . . .	53.0
	48 x 120 . . . . .	. . . . .	66.2
	60 x 120 . . . . .	. . . . .	82.8
.046	50 x 96	1.921	64.0
	50 x 120 . . . . .	. . . . .	96.0
18 Ga.	36 x 96	2.154	51.8
	48 x 96	2.156	69.0
	48 x 120 . . . . .	. . . . .	86.2
	60 x 120 . . . . .	. . . . .	107.8
.058	50 x 89.9	2.422	75.6
	50 x 120 . . . . .	. . . . .	100.9
16 Ga.	36 x 96	2.657	63.8
	48 x 96 . . . . .	. . . . .	85.0
	48 x 120 . . . . .	. . . . .	106.4
	48 x 144 . . . . .	. . . . .	127.5
	60 x 96 . . . . .	. . . . .	106.3
	60 x 120 . . . . .	. . . . .	132.8
14 Ga.	48 x 96	3.282	105.0
	48 x 120 . . . . .	. . . . .	131.3
.093	50 x 100	3.888	135.0
	50 x 144 . . . . .	. . . . .	194.4
12 Ga.	48 x 96	4.533	145.1
	48 x 120 . . . . .	. . . . .	181.2
	48 x 144 . . . . .	. . . . .	217.6
10 Ga.	48 x 96	5.782	185.0
	48 x 120 . . . . .	. . . . .	231.2

COLD ROLLED SHEET - CQ

Conforms to ASTM A-1088 CS Type B

Thickness	Size	Wt / Sq. Ft.	Est.Weight
24 GA	36 x 96	1.001	24.0
	48 x 96	1.001	32.0
	48 x 120	1.001	40.0
22 GA	48 x 96	1.250	40.0
20 GA	48 x 96	1.500	48.0
	48 x 120	1.500	60.0
18 GA	48 x 70	2.000	46.7
	48 x 90.5	2.000	60.3
	48 x 96	2.000	64.0
	48 x 120	2.000	80.0
16 GA	48 x 96	2.500	80.0
	48 x 120	2.500	100.0
14 GA	48 x 96	3.125	100.0
	48 x 120	3.125	125.0
12 GA	48 x 96	4.375	140.0
10 GA	48 x 96	5.626	180.0

ABRASION RESISTANT AR-200

Thickness	Size	Wt./Sq.Foot	Est.Weight
10 ga.	48 x 120	5.763	230.5
	60 x 120 . . . . .	. . . . .	288.4
3/16	48 x 120	7.651	306.0
	48 x 144 . . . . .	. . . . .	367.2
	60 x 106	7.658	338.2
	60 x 120 . . . . .	. . . . .	382.5
	96 x 74.	7.649	377.36
	96 x 93. . . . .	. . . . .	474.26
1/4	96 x 96. . . . .	. . . . .	489.6
	48 x 120	10.200	408.0
	48 x 144 . . . . .	. . . . .	489.6
5/16	60 x 120 . . . . .	. . . . .	510.5
	60 x 77.	12.751	409.1
	60 x 120 . . . . .	. . . . .	637.6
3/8	60 x 120	15.300	765.0
1/2	48 x 120	20.400	816.0
	72 x 120	20.400	1224.0
3/4	48 x 96.	30.590	979.0

HIGH STRENGTH - HSLA A1011 HSLAS Gr 50 / A1011 HSLAS-F Gr 50

Thickness	Size	Wt / Sq. Ft.	Est.Weight
12 ga.	48 x 96.	4.375	140.0
	48 x 120 . . . . .	. . . . .	175.0
	60 x 120 . . . . .	. . . . .	218.7
	60 x 144 . . . . .	. . . . .	262.5
11 ga.	48 x 96.	5.000	160.0
	60 x 96. . . . .	. . . . .	200.0
	60 x 120 . . . . .	. . . . .	250.1
10 ga.	48 x 96.	5.626	180.0
	48 x 120 . . . . .	. . . . .	225.0
	60 x 96. . . . .	. . . . .	225.0
	60 x 120 . . . . .	. . . . .	281.3
	60 x 144 . . . . .	. . . . .	337.6
3/16	48 x 96.	7.651	244.8
	48 x 120 . . . . .	. . . . .	306.0
	48 x 144 . . . . .	. . . . .	367.2
	60 x 96. . . . .	. . . . .	306.0
	60 x 120 . . . . .	. . . . .	382.5
	60 x 144 . . . . .	. . . . .	459.0
	72 x 120 . . . . .	. . . . .	459.0
1/4	48 x 96.	10.201	326.4
	48 x 120 . . . . .	. . . . .	408.0
	60 x 96. . . . .	. . . . .	408.0
	60 x 120 . . . . .	. . . . .	510.0
	60 x 144 . . . . .	. . . . .	612.0
	72 x 120 . . . . .	. . . . .	612.1
	5/16	60 x 120	12.751 . . . . .	637.6
3/8	48 x 96.	15.313	490.0
	48 x 120 . . . . .	. . . . .	612.0
	60 x 96. . . . .	. . . . .	611.0
	60 x 120 . . . . .	. . . . .	764.6

HIGH STRENGTH - HSLA
A1011 HSLAS Gr 50 / A1011 HSLAS-F Gr 50

Thickness	Size	Wt / Sq. Ft.	Est.Weight
	72 x 120		918.0
1/2	48 x 96.	20.376	652.0
	60 x 120		1020.0
	72 x 120		1224.0
5/8	48 x 96.	25.500	816.0
	60 x 120		1275.0
	96 x 166		2821.9
3/4	60 x 96.	30.600	1224.0
	60 x 120		1530.0
	72 x 120		1836.0
	96 x 240		4896.0
1	48 x 96.	40.800	1305.6
	60 x 120		040.0
	96 x 240		6527.9
1-1/4	48 x 96.	51.000	1632.0
	96 x 240		8160.0
1-1/2	60 x 120		3060.0

HIGH STRENGTH

Grade 80

1/4	72 x 120	10.201	612.0
5/16	48 x 120	12.750	510.0
5/8	48 x 120	25.500	1020.0
3/4	48 x 96.	30.594	979.0
3/4	96 x 240	30.600	4896.0

HIGH STRENGTH

PLATE T-1 A514

Conforms to ASTM A-514 Grade S

Thickness	Size	Wt./Sq. Foot	Est. Weight
1/4	96 x 120	10.21	816.8
3/8	96 x 120	15.32	1225.6
1/2	96 x 120	20.40	1020.0
1	48 x 120	40.80	2040.0

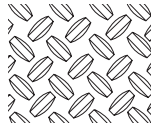
ABRASION RESISTANT

AR 400

Thickness	Size	Wt./Sq. Foot	Est. Weight
3/16	72 x 120	7.65	459.0
1/4	72 x 120.	10.20	612.0
	96 x 96	10.19	652.0
	96 x 120.	10.20	816.0
3/8	72 x 120.	15.30	918.0
	96 x 96	15.30	979.2
	96 x 120.	15.30	1224.0
1/2	72 x 120	20.40	1224.0

SAFETY FLOOR PLATE (Deck Plate)

Conforms to ASTM A-786

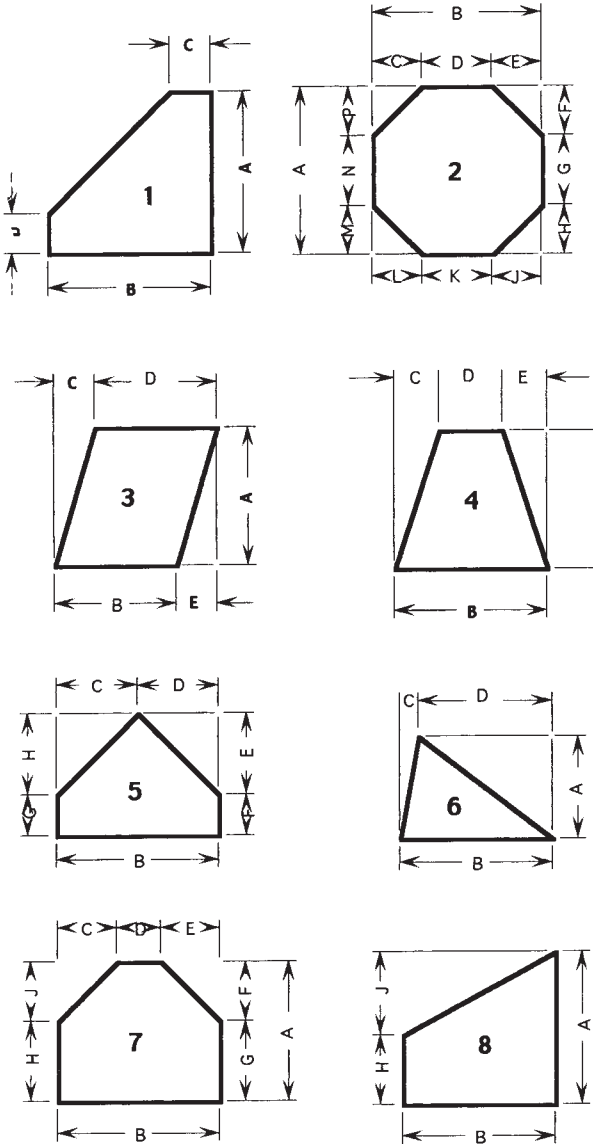


Thickness	Med. Pattern	Wt./Sq.Ft.	Est. Weight
14ga	48 x 96	3.75	120.00
	48 x 120 . . . .	. . . . .	150.00
12ga	48 x 96	5.25	168.00
	48 x 120 . . . .	. . . . .	210.00
	60 x 96 . . . .	. . . . .	210.00
	60 x 120 . . . .	. . . . .	262.51
	60 x 144 . . . .	. . . . .	315.01
1/8"	48 x 96	6.15	196.81
	48 x 120 . . . .	. . . . .	246.00
	48 x 135 . . . .	. . . . .	276.76
	48 x 144 . . . .	. . . . .	295.21
	60 x 96 . . . .	. . . . .	246.00
	60 x 120 . . . .	. . . . .	307.50
	60 x 129 . . . .	. . . . .	330.58
	60 x 144 . . . .	. . . . .	369.01
	72 x 96 . . . .	. . . . .	295.21
	72 x 120 . . . .	. . . . .	369.01
3/16"	48 x 96	8.70	278.42
	48 x 120 . . . .	. . . . .	348.10
	48 x 120 . . . .	. . . . .	417.62
	60 x 96 . . . .	. . . . .	348.01
	60 x 120 . . . .	. . . . .	435.00
	60 x 144 . . . .	. . . . .	522.03
	72 x 96 . . . .	. . . . .	417.62
	72 x 120 . . . .	. . . . .	522.03
	72 x 144 . . . .	. . . . .	626.43
	1/4"	48 x 96	11.25 . . . .	360.02
48 x 120 . . . .		. . . . .	450.03
60 x 96 . . . .		. . . . .	450.03
60 x 120 . . . .		. . . . .	562.54
72 x 96 . . . .		. . . . .	540.03
3/8"	72 x 120 . . . .	. . . . .	675.04
	48 x 96	16.37	523.84
	48 x 120	654.80
1/2"	60 x 120	818.50
	48 x 96	21.47	687.05
	48 x 120	858.82

**FARGO 1-888-577-0007
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SHEAR CUT SHAPES

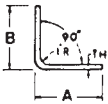
Schematic method for describing shear cut shapes. Refer to sketch number and dimensions when ordering.



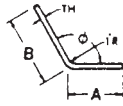
FORMING DIAGRAMS FOR SHEET & PLATE

Refer to sketch number and dimensions when ordering. Indicate degree of angle.

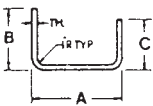
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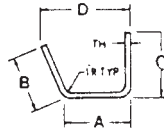
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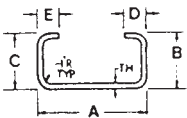
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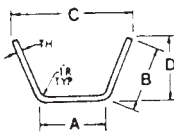
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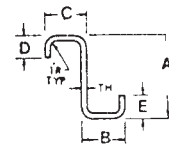
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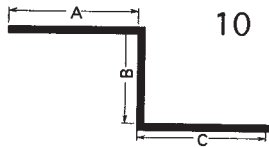
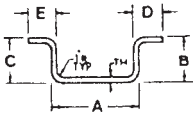
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8

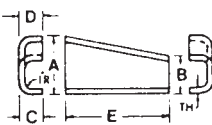


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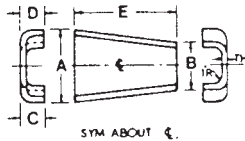


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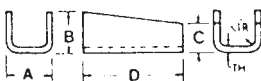
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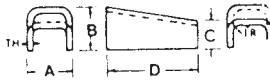
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13



14



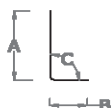
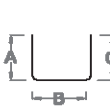
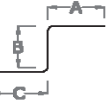
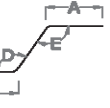
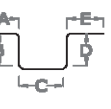
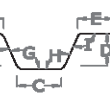
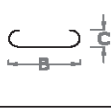
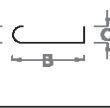
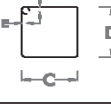
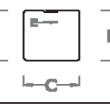
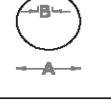
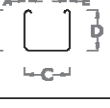
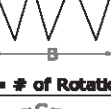


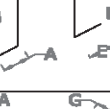


REINFORCING BARS
Bending Service Available
Available In
Metric Grades 300 & 420,
Grade 40, 60, No Grade
Weldable grades available upon request,
A706
Stock 20', 40', 60', and cut to size
2-1/2 to 3 Ton Bundles
Conforms to ASTM A615

Imperial Size	Metric Size mm	Diam Inches	Lbs / Ft.	20' piece Lbs
3 . . .	10 . . .	0.375 . .	0.376 . .	7.52
4 . . .	13 . . .	0.500 . .	0.668 . .	13.36
5 . . .	16 . . .	0.625 . .	1.043 . .	20.86
6 . . .	19 . . .	0.750 . .	1.502 . .	30.04
7 . . .	22 . . .	0.875 . .	2.044 . .	40.88
8 . . .	25 . . .	1.000 . .	2.670 . .	53.40
9 . . .	29 . . .	1.125 . .	3.400 . .	68.00
10. . .	32 . . .	1.250 . .	4.303 . .	86.06

Loop End Tie Wire 16 ga. 5000 pc./coils
Lengths Available: 4-1/2", 5", 5-1/2", 6", 7", 8"
Tying Tools For Loop End Tire Wire Available

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

Rebar Diagrams

 <p>①</p>	 <p>②</p>
 <p>③</p>	 <p>④</p>
 <p>⑤</p>	 <p>⑥</p>
 <p>⑦</p>	 <p>⑧</p>
 <p>⑨</p>	 <p>⑩</p>
 <p>⑪</p>	 <p>⑫</p>
 <p>⑬</p> <p>B = # of Rotations</p>	 <p>⑭</p>
 <p>⑮</p>	 <p>⑯</p>
 <p>⑰</p>	 <p>⑱</p>

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

**FLATTENED
EXPANDED METAL
4' x 8'**



Size	L.W.O.	S.W.O.	Weight
1/4" #20 F	0.72 . .	0.13 . .	26.22
1/4" #18 F	0.72 . .	0.13 . .	34.56
1/2" #18 F	1.00 . .	0.31 . .	21.10
1/2" #16 F	1.00 . .	0.31 . .	26.27
1/2" #13 F	1.00 . .	0.38 . .	44.79
3/4" #16 F	1.78 . .	0.72 . .	16.31
3/4" #14 F	1.75 . .	0.72 . .	20.18
3/4" #13 F~	1.72 . .	0.72 . .	24.01
3/4" #9 F (10 ga.)*	1.63 . .	0.56 . .	54.74
1-1/2" #16 F	2.59 . .	1.00 . .	12.17
1-1/2" #13 F	2.72 . .	1.09 . .	18.25
1-1/2" #9 (10 ga.)*	2.72 . .	1.09 . .	36.50
1-1/2" #6 F	3.20 . .	1.33 . .	76.17

* Also Available in 4' x 10' Sheets

~Also Available in 5' x 10' Sheets

**REGULAR
EXPANDED METAL
4' x 8'**



Size	L.W.O.	S.W.O.	Weight
1/4" #18	0.67 . .	0.16 . .	36.50
1/2" #18	0.94 . .	0.42 . .	22.40
1/2" #16	0.90 . .	0.38 . .	26.54
1/2" #13	0.88 . .	0.38 . .	47.05
3/4" #16	1.69 . .	0.78 . .	17.10
3/4" #13	1.63 . .	0.80 . .	25.62
3/4" #9 (10 ga.)*,**	1.52 . .	0.66 . .	57.60
1-1/2" #16	2.61 . .	1.25 . .	12.81
1-1/2" #13	2.55 . .	1.23 . .	19.22
1-1/2" #9 (10 ga.)	. . . .	2.44 . .	1.14
.	38.38		
1-1/2" #6***	2.28 . .	1.03 . .	79.99

* Also Available in 4' x 10' Sheets

**Also Available in 5' x 8' Sheets

***Also Available in 6' x 10' Sheets

L.W.O. = Long Way Opening Inside to Inside.

S.W.O. = Short Way Opening Inside to Inside.

= Approximate Gauge.

Stainless and Aluminum Sizes Upon Request.

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

McNeilus Steel, Inc.

**STAINLESS FLAT and
STANDARD EXPANDED
METAL 4' x 8'**



Size	L.W.O.	S.W.O.	Weight
1/2 X #13 FLAT .	1.000 .	0.265 .	44.79
3/4 X #16 FLAT .	1.750 .	0.750 .	16.31
3/4 X #9 STD . .	1.562 .	0.687 .	58.02
3/4 X #9 FLAT . .	1.688 .	0.563 .	57.60
3/4 X#13 FLAT .	1.781 .	0.688 .	24.00
1-1/2 X #9 STD .	2.500 .	1.125 .	38.40

L.W.O. = Long Way Opening Inside to Inside.

S.W.O. = Short Way Opening Inside to Inside.

= Approximate Gauge.

**ALUMINUM FLAT and
STANDARD EXPANDED
METAL 4' x 8'**



Size	L.W.O.	S.W.O.	Weight
1/2 X #14 FLAT . .	1.000 . .	0.297 . .	13.46
1/2 X #16 FLAT . .	1.000 . .	0.328 . .	5.12
3/4 X #9 STD . . .	1.680 . .	0.687 . .	21.01
3/4 X #9 FLAT . .	1.750 . .	0.625 . .	19.81

L.W.O. = Long Way Opening Inside to Inside.

S.W.O. = Short Way Opening Inside to Inside.

= Approximate Gauge.

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

WALKWAY GRATING

4' x 8', 4' x 10'

Size	Thickness	L.W.O.	S.W.O.	Weight 4' x 8'	Weight 4' x 10'
2.0# .	250 . . .	3.44 . . .	0.940 . . .	64.00	
3.0# .	187 . . .	3.44 . . .	0.940 . . .	95.98	
3.14# .	250 . . .	4.88 . . .	1.625 . . .	100.50	
4.0# .	215 . . .	3.44 . . .	0.940 . . .	128.01	. 160.01
4.27# .	250 . . .	2.88 . . .	1.000 . . .	136.63	
5.0# .	250 . . .	3.38 . . .	0.813 . . .	159.98	. 199.99
6.25# .	312 . . .	3.38 . . .	0.813 . . .	199.99	
7.0# .	312 . . .	3.38 . . .	0.813 . . .	223.99	

CATWALK GRATING

10' x 2', 10' x 6'

Size	Thickness	L.W.O.	S.W.O.	Weight 10' x 2'	Weight 10' x 6'
3.0# .	187 . . .	3.44 . . .	0.940 . . .	59.99 . .	179.97



DECK SPAN - 12' GALVANIZED

Width	Height	Gage	Wt./Length
4.75	1.5"	12	38.4
4.75	1.5"	14	27.6
7	1.5"	12	49.2
7	1.5"	14	36.0
7	2.0"	12	54.0
7	2.0"	14	38.4
7	2.0"	0.080	13.8
9.5	1.5"	12	60.0
9.5	1.5"	14	43.2
9.5	2.0"	0.080	16.7
9.5	2.0"	12	64.8
9.5	2.0"	14	45.6
11.75	1.5"	12	70.8
11.75	1.5"	14	50.4
11.75	2.0"	0.080	26.2
11.75	2.0"	12	74.4
11.75	2.0"	14	52.8
18.75	1.5"	12	102.0
18.75	2.0"	0.080	58.6
18.75	2.0"	12	106.8
18.75	2.0"	14	75.6
24	2.0"	12	124.8
24	2.0"	14	88.8

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

McNeilus Steel, Inc.

**OPEN STEEL FLOOR GRATING
BAR GRATE**

2' x 20' + 3' x 20'

WEIGHT IN LBS. PER SQ. FT.

Bearing Bars	Type 19-W-4	
1 x 1/8	5.15*	Note: We can also order 19-W-2, 15-W-4, and 15-W-2 upon request.
1 x 3/16	7.35*	
1-1/4 x 1/8	6.20	
1-1/4 x 3/16	8.70*	
1-1/2 x 3/16	10.94*	
* SMOOTH & PAINTED BLACK		

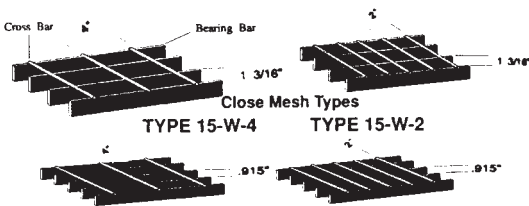
OPEN STEEL FLOOR GRATING

Conforms to Specifications
RR-G661a and MIL-G-1958



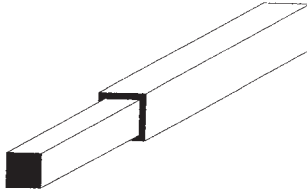
Grating Available in Carton Steel,
Aluminum and Stainless

Standard Mesh Types
TYPE 19-W-4 TYPE 19-W-2



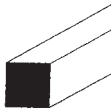
When Ordering GRATING, Specify:
Type of GRATING
Size of BEARING BARS (DEPTH & WIDTH)
Span (Direction of Bearing Bars)
Dimensions of Area
Painted or Galvanized, Smooth or Serrated.
 (Rods run the width, flat bars run the length)

P.T.O. TUBING & SHAFTING
SOLD IN 10 and 12 FT. LENGTHS



SQUARE TUBING
 Sold by ID

Telescopes Over (I.D.)	Wall Thickness	O.D. Size	Weight Per Ft.
3/4	1/8	1	1.25
7/8	1/8	1-1/8	1.57
15/16	1/8	1-3/16	1.60
1	3/16	1-3/8	2.60
1-1/8	1/8	1-3/8	1.93
1-3/16	5/32	1-1/2	2.70
1-1/4	3/16	1-5/8	3.30
1-5/16	7/32	1-3/4	3.80
1-3/8	3/16	1-3/4	3.64
1-1/2	3/16	1-7/8	3.80



SQUARE SHAFTING

Size	Wt. Per Ft.
3/4	1.91
7/8	2.60
15/16	2.99
1	3.40
1-1/8	4.30
1-3/16	4.80
1-1/4	5.31
1-5/16	5.86
1-3/8	6.43
1-1/2	7.65

FARGO 1-888-577-0007
 DODGE CENTER 1-800-733-6336

McNeilus Steel, Inc.

PTO SHAFT & TUBING (cont.)

RECTANGULAR TUBING

Sold by ID

Telescopes Over	Wall Thickness	O.D. Size	Weight Per Ft.
3/4 x 7/8	1/8	1 x 1-1/8	1.60
1 x 1-1/8	1/8	1-1/4 x 1-3/8	1.70

RECTANGULAR SHAFTING

Size	Wt. Per Ft.
3/4 x 7/8	2.23
1 x 1-1/8	3.83

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

Friendly Steel Handler

THREADED ROD **NATIONAL COARSE THREADS - Grade 2** **Stock Lengths - 12' Plain Finish**

Size	Threads/Inch	Wt. Per Ft.
1/4	20	0.125
5/16	18	0.200
3/8	16	0.290
7/16	14	0.400
1/2	13	0.530
5/8	11	0.840
3/4	10	1.233
7/8	9	1.700
1	8	2.300
1-1/4	7	3.400

THREADED ROD **NATIONAL COARSE THREADS - Grade 2** **Zinc Plated - 12' Stock Lengths**

Size	Threads/Inch	Wt. Per Ft.
1/4	20	0.125
5/16	18	0.200
3/8	16	0.290
7/16	14	0.400
1/2	13	0.530
5/8	11	0.840
3/4	10	1.233
7/8	9	1.700
1	8	2.300
1-1/4	7	3.400
1-1/2	6	5.100

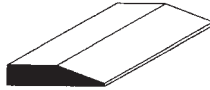
RAIL CAP **HAND RAIL - 20'** **Hot Rolled Mild Steel**



Width in Inches	Weight Per Ft. in Lbs.	Weight Per Stock Length
1-3/4	1.27	25.4

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

**CUTTING EDGE STEEL
SINGLE BEVEL FLAT
1055 CARBON**



Cutter
Blades

Size in Inches	Weight Per Ft. in Lbs.	Stock Length Ft./In.
----------------	------------------------	----------------------

3/8 x

3 3.35 19'1, 20'6

1/2 x

3 4.40 19'1, 20'6
 4 6.05 20' 6, 22'6
 6 9.45 19'1, 20'6, 22'6,
 38'2, 40', 41'

5/8 x

6 11.55 17'1, 20'6, 18'3,
 34'2, 36'6, 41'

3/4 x

4 8.48 15'6, 24'6, 31'
 6 13.60 18'3, 20'6, 36'6,
 41'
 8 18.41 20'6, 24'6, 41'

1 x

8 25.16 16'4, 18'3, 20'6,
 24'6, 41'

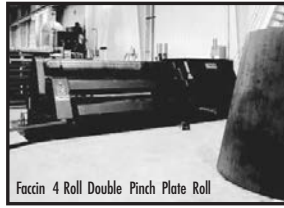
**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

F A B R I C A T I O N C E N T E R



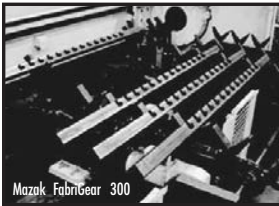
UMV (Pullmax) - 1100/24 CNC Hydraulic Brake Press

- 1100 Tons
- 6 Axis back gauge
- CNC crowning
- Bending length 24'4"



Faccin 4 Roll Double Pinch Plate Roll

- 3/4" A36 - 8'
- 1/2" GR80 - 8'



Mazak Fabrigear 300L

- 4000 Watt
- 11.8" round and 8" square
- Up to 49' length
- Automatically loads, feeds, laser and unloads parts



Altra Plasma - HPR 260 Hypertherm

- Table cut size 14' x 44'
- Plasma - 2 Heads
 - 1 1/2" Steel - piece capacity
 - 2 1/2" Steel - edge cut capacity
- Oxy/Fuel torches - 4 Heads
 - 6" + cutting capacity



2 - Tanaka Laser - LMX VII

- 6000 Watt
- Table cut size 14' x 43', 14' x 54'
- Cut up to 1.125"



Mazak Laser - ST-X Mark II

- 4000 Watt
- Table cut size 78.7" x 157"
- Cut up to 7/8"
- Load material up to 3/4"
- Fully automational

Bending

- 2 Pacific 350 ton 14' brakes presses

Shearing

- Cincinnati 1/2" capacity 12' hydraulic shear
- Cincinnati 1/4" - 10' capacity hydraulic shear
- LVD 3/4" 10' shear

Sawing

- Marvel vertical mitre bandsaw 12" x 16" throat
- W.F. Wells horizontal bandsaw 36" x 24" throat
- W.F. Wells vertical miter bandsaw 16" x 24" throat
- Behringer horizontal bandsaw 27 1/2" x 19 1/2" throat
- W.F. Wells horizontal bandsaw

Friendly Steel Handler

H.R.A.P. STAINLESS TYPE 304 ANGLES - Bar Size 20' Random Length

Conforms to ASTM A276, A479

Size in Inches	Wt. Per Foot Lbs.	Estimate 20' Bar
3/4 x 3/4 x 1/8	0.59	11.80
1 x 1 x 1/8	0.80	16.00
3/16	1.16	23.20
1/4	1.49	29.80
1-1/4 x 1-1/4 x 1/8	1.01	20.20
3/16	1.48	29.60
1/4	1.92	38.40
1-1/2 x 1-1/2 x 1/8	1.23	24.60
3/16	1.80	36.00
1/4	2.34	46.80
2 x 2 x 1/8	1.65	33.00
3/16	2.44	48.80
1/4	3.19	63.80
3/8	4.70	94.00
2-1/2 x 2-1/2 x 3/16	3.07	61.40
1/4	4.10	82.00
3/8	6.08	121.54
3 x 2 x 1/4	4.22	84.46
3 x 3 x 3/16	3.79	75.80
1/4	4.90	98.00
3/8	7.20	144.00
4 x 4 x 1/4	6.60	132.00
3/8	9.80	196.00
4 x 4 x 1/2	13.18	263.68

Larger Sizes and Other Grades Are Available
Formed Stainless Angles and Channels
Made To Order

STAINLESS STEEL SQUARES TYPE 304 12' Random Length

Size in Inches	Weight Per Ft. in Lbs.	Weight of 12' Bar
3/16	0.12	1.44
1/4	0.21	2.56
5/16	0.33	3.97
3/8	0.48	5.74
7/16	0.65	7.80
1/2	0.85	10.20
5/8	1.33	15.96
3/4	1.91	22.92
1	3.40	40.80
1-1/4	5.31	63.72
1-1/2	7.65	91.80
2	13.60	163.20

McNeilus Steel, Inc.

**STAINLESS STEEL FLATS H.R.A.P.
TYPE 304 - 12' Random Length**

Size in Inches	Wt. Per Foot Lbs.	Estimated 12' Wt.
1/8 x		
1/2	0.213	2.56
3/4	0.319	3.83
1	0.425	5.10
1-1/4	0.531	6.37
1-1/2	0.638	7.66
2	0.850	10.20
2-1/4	0.975	11.70
2-1/2	1.063	12.78
3	1.280	15.36
4	1.700	20.40
3/16 x		
1/2	0.319	3.83
3/4	0.478	5.74
1	0.638	7.66
1-1/4	0.797	9.56
1-1/2	0.956	11.47
2	1.275	15.30
2-1/2	1.594	19.13
3	1.913	22.96
3-1/2	2.230	26.76
4	2.560	30.72
1/4 x		
3/8	0.318	3.82
1/2	0.425	5.10
3/4	0.638	7.66
1	0.850	10.20
1-1/4	1.063	12.76
1-1/2	1.275	15.30
1-3/4	1.492	17.90
2	1.700	20.40
2-1/4	1.913	22.95
2-1/2	2.125	25.50
3	2.550	30.60
3-1/2	2.975	35.70
4	3.400	40.80
5	4.250	51.00
6	5.100	61.20
8	6.800	81.60
3/8 x		
1/2	0.638	7.66
3/4	0.958	11.49
1	1.276	15.30
1-1/4	1.594	19.12
1-1/2	1.913	22.95
1-3/4	2.233	26.80
2	2.550	30.60
2-1/2	3.188	38.26
3	3.826	45.90
3-1/2	4.467	53.60
4	5.100	61.20

Friendly Steel Handler

**STAINLESS STEEL FLATS H.R.A.P.
TYPE 304 - 12' Random Length
(continued)**

Size in Inches	Wt. Per Foot Lbs.	Estimated 12' Wt.
5	6.380	76.56
6	7.657	91.89
8	10.200	122.40
<u>1/2 x</u>		
3/4	1.276	15.30
1	1.700	20.40
1-1/4	2.125	25.50
1-1/2	2.550	30.60
2	3.400	40.80
2-1/2	4.250	51.00
3	5.100	61.20
3-1/2	5.950	71.40
4	6.800	81.60
5	8.500	102.00
6	10.220	122.60
8	13.600	163.20
<u>5/8 x</u>		
1	2.130	25.56
1-1/4	2.655	31.86
1-1/2	3.188	38.26
<u>3/4 x</u>		
1	2.550	30.60
1-1/4	3.188	38.26
1-1/2	3.826	45.90
2	5.100	61.20
2-1/2	6.379	76.56
3	7.650	91.80
4	10.200	122.40
6	15.310	183.70
<u>1 x</u>		
1-1/2	5.105	61.26
2	6.800	81.60
3	10.200	122.40
4	13.600	163.20
6	21.010	252.12

Other Sizes Upon Request

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

**STAINLESS STEEL ROUNDS
TYPE 304
12' Random Length**

Size in Inches	Weight Per Ft. in Lbs.	Weight of 12' Bar
1/8	0.042	0.504
3/16	0.094	1.123
1/4	0.167	2.001
5/16	0.260	3.125
3/8	0.376	4.507
7/16	0.511	6.134
1/2	0.668	8.021
9/16	0.845	10.138
5/8	1.040	12.485
11/16	1.260	15.120
3/4	1.500	18.000
7/8	2.040	24.480
15/16	2.350	28.200
1	2.670	32.040
1-1/16	3.010	36.115
1-1/8	3.380	40.565
1-3/16	3.770	45.245
1-1/4	4.170	50.040
1-3/8	5.050	60.596
1-7/16	5.584	67.003
1-1/2	6.010	72.115
1-5/8	7.050	84.600
1-11/16	7.600	91.200
1-3/4	8.180	98.165
1-15/16	10.080	121.003
2	10.680	128.160
2-1/8	12.060	144.706
2-1/4	13.520	162.245
2-1/2	16.690	200.275
2-3/4	20.190	242.280
3	24.000	288.000
3-1/8	26.080	312.912
3-1/2	33.730	404.784
3-5/8	35.160	421.920
4	42.730	512.784

**STAINLESS STEEL ROUNDS
TYPE 303, 12' Random Length**

Size in Inches	Weight Per Ft. in Lbs.	Weight of 12' Bar
5/16	0.260	3.125
3/8	0.376	4.507
1/2	0.668	8.021
5/8	1.040	12.485
7/8	2.040	24.480
1	2.670	32.040
1-1/4	4.170	50.040

**TYPE 304
STAINLESS STEEL SHEET**
No. 2B Finish - Cold Rolled,
Annealed - Standard Flat Sheet Sizes
QQ-S-766 ASTM A-240

Size in Inches	Lbs. Per Sq. Foot	Estimated Wt. Per Sheet
10 Ga. (.135)		
48 x 96	5.67	181.46
48 x 120	5.67	226.83
60 x 120	5.67	283.54
60 x 144	5.671	340.243
11 Ga. (.120)		
48 x 96	5.04	161.28
48 x 120	5.04	201.60
60 x 120	5.04	252.00
12 Ga. (.105)		
48 x 96	4.41	141.14
48 x 120	4.41	176.43
60 x 96	4.41	176.43
60 x 120	4.41	220.54
14 Ga. (.075)		
48 x 96	3.15	100.82
48 x 120	3.15	126.03
60 x 96	2.52	126.03
60 x 120	3.15	157.54
16 Ga. (.060)		
48 x 96	2.52	80.64
48 x 120	2.52	100.80
48 x 144	2.52	120.96
60 x 120	2.52	126.00
18 Ga. (.048)		
48 x 96	2.02	64.65
48 x 120	2.02	80.81
20 Ga. (.036)		
48 x 96	1.51	48.34
48 x 120	1.51	60.42
22 Ga. (.031)		
48 x 96	1.26	40.32
48 x 120	1.26	50.40
24 Ga. (.024)		
48 x 120	1.01	40.38

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

McNeilus Steel, Inc.

STAINLESS STEEL PLATE

**No. 1 Finish - Hot Rolled,
Annealed and Pickled, A480**

Size in Inches	Lbs. Per Sq. Foot	Estimated Wt. Per Sheet
----------------	-------------------	-------------------------

3/16 x

48 x 96	8.580	274.55
48 x 120	8.580	428.98

1/4 x

48 x 96	11.161	357.17
48 x 120	11.161	446.46

3/8 x

48 x 96	16.497	527.89
48 x 120	16.497	659.87

1/2 x

48 x 96	21.660	693.14
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**The Shearing Capacity of
our 3/4" Plate Shear Decreases
to 1/2" x 10' When Cutting
Stainless Steel.**

STAINLESS FLOOR PLATE 304

ASTM A793 PATTERN B

Size in Inches	Lbs. Per Sq. Foot	Estimated Wt. Per Sheet
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1/8

36 x 120	6.15	184.51
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3/16

48 X 96	8.698	278.32
48 X 120		347.90
48 x 144		417.48

1/4

48 X 96	11.251	360.02
48 X 120		450.03

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

Friendly Steel Handler

**STAINLESS TUBING
304 As Welded
20' Random**

Size O.D.	Gauge Thickness	Wt. Per Foot
3/4 x 3/4	16	0.61
3/4 x 3/4	11	1.03
1 x 1	16	0.83
1 x 1	14	1.04
1 x 1	11	1.44
1-1/4 x 1-1/4	16	1.05
1-1/4 x 1-1/4	14	1.37
1-1/4 x 1-1/4	11	1.84
1-1/2 x 1-1/2	16	1.27
1-1/2 x 1-1/2	14	1.60
1-1/2 x 1-1/2	11	2.25
1-1/2 x 1-1/2	3/16	3.23
2 x 1	16	1.27
2 x 1	11	2.25
2 x 1-1/2	11	2.66
2 x 2	16	1.71
2 x 2	14	2.02
2 x 2	11	3.07
2 x 2	3/16	4.46
2-1/2 x 2-1/2	11	3.90
2-1/2 x 2-1/2	3/16	4.68
3 x 1-1/2	11	3.50
3 x 2	11	3.89
3 x 2	3/16	5.35
3 x 3	11	4.70
3 x 3	3/16	6.90
3 x 3	1/4	9.06
4 x 2	11	4.75
4 x 2	3/16	6.90
4 x 4	11	6.26
4 x 4	3/16	9.72
4 x 4	1/4	12.21

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

McNeilus Steel, Inc.

STAINLESS STEEL PIPE

Sch. 40, Plain End

#304

21' Random Lengths

Size	OD	Wall	Wt./Ft.
1/8"	0.405	0.068	0.24
1/4"	0.540	0.088	0.43
3/8"	0.675	0.091	0.57
1/2"	0.840	0.109	0.86
3/4"	1.050	0.113	1.14
1"	1.315	0.133	1.69
1-1/4" . . .	1.660	0.140	2.29
1-1/2" . . .	1.900	0.145	2.74
2"	2.375	0.154	3.69
2-1/2" . . .	2.875	0.203	5.81
3"	3.500	0.216	7.60

STAINLESS STEEL PIPE

Sch. 80 - #304

21' Random Lengths

Size	OD	Wall	Wt./Ft.
1/4"	0.540	0.119	0.54
3/8"	0.675	0.126	0.75
1/2"	0.840	0.147	1.10
3/4"	1.050	0.154	1.49
1"	1.315	0.179	2.19
1-1/4" . . .	1.660	0.191	3.03
1-1/2" . . .	1.900	0.200	3.67
2"	2.375	0.218	5.07

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

ALUMINUM

- 3003-H14** - General purpose alloy of moderate strength. Easily formed, welded, or brazed. Not heat treatable. Bendable - bright finish.
- 5052-H32** This is the highest strength alloy of the more common non-heat treatable grades. Good resistance to marine atmosphere and salt water corrosion. Excellent workability.
- 6061-T6** - A heat treatable grade used in a wide variety of products from truck frames to screw machine products and structural components. A liberal bending radius is required when forming.
Non-Bendable-dull finish.

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

McNeilus Steel, Inc.



**ANGLES - STRUCTURAL ALUMINUM
6061 T6 and 6063 T52
Rounded Toes and Fillet**

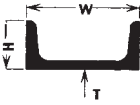
Size in Inches	Weight Per Foot Lbs.	Estimate 25' Bar
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1/2 x 1/2 x 1/8 6063 16'	0.128	3.20
3/4 x 3/4 x 1/8	0.202	5.05
1 x 1 x 1/8	0.275	6.88
1 x 1 x 3/16	0.400	10.00
1 x 1 x 1/4	0.514	12.85
1-1/4 x 1-1/4 x 1/8	0.343	8.58
1-1/4 x 1-1/4 x 3/16	0.510	12.75
1-1/4 x 1-1/4 x 1/4	0.656	16.40
1-1/2 x 1-1/2 x 1/8	0.424	10.60
1-1/2 x 1-1/2 x 3/16	0.619	15.48
1-1/2 x 1-1/2 x 1/4	0.809	20.23
1-3/4 x 1-3/4 x 1/4	0.956	23.90
2 x 1-1/2 x 1/8	0.496	12.40
2 x 2 x 1/8	0.577	14.43
2 x 2 x 3/16	0.850	21.25
2 x 2 x 1/4	1.110	27.75
2 x 2 x 3/8	1.610	40.25
2-1/2 x 2-1/2 x 3/16	1.070	26.75
2-1/2 x 2-1/2 x 1/4	1.400	35.00
3 x 2 x 3/16	1.070	26.75
3 x 2 x 1/4	1.404	35.10
3 x 3 x 1/4	1.680	42.00
3 x 3 x 3/8	2.470	61.75
3 x 3 x 1/2	3.227	80.65
3-1/2 x 3-1/2 x 1/4	2.040	51.00
3-1/2 x 3-1/2 x 3/8	2.926	73.15
4 x 3 x 1/4	1.990	49.75
4 x 4 x 1/4	2.280	57.00
4 x 4 x 3/8	3.369	84.25
4 x 4 x 1/2	4.414	110.35
6 x 6 x 3/8	5.120	128.00

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

Friendly Steel Handler

**CHANNELS STRUCTURAL
ALUMINUM
American Standard
6061 -T6**



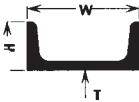
Conforms to ASTM B308

Web Width (W)	Height (H)	Web Thickness (T)	Wt./ Linear Foot	Wt. Per 25' Length
3	1.410	.170	1.42	35.49
4	1.580	.180	1.85	46.25
4	1.647	.247	2.16	54.00
4	1.720	.320	2.50	62.49
5	1.750	.190	2.32	57.90
5	1.885	.325	3.11	77.70
6	1.920	.200	2.83	70.74
8	2.290	.250	4.36	109.05
10	2.886	.526	8.64	216.00

6061 Associated

3	1.750	.170	1.70	40.00
4	2.000	.150	1.74	43.50
5	2.750	.190	3.09	77.25
7	3.50	.210	4.72	118.00

**CHANNELS STRUCTURAL
ALUMINUM
6063-T52**



Web Width (W)	Height (H)	Web Thickness (T)	Wt./ Linear Foot	Wt. Per 16' Length
1	1/2	1/8	.258	4.13
2	1	1/8	.563	9.01

**ALUMINUM RECTANGLES
6061-T6511**

Lengths 12', except as noted



Size in Inches	Weight Per Foot Lbs.	Weight of 12' Length
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1/8 x

1/2	0.074	0.89
3/4	0.110	1.32
1	0.148	1.77
1-1/4	0.184	2.20
1-1/2	0.221	2.65
2	0.294	3.53
3 (5052 H32) 10'	0.441	4.41
4 (5052 H32) 10'	0.590	5.90

McNeilus Steel, Inc.

ALUMINUM RECTANGLES -12' 6061

Size in Inches	Weight / Foot Lbs.	Weight 12' Length
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3/16 x

1/2	0.110	1.32
3/4	0.166	1.99
1	0.221	2.65
1-1/4	0.276	3.31
1-1/2	0.331	3.97
2	0.442	5.30
2-1/2	0.552	6.62
3	0.662	7.95
4 (5052 H32) 10'		0.884
8.84		
6	1.333	16.00

1/4 x

1/2	0.148	1.77
3/4	0.221	2.65
1	0.294	3.53
1-1/4	0.368	4.42
1-1/2	0.442	5.30
1-3/4	0.516	6.18
2	0.589	7.07
2-1/2	0.736	8.83
3	0.883	10.60
3-1/2	1.010	12.12
4	1.175	14.10
5	1.500	18.00
6	1.800	21.60
8	2.400	28.80
12	3.600	43.20

5/16 x

1-1/2	0.552	6.62
2	0.749	8.98

3/8 x

1/2	0.221	2.65
3/4	0.331	3.97
1	0.442	5.30
1-1/4	0.552	6.62
1-1/2	0.662	7.95
1-3/4	0.786	9.43
2	0.883	10.60
2-1/2	1.100	13.20
3	1.325	15.90
3-1/2	1.542	18.50
4	1.766	21.20
5	2.250	27.00
6	2.640	31.68
8	3.520	42.24
10	4.500	54.00

ALUMINUM RECTANGLES -12' 6061

Size in Inches	Weight / Foot Lbs.	Weight 12' Length
<u>1/2 x</u>		
3/4	0.442	5.30
1	0.589	7.07
1-1/4	0.736	8.83
1-1/2	0.883	10.60
2	1.175	14.10
2-1/4	1.340	16.08
2-1/2	1.475	17.70
3	1.766	21.20
3-1/2	2.058	24.70
4	2.350	28.20
5	2.940	35.28
6	3.520	42.24
8	4.700	56.40
10	5.800	70.56
12	7.040	84.47
<u>5/8 x</u>		
1	0.734	8.81
2	1.470	17.64
2-1/2	1.836	22.03
6	4.410	52.92
<u>3/4 x</u>		
1	0.883	10.60
1-1/4	1.100	13.20
1-1/2	1.325	15.90
2	1.766	21.20
2-1/2	2.208	26.50
3	2.650	31.80
4	3.533	42.40
5	4.399	52.80
6	5.300	63.60
8	7.050	84.60
10	8.800	105.59
12	10.580	126.95
<u>1 x</u>		
1-1/4	1.475	17.70
1-1/2	1.766	21.20
2	2.350	28.20
2-1/2	2.941	35.30
3	3.533	42.39
4	4.709	56.50
6	7.067	84.80
8	9.400	112.80
10	11.760	141.16
12	14.110	169.34
<u>1-1/4 x</u>		
2	3.000	36.00
3	4.410	52.92
4	5.880	70.56
<u>1-1/2 x</u>		
2	3.533	42.39
2-1/2	4.409	52.90
3	5.290	63.48
4	7.050	84.60
5	8.818	105.81
6	10.580	126.98

ALUMINUM RECTANGLES -12' 6061

.....continued.....

Size in Inches	Weight / Foot Lbs.	Weight 12' Length
2 x		
2-1/2	5.990	71.88
3	7.066	84.79
4	9.583	115.00
2-1/2 x		
3	8.820	105.84
3 x		
4	14.420	173.00

ALUMINUM RECTANGLES -12' 2024		
3 x 4	14.416	173.00

ALUMINUM SQUARE Extruded



Size	Type	Wt./Ft.	Wt./12'	Wt./16'
1/4 . . .	6063-T-6511..	0.074....		1.184
3/8 . . .	6063-T-6511..	0.167....	2.00	
1/2 . . .	6061-T-6511..	0.293....	3.51	
9/16 ..	6061-T-6511..	0.379....	4.55	
5/8 . . .	6061-T-6511..	0.460....	5.51	
3/4 . . .	6061-T-6511..	0.661....	7.92	
1	6061-T-6511..	1.166....	14.00	
1-1/4 .	6061-T-6511..	1.838....	22.00	
1-1/2 .	6061-T-6511..	2.641....	31.70	
1-3/4 .	6061-T-6511..	3.600....	43.20	
2	6061-T-6511..	4.700....	56.40	
3"	6061-T-6511..	10.569 . . .	126.84	

ALUMINUM ROUNDS 6061-T6511



Specifications: QQ-A-225/8, QQ-A-200/8

Size in Inches	Weight / FT Lbs.	12" Length
3/16	0.033	0.396
1/4	0.058	0.694
5/16	0.090	1.080
3/8	0.130	1.560
7/16	0.176	2.120
1/2	0.230	2.765
9/16	0.304	3.643
5/8	0.361	4.334
3/4	0.520	6.235
7/8	0.708	8.496
1	0.925	11.102
1-1/16.	1.063	12.758
1-1/8	1.166	13.997
1-1/4	1.450	17.395
1-1/2	2.083	24.998
1-3/4	2.940	35.280
2	3.667	44.006
2-1/4	4.667	56.000
2-1/2	5.776	69.307
3	8.500	101.995
4	14.750	177.005
5	23.530	282.360

ALUMINUM RECTANGLES -10' 3003

Size in Inches	Weight / Foot Lbs.	Weight 10' Length
1/8 x 3.....	0.534	5.34
3/16 x 4.....	0.884	8.84

ALUMINUM SHEET 5052-H32 (3003 or 6061 where indicated)

Thickness Inches	Weight & Length	Estimated Wt. Lbs. / Sheet
.032 (.456 lb. per sq. ft.)		
Approx. Ga.	48 x 96	14.6
21 ga.	48 x 120	18.2
.040 (.570 lb. per sq. ft.)		
Approx. Ga.	48 x 96	18.2
19 ga.	48 x 120	22.8
.050 (.713 lb. per sq. ft.)		
Approx. Ga.	48 x 96	22.8
18 ga.	48 x 120	28.5
.063 (.898 lb. per sq. ft.)		
Approx. Ga.	48 x 96	28.7
16 ga.	48 x 96 (3003)	28.7
	48 x 120	35.9
.080 (1.14 lb. per sq. ft.)		
Approx. Ga.	48 x 96	36.5
14 ga.	48 x 120	46.6
.090 (1.28 lb. per sq. ft.)		
Approx. Ga.	48 x 96	40.9
13 ga.	48 x 120	51.2
.100 (1.43 lb. per sq. ft.)		
Approx. Ga.	48 x 96	45.7
12 ga.	48 x 120	57.2
.125 (1.78 lb. per sq. ft.)		
Approx. Ga.	48 x 96	55.9
11 ga.	48 x 120	69.8
	48 x 144 (6061-T6)	83.8
	60 x 96	69.8
	60 x 120	87.3
	60 x 144	104.7
	72 x 96	83.8
	72 x 144	125.7
.190 (2.70 lb. per sq. ft.)		
Approx. Ga.	48 x 120	108.0
7 ga. or 3/16"	48 x 144	124.8
	60 x 120	135.0
	60 x 144	162.0
.250 (3.529 lb. per sq. ft.)		
or 1/4"	48 x 96	111.7

Friendly Steel Handler

6061-T651 ALUMINUM PLATE Heat Treated & Aged, Stress-Relieved

Specifications: QQ-A-250/11, AMS 4027

Thickness Inches	Weight & Length	Estimated Wt. Lbs. Per Sheet
.125 (1.77 lb. per sq. ft.)	48 x 144	84.7
.125 (1.77 lb. per sq. ft.)	48 x 144	84.7
.190 (2.71 lb. per sq. ft.)	48 x 144	130.0
.250 (3.53 lb. per sq. ft.)	48.5 x 144.5	171.8
.375 (5.29 lb. per sq. ft.)	48 x 144	254.0
.500 (7.06 lb. per sq. ft.)	48.5 x 144.5	343.6

TOOLING PLATE ALUMINUM CAST MIC-6

Thickness in Inches	Weight and Length	Estimated Wt. Lbs. Per Sheet
.250 (3.63 lb. per sq. ft.)	48 x 48	58.10
.375 (5.47 lb. per sq. ft.)	48 x 48	87.52
.500 (7.28 lb. per sq. ft.)	48 x 48	116.49

FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336

McNeilus Steel, Inc.

**3003 ALUMINUM
TREAD BRITE
DECK PLATE**



Conforms to ASTM B209

Thickness in Inches	Weight and Length	Estimated Wt. Lbs. Per Sheet
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.100 (1.57 lb. per sq. ft.)

48 x 96	50.3
48 x 192	100.5
60 x 96	62.8
60 x 192	125.7

.125 (1.90 lb. per sq. ft.)

36 x 108	51.3
48 x 96	60.8
48 x 120	76.0
48 x 192	122.9
60 x 96	76.8
60 x 120	95.0
60 x 192	153.7

.188 (2.82 lb. per sq. ft.)

48 x 96	90.3
48 x 192	180.5
60 x 96	112.8
60 x 120	141.0
60 x 192	225.7

**6061-T6 TREAD PLATE
Diamond Pattern**

Specification: MIL-F-17132

Conforms to ASTM B632

Thickness in Inches	Weight and Length	Estimated Wt. Lbs. Per Sheet
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.125 (2.00 lb. per sq. ft.)

48 x 96	64.0
48 x 192	128.0

.188 (2.82 lb. per sq. ft.)

48 x 96	90.2
48 x 192	180.5

.250 (3.672 lb. per sq. ft.)

48 x 96	117.5
48 x 192	235.0

**FARGO 1-888-577-0007
DODGE CENTER 1-800-733-6336**

ALUMINUM TUBING STRUCTURAL - 6063-T52



Extruded 21'1" Lengths

Size	Wall Thickness	Pounds Per Foot	Pounds Per 21'1"
3/4 x 3/4 x .125		0.376	7.92
1 x 1 x .062		0.281	5.92
1 x 1 x .067 RND CNR		0.283	6.79
1 x 1 x .125		0.527	11.11
1 x 1 x .125 RND CNR		0.527	11.11
1-1/4 x 1-1/4 x .125 . .		0.674	14.22
1-1/2 x 1-1/2 x .125 . .		0.827	17.43
2 x 1 x .125		0.827	17.43
2 x 1 x .125 RND CNR		0.827	17.43
2 x 1-1/2 x .125		0.956	20.15
2 x 2 x .125		1.130	23.83
2 x 2 x .125 RND CNR		1.130	23.83
2 x 2 x 3/16		1.637	34.50
2 x 2 x 1/4		2.058	43.39
2-1/2 x 2-1/2 x .125 . .		1.423	30.00
3 x 2 x .125		1.399	29.50
3 x 3 x .125		1.691	53.36
3 x 3 x .187		2.531	53.36
3 x 3 x .250		3.296	69.50
4 x 2 x .125		1.690	35.62
4 x 4 x .125		2.330	49.13
4 x 4 x .250		4.501	94.90
5 x 2 x .125		1.984	41.83

6061T6 ALUMINUM PIPE SCHEDULE 40 20' LENGTHS



Size	OD	Wall	Wt./Ft.
1/2	0.840	0.109	0.293
3/4	1.050	0.113	0.391
1	1.315	0.133	0.581
1-1/4 . . .	1.660	0.140	0.785
1-1/2 . . .	1.900	0.145	0.939
2	2.375	0.154	1.264
2-1/2 . . .	2.875	0.203	2.000
3	3.500	0.216	2.621

6061 T6 ALUMINUM PIPE SCHEDULE 80 20' LENGTHS



Size	OD	Wall	Wt./Ft.
1	1.315	0.179	0.750
1-1/4 . . .	1.660	0.191	1.037
1-1/2 . . .	1.900	0.200	1.256

MATERIAL RETURN POLICY

MATERIAL RETURNS - No merchandise returns will be accepted without prior authorization in the form of a "Customer Concern Form" issued by us. Customers must contact their inside salesperson for authorization. Material accepted as "return for credit", where no error on our part exists, will be subject to restocking charges.

Certain items, such as aluminum thin sheets, are so easily damaged in transit or in the customer's shop, that we do not accept returns.

RETURN GOODS - DEFECTIVE MATERIAL - In any case where a shipment proves to be unsuitable, it is understood the buyer will immediately discontinue its use and advise the seller of the facts. This will give the seller an opportunity to make a decision, so further loss may be prevented or minimized.

We limit our responsibility to replacement of the material. No consequential damages, charges for labor, tooling or time will be allowed.

If defective, the returned material must be accompanied by a "Customer Concern Form".

RETURN GOODS - NOT DEFECTIVE - Customers are allowed a reasonable time for receipt and inspection of material shipped incorrectly. In the case of customer error, we will accept material returned for replacement, providing the return is made within a reasonable time from the delivery date, and our return goods procedure is followed. All returns except those due to our error, will be subject to a restocking charge.

However if the material was plated, polished, masked, or changed from a standard by cutting or sawing, the likelihood is that we cannot accept return. Any such goods must be handled by negotiations and purchase.

Return privileges do not apply in the case of extraordinary quantities or special ordered items obtained for a specific customer order.

QUOTATIONS- All price quotations are subject to change without notice, prior sale and, unless otherwise specified, are for immediate acceptance. All sales are made subject to material availability at time of order.

CONFIRMATION OF ORDERS - Every effort is made to ship verbal orders exactly as requested. However, when material is processed and/or shipped prior to receipt of a written confirming order, we cannot assume responsibility for any deviation from instructions or specifications contained on the confirming order.

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McNeilus Steel, Inc.

Recommended Fabricating Practices for Cold Forming (Bend axis transverse (perpendicular) to rolling direction "across the grain")* Suggested inside Radii for various thicknesses expressed in terms of "t" where t = material thickness.

STEEL

A36 - 36,000 psi Minimum Yield Strength

Thru .250"	1t
.250 to .500"	1-1/2t
.500 to 1.00"	2t

Grade 50 - 50,000 psi Minimum Yield Strength (ASTM - A1011 Gr 50, A572, A1011 HSLAS Gr 50, A1018 Gr 50)

Thru .187"	1-1/2t
.187 to .229"	2t
.229 to .500"	2-1/2t

Grade 50 - Improved Formability - 50,000 psi minimum Yield Strength (ASTM - A656 T3, A 1011 HSLA-F Grade 50 Class 2)

Thru .500"	1t
------------	----

Grade 80 - 80,000 psi Minimum Yield Strength (ASTM - A656)

Thru .250"	2-1/2t
Over .250"	3t

AR200 - 70,000 psi Typical Yield Strength (No ASTM exists)

Thru .187"	1-1/2t
.187 to .229"	2t
.229 to .500"	2-1/2t

T1- 100,000 psi Minimum Yield Strength (ASTM - A514 Gr B)

2t perpendicular to the grain of the material
3t parallel to the grain of the material

AR200 - 155,000 psi Typical Yield Strength (No ASTM exists)

Thru .787"	3t (use 13.5t bottom die opening)
Over .787"	4t

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Recommended Fabricating Practices cont'd:

ALUMINUM

3003 - H14

Thru .062"	1/2t
Over .062 to .188"	1t
Over .188 to .250"	1-1/2t
Over .250 to .500"	2t

5052 - H32

Thru .062"	1t
Over .062 to .375"	1-1/2t
Over .375 to .500"	2t

6061 - T6

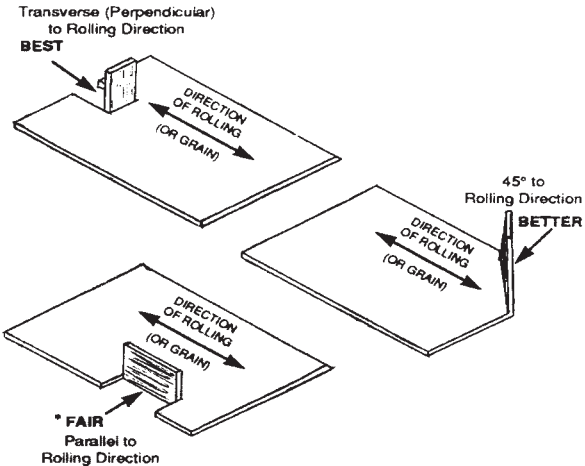
Thru .031"	1t
Over .031 to .062"	1-1/2t
Over .062 to .125"	2-1/2t

6061 - T6 Tread Plate Diamond Pattern

Thickness	I.D. Bend Radius
.125"	3/8"
.156"	1/2"
.188"	1"
1/4"	1-1/2"
3/8"	1-3/4"

*Larger minimum radii should be used for bending parallel to the rolling direction "with the grain".

**The radii listed are the minimum recommended for bending sheets and plates without fracturing in a standard press brake with air bend dies. Other types of bending operations may require larger radii or permit smaller radii. The minimum permissible radii will also vary with the design and conditions of the tooling.



Weights and Tolerances for Sheets

per ASTM A568 Table 4 & 6

Gage No.	Dec. Equiv.	Tolerance Range		Lbs. per Sq. Ft.
		HR, P&O	CR	
7	.1793	.1873 .1713	.1873 .1713	7.500
8	.1644	.1724 .1564	.1724 .1564	6.875
9	.1495	.1575 .1415	.1575 .1415	6.250
10	.1345	.1425 .1265	.1405 .1285	5.625
11	.1196	.1276 .1116	.1256 .1136	5.000
12	.1046	.1126 .0966	.1106 .0986	4.375
13	.0897	.0967 .0827	.0947 .0847	3.750
14	.0747	.0817 .0677	.0797 .0697	3.125
15	.0673	.0733 .0613	.0723 .0623	2.813
16	.0598	.0658 .0538	.0648 .0548	2.500
17	.0538	.0598 .0478	.0578 .0498	2.250
18	.0478	.0528 .0428	.0518 .0438	2.000
19	.0418		.0458 .0378	1.750
20	.0359		.0389 .0329	1.500
21	.0329		.0359 .0299	1.375
22	.0299		.0329 .0269	1.250
23	.0269		.0299 .0239	1.125
24	.0239		.0269 .0209	1.000
25	.0209		.0239 .0179	.875
26	.0179		.0199 .0159	.750
27	.0164		.0184 .0144	.688
28	.0149		.0169 .0129	.625

Tolerance shown is for 48" wide sheets.
Weights based on nominal thickness @ 41.82 lbs per square foot.

Weights and Tolerances for Plates

Gage No.	Dec. Equiv.	Tolerance. Range HR, P&O	Lbs. per Sq. Ft.
3/4"	.750	.780 .736	30.60
5/8"	.625	.655 .611	25.50
1/2"	.500	.530 .486	20.40
3/8"	.375	.405 .361	15.30
5/16"	.312	.342 .298	12.75
1/4"	.250	.280 .236	10.20
3/16"	.187	.217 .173	7.66

Thickness tolerances per ASTM A6 & E29
+.03 / -.014

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FRACTION, DECIMAL AND METRIC EQUIVALENTS

FRACTION INCHES	DEC.	M.M.	FRACTION INCHES	DEC.	M.M.
<u>1/64</u>	<u>.0156</u>	<u>.3969</u>	<u>33/64</u>	<u>.5156</u>	<u>13.0969</u>
<u>1/32</u>	<u>.0313</u>	<u>.7938</u>	<u>17/32</u>	<u>.5313</u>	<u>13.4938</u>
<u>3/64</u>	<u>.0469</u>	<u>1.1906</u>	<u>35/64</u>	<u>.5469</u>	<u>13.8906</u>
<u>1/16</u>	<u>.0625</u>	<u>1.5875</u>	<u>9/16</u>	<u>.5625</u>	<u>14.2875</u>
<u>5/64</u>	<u>.0781</u>	<u>1.9844</u>	<u>37/64</u>	<u>.5781</u>	<u>14.6844</u>
<u>3/32</u>	<u>.0938</u>	<u>2.3813</u>	<u>19/32</u>	<u>.5938</u>	<u>15.0813</u>
<u>7/64</u>	<u>.1094</u>	<u>2.7781</u>	<u>39/64</u>	<u>.6094</u>	<u>15.4781</u>
<u>1/8</u>	<u>.125</u>	<u>3.1750</u>	<u>5/8</u>	<u>.625</u>	<u>15.8750</u>
<u>9/64</u>	<u>.1406</u>	<u>3.1750</u>	<u>41/64</u>	<u>.6406</u>	<u>16.2719</u>
<u>5/32</u>	<u>.1563</u>	<u>3.9688</u>	<u>21/32</u>	<u>.6563</u>	<u>16.6688</u>
<u>11/64</u>	<u>.1719</u>	<u>4.3656</u>	<u>43/64</u>	<u>.6719</u>	<u>17.0656</u>
<u>3/16</u>	<u>.1875</u>	<u>4.7625</u>	<u>11/16</u>	<u>.6875</u>	<u>17.4625</u>
<u>13/64</u>	<u>.2031</u>	<u>5.1594</u>	<u>45/64</u>	<u>.7031</u>	<u>17.8594</u>
<u>7/32</u>	<u>.2188</u>	<u>5.5563</u>	<u>23/32</u>	<u>.7188</u>	<u>18.2563</u>
<u>15/64</u>	<u>.2344</u>	<u>5.9531</u>	<u>47/64</u>	<u>.7344</u>	<u>18.6531</u>
<u>1/4</u>	<u>.250</u>	<u>6.3500</u>	<u>3/4</u>	<u>.750</u>	<u>19.0500</u>
<u>17/64</u>	<u>.2656</u>	<u>6.7469</u>	<u>49/64</u>	<u>.7656</u>	<u>19.4469</u>
<u>9/32</u>	<u>.2813</u>	<u>7.1438</u>	<u>25/32</u>	<u>.7813</u>	<u>19.8438</u>
<u>19/64</u>	<u>.2969</u>	<u>7.5406</u>	<u>51/64</u>	<u>.7969</u>	<u>20.2406</u>
<u>5/16</u>	<u>.3125</u>	<u>7.9375</u>	<u>13/16</u>	<u>.8125</u>	<u>20.6375</u>
<u>21/64</u>	<u>.3281</u>	<u>8.3344</u>	<u>53/64</u>	<u>.8281</u>	<u>21.0344</u>
<u>11/32</u>	<u>.3438</u>	<u>8.7313</u>	<u>27/32</u>	<u>.8438</u>	<u>21.4313</u>
<u>23/64</u>	<u>.3594</u>	<u>9.1281</u>	<u>55/64</u>	<u>.8594</u>	<u>21.8281</u>
<u>3/8</u>	<u>.375</u>	<u>9.5250</u>	<u>7/8</u>	<u>.875</u>	<u>22.2250</u>
<u>25/64</u>	<u>.3906</u>	<u>9.9219</u>	<u>57/64</u>	<u>.8906</u>	<u>22.6219</u>
<u>13/32</u>	<u>.4063</u>	<u>10.3188</u>	<u>29/32</u>	<u>.9063</u>	<u>23.0188</u>
<u>27/64</u>	<u>.4219</u>	<u>10.7156</u>	<u>59/64</u>	<u>.9219</u>	<u>23.4156</u>
<u>7/16</u>	<u>.4375</u>	<u>11.1125</u>	<u>15/16</u>	<u>.9375</u>	<u>23.8125</u>
<u>29/64</u>	<u>.4531</u>	<u>11.5094</u>	<u>61/64</u>	<u>.9531</u>	<u>24.2094</u>
<u>15/32</u>	<u>.4688</u>	<u>11.9063</u>	<u>31/32</u>	<u>.9688</u>	<u>24.6063</u>
<u>31/64</u>	<u>.4844</u>	<u>12.3031</u>	<u>63/64</u>	<u>.9844</u>	<u>25.0031</u>
<u>1/2</u>	<u>.500</u>	<u>12.7000</u>	<u>1</u>	<u>1.000</u>	<u>25.4000</u>

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Glossary of Terms

Aging - Changes in physical and mechanical properties that occur when low carbon steel is stored for some time. Aging is also accelerated by exposure of steel to elevated temperatures. Stretcher strains and fluting can result from aging.

Alloy Steel - Alloy steel is a group of steels with different chemical composition, forming characteristics and strength levels from those normally present in carbon steel. Alloy steel normally has higher alloy content than steel classified as high strength low alloy steel. Alloy steel is often heat treated after part fabrication to develop the desired final physical properties.

Annealing - A process of controlled heating, soaking at elevated temperatures, and controlled cooling for the purposes of softening, developing a micro-structure, improve machinability, or obtaining a special set of physical or mechanical properties.

Brinell Hardness Test - In the Brinell Hardness Test, the value obtained by dividing the applied load (in kilograms) by the surface area of the impression (in square millimeters) resulting from forcing a hard steel or carbide ball onto the steel test sample. The higher the number the harder the steel.

Camber - This is the deviation from edge straightness. The amount is determined along the concave side using straight edge and expressed as a measure per unit length, e.g. 1" in 20'.

Charpy V-Notch - This is a test to measure the impact strength, or notch toughness, of steel. It is of primary importance to evaluate steels for use where a brittle fracture hazard exists.

Coil Breaks - A defect, exhibiting creases, a river type appearing, snaky pattern across a metal sheet running transverse to the coiling or rolling direction. The spacing is irregular and its location in the surface is very often random.

Cold Rolled Sheet Products - Flat rolled products for which the required thickness has been obtained by rolling HR bands or sheets without heating at approximately room temperature.

Commercial Quality (CQ) - Sheet of this quality is for uses involving simple bending or moderate drawing. *Commercial Quality* sheet can be bent flat upon itself in any direction at room temperature.

Glossary of Terms

Continuous Cast Steel - A process involving the pouring of liquid steel continuously as it solidifies into a desired semi-finished shape (square, rectangular, or other cross section). The shape is withdrawn from the mold according to a calculated rate based upon the cross section being cast. One of the biggest metallurgical advantages is the uniformity of chemical composition and mechanical properties as compared to ingot cast steels. This results from the fact that the continuous cast slab solidifies in a few minutes, whereas in an ingot, complete solidification is not obtained until hours have gone by. Chemical segregation, characteristic of ingot cast steel, is virtually absent in continuous cast slabs.

Deoxidizing - The removal of oxygen from molten steel by use of suitable elements (i.e. silicon, aluminum) that react with oxygen readily.

Direct Rolling - A relatively new process whereby a continuous cast slab is moved directly into a hot finish mill for rolling into sheet or plate. This process avoids costly re-heating furnaces.

Drawing Quality (DQ) - As compared with sheet of Commercial Quality, Drawing Quality sheet has a greater degree of ductility and is more consistent in performance. The greater ductility and uniformity results from higher standards of production, selection and processing of the steel.

Ductility - Is a measure of the ability of steel to undergo permanent changes without rupturing.

Edges - Mill edge is the normal edge produced in hot rolling and it does not conform to any definite contour. Mill edge product may contain some edge imperfections the more common types of which are, checked edges, thin edges (feather) and damaged edges due to handling or processing. These edge conditions are detrimental where joining of the mill edges by welding is practiced. When the customer intends to shear or blank, a sufficient width allowance should be made by the purchaser to assure obtaining the desired shape and size of the pattern sheet.

Elongation - The amount of extension a test specimen undergoes to fracture during tensile testing. A measurement compares a before and after unit gauge length indexed into the specimen. The change is expressed numerically as a percentage of the original gauge length.

Electrogalvanized - A commonly used term to

Glossary of Terms

described steel that has been plated with zinc using an electric current through an electrolyte. Proper name is Electrolytic Zinc Coated Sheet.

Fatigue - The tendency for a metal to break under conditions of repeated cyclic stressing considerably below the ultimate tensile strength.

Fluting - Fluting is a series of sharp parallel kinks or creases occurring in the arc when sheet steel is formed cylindrically, as to stretch the outer surface well beyond its yield point.

Friction Digs - A series of relatively short scratches variable in form and severity.

Galvanized - A term long used to describe steel coated with zinc. The term is associated with the hot-dip process but zinc coating can also be applied by electroplating. The hot-dip process consists of passing the steel through a bath of molten zinc. The electroplating process consists of the application of zinc by electrolytic deposition.

Galvannealed - Is a galvanized sheet steel which is altered by heat treatments or other processes immediately after coating, before the zinc solidifies. The coating produced consists entirely of **iron zinc alloy** and has a rougher appearance than the surface of regular coating. Sheets produced in this manner are dull gray in color, have no spangle, and after proper preparation, are well suited for painting.

Hardenability - Refers to the *depth* to which hardness penetrates. It is that property which determines the depth and distribution of hardness induced by quenching.

High Strength Steel - High strength structural quality sheet steel is a carbon/manganese steel... with a minimum specified yield strength of 35 KSI or greater (regardless of chemistry or processing used to achieve that strength level).

Hot Rolled - Describes steel products that are brought to approximate finished size by rolling at elevated temperatures.

Hot Rolled Plate - Product is defined in ASTM A6, paragraph 3.1. For widths over 8" to 48" thickness range is 0.230" and over. For widths over 48", thickness range is 0.180" and over. Plate product is always cut to length.

Glossary of Terms

Hot Rolled Sheet - Hot rolled sheet product is defined by ASTM A568. For 12" to 48" inclusive, thickness range is 0.044" to 0.230", exclusive; over 48" wide, thickness range is 0.044 to 0.180", exclusive. This specification is the size reference for all ASTM sheet specifications.

Ingot - The solidified steel formed in a mold for subsequent rolling or forging.

KSI - K Equals 1000 PSI... thus the term is actually K (1000) PSI. The P has been dropped... and KSI is the new term. (i.e. 50 KSI-50,000 PSI)

Killed Steel - Steel deoxidized by silicon or aluminum to reduce the oxygen content to a minimum so that no reaction occurs during solidification of the metal. Killed Steels have more uniform properties and chemical composition than other types.

Laminations - Imperfections resulting from the presence of blisters, seams or foreign inclusions, and sometimes visible on the surface of the metal.

Oiled - Application of a suitable oil to flat rolled steel to retard rusting. When surface is a consideration, it is also desirable in reducing friction scratches that may develop in transit. The oil coating is not intended to serve as a lubricant for subsequent fabrication.

Pipe Lamination - A term used to describe a defect in steel, generally caused in the pouring of steel. It usually manifests itself as a void in the centerline of the ingot or slab.

Porosity - The existence of fine holes (pores) in steel.

Quenching and Tempering - A process by which steel is rapidly cooled from above its upper critical temperature to a temperature far below this range. Water or oil is normally used to accelerate the cooling. In the as quenched condition, the product is not suitable for most commercial application because of its lower ductility and high hardness. The steel must, therefore, be tempered in order to soften it somewhat to improve its ductility and toughness. Tempering is a heat treatment done at lower temperatures usually in the range between 400 degrees Fahrenheit and 1200 degrees Fahrenheit.

Rockwell Hardness Test - Forcing a cone-shaped diamond or hardened steel ball into the specimen being tested under standard pressure. The depth of penetration is an indication of the Rockwell Hardness.

Glossary of Terms

Scale - An iron oxide formed on the surface of hot steel, sometimes in the form of large sheets which fall off when the steel is rolled.

Slab - A semi-finished steel block having an oblong cross-section in which width is at least twice thickness. It differs from a bloom which has a square, cross-section.

Slitting - The longitudinal splitting of the overall width of a flat product through rotary knives mounted on a rotating arbor to reduce the original width or to cut two or more separate strips.

Stress Relieving - A process of reducing residual stresses in a metal object by heating the object to a suitable temperature and holding for a sufficient time. This treatment may be applied to relieve stresses induced by flattening, straightening, machining or welding.

Strip (HR) - Flat steel produced by rolling single width, or multiple width and cut to final specified width by slitting. Final product width is 12 inches or less.

Temper - A condition produced in sheet steel by mechanical, chemical or thermal treatment. A given steel may be in the fully softened or annealed temper, or it may be cold worked to the hard temper, or further to spring temper. Intermediate tempers produced by cold working (rolling) are called "quarter-hard", "half-hard", and "three-quarters hard", and are determined by the amount of cold reduction.

Tensile Strength - The maximum tensile stress which a material is capable of sustaining. Tensile strength is calculated from the maximum load during tension test carried to rupture.

Yield Point - The load per unit of original cross-section area which a marked increase in the deformation of the specimen occurs without increase of load. It is usually calculated from the load determined by the drop of the beam of the testing machine or by use of dividers.

Yield Strength - The stress at which a material exhibits a specified deviation from proportionality of stress and strain. An offset of 0.20% is used for many metals. The point measured in PSI at which the metal cross-section will no longer return to its original shape.

Metric Conversion Factors

Multiply by to obtain

English to Metric

Pounds (avoirdupois)	.453359	Kilograms
Net Tons (2000 Lbs.)	.90718	Metric Tons
Gross Ton (2240 Lbs.)	1.01605	Metric Tons
Inches	25.4001	Millimeters
Feet	.304801	Meters
Yards	.914402	Meters
Miles (statute)	1.488816	Kilometers
Square Inches	6.45163	Sq. Centimeters
Square Feet	.092903	Square Meters
Pounds per Lineal Ft.	1.48816	Kilograms per Lineal Meter
Pounds per Sq. Inch	.07031	Kilograms per Sq. Centimeter
Pounds per Sq. Ft.	4.88241	Kilograms per Sq. Meter
Pounds per Cu. Foot	16.01837	Kilograms per Cu. Meter

Metric to English

Kilograms	2.20462	Lbs. (avoirdupois)
*Metric Tons	1.10231	Net Tons 2000 Pounds
*Metric Tons	.98421	Gross Tons 2240 Pounds
Millimeters	.03937	Inches
Meters	3.280833	Feet
Meters	1.09361	Yards
Kilometers	.62137	Miles (statute)
Square Centimeters	.155	Square Inches
Square Meters	10.376387	Square Feet
Kilograms per Lineal Meter	.67197	Lbs. per Lineal Ft.
Kilograms per Sq. Centimeter	14.2234	Pounds per Sq. In.
Kilograms per Square Meter	.20482	Pounds per Sq. Ft.
Kilograms per Cubic Meter	.06243	Pounds per Cu. Ft.

Note: Length, width and cube denote meters
 Mass and weight denote Grams
 Capacity denotes Liters
 *One Metric Ton=2204.62 Lbs.

ABBREVIATIONS

Kilometer-km	Kilogram-kg
Meter-m	Gram-g or gm
Centimeter-cm	Centigram-cg
millimeter-mm	Milligram-mg

FORMULAS

CIRCLE

Circumference = diameter x 3.1416

Circumference = radius x 6.2832

Diameter = radius x 2

Diameter = square root of (area/.7854)

Diameter = square root of area x 1.1283

Diameter = circumference x .31831

Radius = diameter /2

Radius = circumference x .15915

Radius = square root of area x .56419

Area = diameter x diameter x .7854

Area = half of circumference x half of the diameter

Area = square of circumference x .0796

Arc length = degrees x radius x .01745

Degrees of arc = length/(radius x .01745)

Radius of arc = length/(degrees x .01745)

Side of equal square = diameter x .8862

Side of inscribed square = diameter x .7071

Area of sector = area of circle x degrees of arc/360

CONE

Area of surface = one-half of circumference of
base x slant height x area of
base

Volume = diameter x diameter x .7854 x one-third
of
the altitude

CUBE

Volume = width x height x length

CYLINDER

Area of surface = diameter x 3.1416 x length + area
of the two bases

Area of base = diameter x diameter x .7854

Area of base = volume/length

Length = volume/area of base

Volume = length x area of base

Capacity in gallons = volume in inches/231

Capacity in gallons = diameter x diameter x length
x .0034

Capacity in gallons = volume in feet x 7.48

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FORMULAS

ELLIPSE

Area = short diameter x long diameter x .78545

HEXAGON

Area = width of side x 2.598 x width of side

PARALLELOGRAM

Area = base x distance between the two parallel sides

PYRAMID

Area = 1/2 perimeter of base x slant height + area of base

Volume = area of base x 1/3 of the altitude

RECTANGLE

Volume = length x width

RECTANGULAR PRISM

Volume = width x height x length

SPHERE

Area of surface = diameter x diameter x 3.1416

Side of inscribed cube = radius x 1.1547

Volume = diameter x diameter x diameter x .5236

SQUARE

Area = length x width

TRIANGLE

Area = one-half of height times base

TRAPEZOID

Area = one-half of the sum of the parallel sides x the height

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McNeilus Steel Means “Service.”

Over sixty years ago, Harry McNeilus bought and sold scrap steel from a single truck. Today, McNeilus Steel, Inc. ships almost two million pounds of steel every day.

Warehouse space has grown right along with McNeilus Steel's customers. We increased our warehouse space to over 600,000 square feet by adding a third cut-to-length line. This not only expanded our storage and buying capacity, but also increased the number and quality of services we offer. With our Dodge Center and Fargo locations working together, McNeilus Steel has one goal in mind: To serve our customers better.

Service is what McNeilus Steel is all about. Customer satisfaction, combined with an extensive inventory and a state-of-the-art delivery system, is what sets us apart from other steel handlers. Whether your order has special packaging needs or requires custom handling, McNeilus Steel will deliver what you need when you need it.

Your
One-Stop
Service-Driven
Steel Supplier.

Whatever your steel or non-ferrous metal needs, the “Friendly Steel Handlers” can fulfill them.

With over 600,000 square feet of storage, our stocking capacity is the largest in the Upper Midwest. Since we have our own fleet of over 65 delivery trucks and maintain them ourselves, we can assure you fast on-time delivery when and where you need it. That’s a promise from the “Friendly Steel Handlers” at McNeilus Steel.

THE LARGEST SELECTION IN THE AREA: OVER 2,500 DIFFERENT METAL PRODUCTS

- † HOT ROLL STEEL
- † COLD ROLL STEEL
- † ALUMINUM
- † STAINLESS STEEL
- † GALVANIZED
- † TUBES
- † FLATS
- † ROUNDS
- † SQUARES
- † CHANNELS
- † BEAMS
- † SHEETS
- † DECK SPAN
- † PLATES
- † P.T.O. TUBE AND SHAFT
- † BAR GRATING
- † RE-ROD
- † THREADED ROD
- † PIPE
- † EXPANDED METALS
- † FABRICATION

True happiness depends upon a personal relationship with God.