

1st Edition - 2011

INDEX

	Page
SECTION 1: Plate & Sheet.....	5
Plate Processing.....	9-10
Plate Hot Rolled.....	11-15
Sheet Cold Rolled	16
Pressure Vessel Plate ASTM A 516 Grade 70.....	17
High Strength Low Alloy ASTM A572 Grade 50.....	17
Abrasion Resisting AR-Med, AR 400F, AR400, AR500, CR600..	18-19
Constructional ASTM A514.....	20
Floor Plate.....	21
Sheet Hot Rolled.....	22-23
Sheet Galvanized.....	24-25
SECTION 2: Expanded Metal & Grating.....	27
Expanded Metal.....	29
Flattened Expanded Metal.....	29
Expanded Metal Grating.....	30
Stainless Steel Expanded Metal.....	31
Galvanized or Painted Bar Grating.....	31
Fiberglass Bar Grating.....	32
Safety Grating.....	33
SECTION 3: Structurals & Bar Shapes.....	35
Angles, Bar Size.....	37
Angles, Structural.....	38-39
Beams, American Standard.....	40
Beams, Wide Flange.....	40-42
Channels Bar.....	42
Channels Misc.....	42-43
Channels Structural.....	43
Tee Bar.....	44
SECTION 4: HR Bars & Reinforcing.....	45
General Information.....	47
Hot Rolled Strip Commercial Quality.....	48
Flat Bar HR ASTM A-36.....	49-52
Cover Rail (Top Rail Moulding).....	53
Rounds ASTM A-36.....	53
Threaded Rounds.....	54
Squares.....	54
Reinforcing Bars (Deformed).....	55
SECTION 5: Cold Finished Bars.....	57
General Information.....	59-60
Rounds.....	61
Flats.....	62-64
Hexagons.....	65
Squares.....	65

INDEX

	Page
SECTION 6: Tube & Pipe.....	67
Square Tubing.....	68-69
Rectangular Tubing.....	70-72
Round Tubing.....	73-99
Pipe Plain End.....	100
SECTION 7: Galvanized.....	101
General Information	102
Angles.....	103
Beams American Standard.....	103
Beams Wide Flange.....	104
Channels.....	104
Tees.....	104
Plate.....	105
Expanded Metal.....	106
Strip.....	106
Flat Bars.....	106-107
Rounds.....	107
Square Tubing.....	107
Pipe Threaded & Coupled.....	108
SECTION 8: Stainless Steel.....	109
General Information.....	110-113
Sheet.....	114-116
Plate.....	117-118
Rounds ASTM A276, 303, 304 316.....	119-121
Flat Bar.....	122-124
Angles.....	125
Steel Tubing.....	126-128
Pipe.....	129
Channels, Beams, Tees.....	130
SECTION 9: Aluminum.....	131
General Information.....	132-134
Sheets.....	135-137
Diamond Floor Plate.....	138-139
Plates.....	138-139
Angles.....	140-142
Channels.....	143
Rectangular Bars.....	144-146
Rounds.....	146-147
Squares.....	147
Tubing Square.....	147
Tubing Rectangular.....	148
Pipe.....	148
SECTION 10: Weights, Data & Processing.....	149
Typical Mechanical Properties of Standard Steels.....	150
Gage Decimals.....	151-152
Dimensions and Weights for Plain End Pipe.....	153
Formula for Weights & Measures.....	154
Metric System.....	155
Decimal Equivalent Sheet Metal Gauges.....	156
Fractional, Decimal and Metric.....	157
Metal Processing Services.....	158-161



SECTION 1

Plate & Sheet

SECTION 1: Plate & Sheet.....	5
Plate Processing.....	9-10
Plate Hot Rolled.....	11-15
Sheet Cold Rolled	16
Pressure Vessel Plate ASTM A 516 Grade 70.....	17
High Strength Low Alloy ASTM A572 Grade 50.....	17
Abrasion Resisting AR-Med, AR 400F, AR400, AR500, CR600..	18-19
Construction ASTM A514.....	20
Floor Plate.....	21
Sheet Hot Rolled.....	22-23
Sheet Galvanized.....	24-25

[illegible]

[illegible]

[illegible]

Metal Processing Services

Each Harbor Steel location has invested in cutting and metalworking equipment designed to furnish you with precision pieces and parts ready for your final assembly. Below are some of the processes we perform in-house. Additionally, we are able to contract with some of our metal working customers to furnish even more first and second stage processing.

PLATE CUTTING: Harbor Steel can produce virtually any shape from plate or sheet on our modern CNC equipment. Whether it's carbon, alloy, stainless steel or aluminum we can cut close tolerance parts for your application. If you have a special shape to cut, all we need is your sketch or blueprint with clearly marked dimensions and tolerances. For ordering common shapes over the phone you can refer to the examples on the next page. Pick your part and give our salesperson your dimensions and tolerances.

PLASMA CUTTING: Our modern Hi-Definition and conventional plasma cutting machines deliver precise parts. Send us your drawings or we can import your CAD files directly into our CAD/CAM system. We can Hi-Def plasma cut stainless and aluminum plate up to 1 1/4" thick and carbon plate up to 1 1/2".

BURNING: State of the art computer controlled oxyfuel multi-torch machines can provide close tolerance shapes to your specs. One piece or hundreds; Harbor Steel produces simple rings and discs or intricate shapes. We stock and cut plates up to 12" thick.

PLATE & SHEET

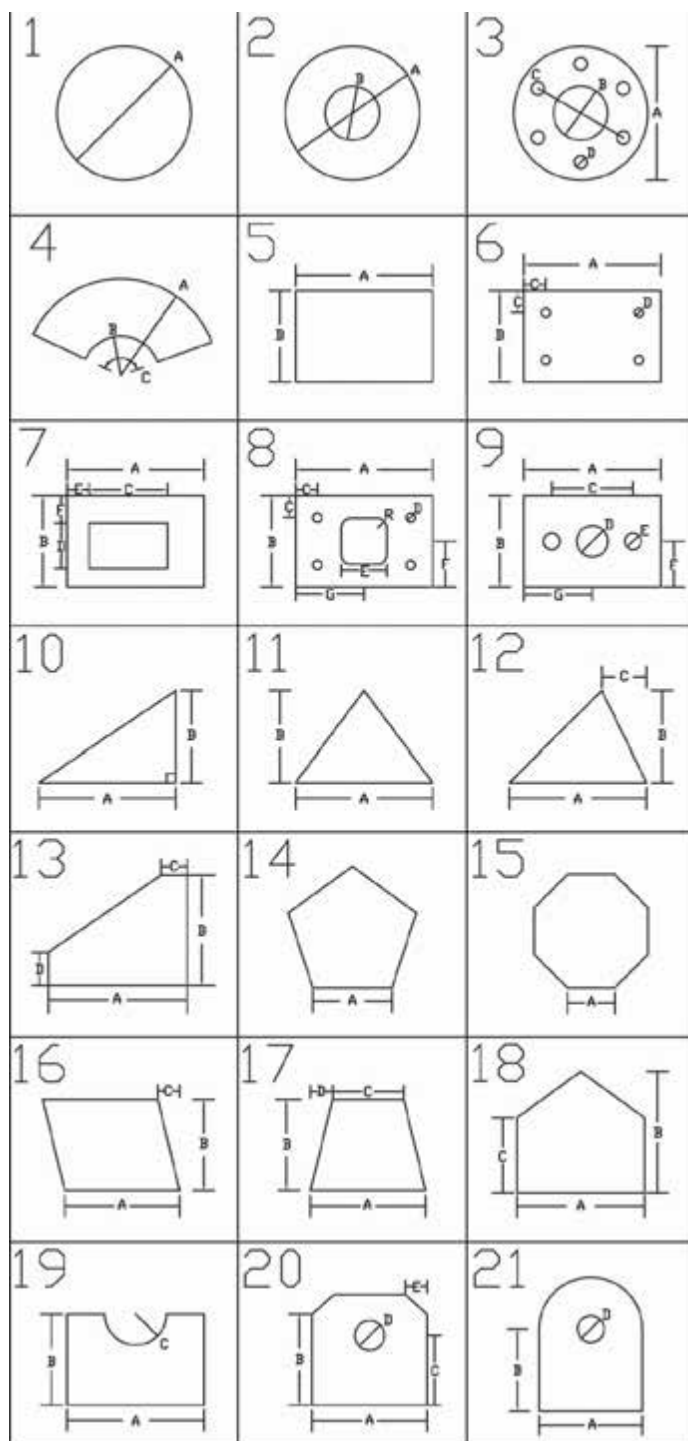


PLATE & SHEET

Hot Rolled Carbon Steel Plate

ASTM A36

Used for structural applications, Carbon Steel Plates are produced from ingots made by the continuous cast, the basic-oxygen, or electric furnace processes. This material is readily formed and welded using conventional methods.

Chemical Requirements

ASTM A36

	Carbon Max %	Mn. %	P Max %	S %	Si %
to 3/4 incl	.25	Not Req'd	.04	.05	.40 Max
over 1/4 to 1-1/2 incl	.25	.80/1.20	.04	.05	.40 Max
over 1-1/2 to 2-1/2 incl	.26	.80/1.20	.04	.05	.15/.40
over 2-1/2 to 4 incl	.27	.85/1.20	.04	.05	.15/.40
over 4	.29	.85/1.20	.04	.05	.15/.40

For each reduction of 0.01% below the specified carbon maximum, an increase of 0.06% manganese above the specified maximum will be permitted up to the maximum of 1.35%.

Physical Properties

Tensile Strength (PSI)	Yield Strength (PSI)	Elong in 8" %	Elong in 2" %
58/80,000	36,000	20	23

PLATE & SHEET

Weight of Thicknesses of Rolled Carbon Steel Plate

Thickness	Lbs. Per Sq. In.	Lbs. Per Sq. Ft.
3/16	.0532	7.66
1/4	.0709	10.21
5/16	.0886	12.76
3/8	.1064	15.31
7/16	.1241	17.87
1/2	.1418	20.42
9/16	.1595	22.97
5/8	.1773	25.53
3/4	.2127	30.63
7/8	.2481	35.73
1	.2836	40.84
1 1/8	.3190	45.94
1 1/4	.3545	51.05
1 3/8	.3900	56.16
1 1/2	.4254	61.26
1 5/8	.4609	66.37
1 3/4	.4963	71.47
2	.5672	81.68
2 1/4	.6381	91.89
2 3/8	.6736	97.00
2 1/2	.7090	102.10
2 3/4	.7799	112.31
3	.8508	122.52
3 1/4	.9217	132.72
3 1/2	.9926	142.94
3 3/4	1.064	153.15
4	1.134	163.36
4 1/4	1.205	173.57
4 1/2	1.276	183.78
4 3/4	1.347	193.99
5	1.418	204.20
5 1/2	1.560	224.62
6	1.702	245.04

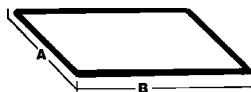
Above weights are based on Metric Density unit of .2836
(International System of units).

PLATE & SHEET

Hot Rolled Carbon Steel Plate

ASTM A36

Grade 50 available through 4"



Thickness	Lbs. Per Sq. Ft.	Size A B	Lbs. Per Plate
3/16	7.66	48 x 96	245.03
		48 x 120	306.29
		48 x 144	367.68
		60 x 96	306.40
		60 x 120	382.86
		60 x 144	459.60
		60 x 240	765.72
		72 x 120	459.60
		72 x 144	551.32
		72 x 240	918.86
1/4	10.21	96 x 240	1,225.15
		48 x 96	326.71
		48 x 120	408.38
		48 x 144	490.06
		48 x 240	816.79
		60 x 96	408.40
		60 x 120	510.48
		60 x 144	612.60
		60 x 240	1,020.96
		72 x 120	612.60
		72 x 144	735.09
		72 x 240	1,225.15
		60 x 96	408.38
		96 x 240	1,633.54
5/16	12.76	48 x 96	408.32
		48 x 120	510.40
		48 x 144	612.48
		60 x 96	510.40
		60 x 120	638.00
		60 x 144	918.60
		72 x 120	765.60
		72 x 240	1,531.44
		96 x 240	2,041.92
3/8	15.31	48 x 96	490.06
		48 x 120	612.58
		48 x 144	734.88
		60 x 96	612.40
		60 x 120	765.72
		60 x 144	918.60
		60 x 240	1,531.44
		72 x 120	918.60

PLATE & SHEET

Hot Rolled Carbon Steel Plate (con't)

Thickness	Lbs. Per Sq. Ft.	Size A B	Lbs. Per Plate
1/2	20.42	72 x 144	1,102.64
		72 x 240	1,837.73
		96 x 240	2,450.30
		48 x 96	653.41
		48 x 120	816.77
		48 x 144	980.16
		60 x 96	816.80
5/8	25.53	60 x 120	1,020.96
		60 x 144	1,225.20
		60 x 240	2,041.92
		72 x 240	2,450.30
		96 x 240	3,267.07
		48 x 96	816.77
		48 x 240	2,042.40
3/4	30.63	60x 120	1,276.50
		72 x 288	3,675.46
		96 x 240	4,083.84
		96 x 288	4,900.61
		48 x 96	980.12
		48 x 120	1,225.20
		60 x 240	3,062.88
7/8	35.74	72 x 240	3,675.46
		96 x 240	4,900.61
		96 x 240	4,900.61
		96 x 240	5,718.40
		48 x 96	1,306.83
		60 x 240	4,084.00
		72 x 240	4,900.61
1	40.84	96 x 240	6,534.14
		72 x 240	5,514.00
		96 x 240	7,350.91
		48 x 96	1,633.54
		60 x 240	5,105.00
		96 x 240	8,167.68
		96 x 240	18,985.60
1 1/8	45.95	48 x 96	1,960.24
		60 x 240	6,126.00
		72 x 240	7,351.20
		96 x 240	9,801.22
		96 x 240	10,617.98
		96 x 240	11,435.20
		96 x 240	11,435.20
1 3/8	56.16	48 x 96	2,613.66
		72 x 240	9,801.60
		96 x 120	6,534.40
		96 x 240	13,068.29
		96 x 288	15,681.95
		96 x 240	14,702.40
		96 x 240	14,702.40
1 1/2	61.26	72 x 240	12,252.00
		96 x 120	8,168.00
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
1 5/8	66.37	96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
1 3/4	71.47	96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
2	81.68	96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
2 1/4	91.89	96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
2 1/2	102.10	96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40
		96 x 240	14,702.40

PLATE & SHEET

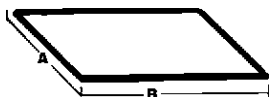
Hot Rolled Carbon Steel Plate (con't)

Thickness	Lbs. Per Sq. Ft.	Size		Lbs. Per Plate
		A	B	
2 3/4	112.31	96 x 240		17,969.60
3	122.52	96 x 120		9,801.22
		96 x 240		19,603.20
3 1/2	142.94	96 x 240		22,870.40
4	163.36	96 x 240		26,137.60
4 1/2	183.78	96 x 240		29,404.80
5	204.20	96 x 240		32,672.00
6	245.04	96 x 240		39,206.40

PLATE & SHEET

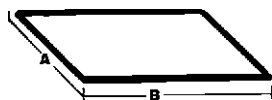
Cold Rolled Sheet

ASTM A 1008
Commercial Quality, Oiled



Gauge	Thickness Decimal	Size A B	Lbs. Per Sq. Ft.	Est. Lbs. Per Sheet
10 GA	.1345	48 x 96	5.625	180.0
		48 x 120		225.0
		48 x 144		270.0
11 GA	.1196	60 x 120	5.00	281.3
		60 x 144		337.5
		48 x 96		160.0
12 GA	.1046	48 x 120	4.375	200.0
		48 x 144		240.0
		60 x 120		250.0
13 GA	.0897	60 x 144	3.750	300.0
		48 x 96		140.0
		48 x 120		175.0
14 GA	.0747	48 x 144	3.125	210.0
		60 x 120		218.8
		60 x 144		262.5
16 GA	.0598	48 x 96	2.500	120.0
		48 x 120		150.0
		48 x 144		180.0
18 GA	.0478	60 x 120	2.000	187.5
		60 x 144		225.0
		48 x 96		100.0
20 GA	.0359	48 x 120	1.500	125.0
		48 x 144		150.0
		60 x 120		156.3
22 GA	.0299	60 x 144	1.250	187.5
		48 x 96		80.0
		48 x 120		100.0
		48 x 144		120.0
		60 x 120		125.0
		60 x 144		150.0
		48 x 96		64.0
		48 x 120		80.0
		48 x 144		96.0
		60 x 120		100.0
		60 x 144		120.0
		48 x 96		48.0
		48 x 120		60.0
		48 x 144		72.0
		60 x 120		75.0
		60 x 144		90.0
		48 x 96		40.0
		48 x 120		50.0
		48 x 144		60.0
		60 x 120		62.5
		60 x 144		75.0

PLATE & SHEET



Pressure Vessel Plate

ASTM A516 Grade 70

Mechanical Properties

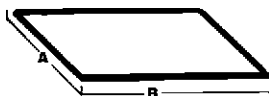
Tensile Strength, ksi	70-85
Yield point, ksi	38
Elongation in 8"	17
Elongation in 2"	21

Chemical requirements

Carbon .27-.31 (max varies with thickness)
Manganese .85-1.20
Phosphorus .035
Sulphur .04
Silicon .15-.30

Thickness	Lbs. Per Sq. Ft.	Size		Lbs. Per Plate
		A	B	
1	40.84	96 x 240		6,534.4
1 1/2	61.26	96 x 240		9,801.6
2	81.68	96 x 240		13,068.8
2 1/4	91.89	96 x 240		14,702.4
2 1/2	102.10	96 x 240		16,336.0

Steel Plate, High Strength, Low Alloy ASTM A572 Grade 50



General purpose high strength low alloy steel designed to offer optimum combinations of strength, weldability, and notch toughness, at economical cost. Used in construction of bridges, buildings, automobiles, truck parts, railroad cars, cargo containers, construction equipment, line pipe and structural tubing, lighting standards and transmission poles.

Mechanical Properties

Tensile Strength, ksi	65
Yield Point, ksi	50

Chemical requirements

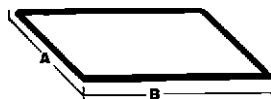
Carbon .23 max., Manganese 1.35 max, Phosphorus .04
Sulphur .05, Silicon .04 to 1 1/2, over 1 1/2 0.15/0.40

Thickness	Lbs. Per Sq. Ft.	Size		Lbs. Per Plate
		A	B	
3/8	15.32	96 x 240		2,452.20
1/2	20.42	96 x 240		3,267.07
5/8	25.53	96 x 240		4,084.80
3/4	30.63	96 x 240		4,900.80
1	40.84	96 x 240		6,534.40
1 1/4	51.05	96 x 240		8,168.00
1 1/2	61.26	96 x 240		9,801.60
1 3/4	71.47	96 x 240		11,435.20
2	81.68	96 x 240		13,068.80
2 1/4	91.89	96 x 240		14,702.40
2 1/2	102.10	96 x 240		16,336.00
2 3/4	112.30	96 x 240		17,968.00
3	122.50	96 x 240		19,600.00

PLATE & SHEET

Abrasion Resisting Plate

AR-MED



A hot rolled plate with higher carbon content, this plate is hard and tough with excellent abrasion resistance. It can be machined, drilled, punched and formed within limits.

Applications include conveyors, mixers, dirt and stone moving equipment, dump truck bodies, bucket lips, liner plates, and coal and rock screens.

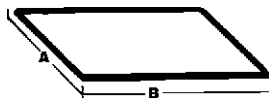
Mechanical Properties

Brinell Hardness 235/160Typical

Thickness	Lbs. Per Sq. Ft.	Size A B	Lbs. Per Plate
3/16	7.66	72 x 240	919.20
1/4	10.21	96 x 240	1,633.60
3/8	15.32	96 x 240	2,451.20
1/2	20.42	96 x 240	3,267.20
3/4	30.63	96 x 240	4,900.80
1	40.84	96 x 240	6,534.40

Abrasion Resisting Plate

AR 400F



This plate exhibits an excellent combination of hardness, abrasion resistance, formability, weldability, toughness and flatness. They are available in thicknesses from 3/16 to 2 inches. AR-400 F steels are used in the original fabrication, repair and modification of heavy equipment in such applications as truck body liners, chutes, bucket lips, hopper and crusher liners. This plate is designed for through-thickness hardness while maintaining minimum carbon, alloy and carbon equivalent contents to improve weldability. The sulfur content is reduced to a maximum of 0.005% and the steels are calcium treated for inclusion shape control. These factors enhance the cold forming characteristics of the steels.

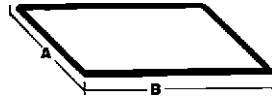
Thickness	Lbs. Per Sq. Ft.	Size A B	Lbs. Per Plate
3/16	7.66	96 x 288	1,470.72
1/4	10.21	96 x 288	1,960.32
3/8	15.32	96 x 288	2,941.44
1/2	20.42	96 x 288	3,920.64
5/8	25.53	96 x 288	4,901.76
1	40.84	96 x 288	7,841.28
1 1/2	61.26	96 x 288	11,761.92
2	81.68	96 x 288	15,682.56
3	122.52	96 x 288	23,523.84

PLATE & SHEET

Abrasion Resistant Plate

AR400/AR500

Heat Treated, Quenched & Tempered



Thickness	Lbs. Per Sq. Ft.	Size A B	Lbs. Per Plate
1/4	10.21	48 x 96	326.71
		96 x 288	1,960.32
3/8	15.32	48 x 96	490.06
		96 x 288	2,941.44
1/2	20.42	48 x 96	653.41
		96 x 288	3,920.64
5/8	25.53	96 x 288	4,901.76
3/4	30.63	96 x 288	5,880.73
1	40.84	96 x 288	7,840.97
1 1/4	51.05	96 x 288	9,801.22
1 1/2	61.26	96 x 288	11,761.46

Abrasion Resisting Cladded Wear Plate

CR-600

Base Plate: ASTM A 36 steel plate

Cladding: Austenitic Steel with a High Chromium Carbide concentration

Hardness: Brinell - 600+

Plate Thickness	Clad Thk	Lbs. Per Sq. Ft.	Size A B	Lbs. Per Plate
1/4	1/4	21.5	48 x 96	688.0
			60 x 120	1,075.0
3/8	3/8	15.32	48 x 96	1030.4
			60x120	1610.0

Processing:

Plasma arc or waterjet cutting required

Can be supplied cut-to-size, formed, rolled, and welded per your drawings

End Uses:

Chutes

Sizing Screens

Impact & Diverter Plates

Troughs

Augers & Screw Conveyors

Hoppers & Bins

Buckets & Liners

Truck Bodies

Bulldozer Blades

Wear Blades

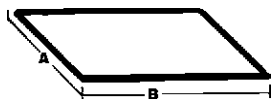
Drag Plates

Fans & Fan Housings

Discharge Chutes

Digesters

PLATE & SHEET



Constructional

Alloy Steel Plate

ASTM A514

ASTM A514 structural quality plates are for general structural applications where its great strength in combination with other desirable properties permits substantial weight reduction, longer service life and greater economy in applications such as heavy construction, earthmoving and mining equipment, truck and hopper body liners, chutes and wear plates.

Mechanical Properties

	Tensile Strength (PSI)	Yield Strength (PSI)	Elongation in 2"	Brinell Hardness
3/16" Through 2 1/2" Incl.	110/130,000	100,000 Min.	18%	235/293
Over	110/130,000	90,000 Min. 2 1/2" to 6" Incl.	16%	229/293

Thickness	Lbs. Per Sq. Ft.	Size A B	Lbs. Per Plate
3/16	7.66	96 x 240	1,225.60
1/4	10.21	96 x 240	1,633.60
3/8	15.32	96 x 240	2,451.20
1/2	20.42	96 x 240	3,267.20
5/8	25.53	96 x 240	4,084.80
3/4	30.63	96 x 240	4,900.80
1	40.84	96 x 240	6,534.40
1 1/4	51.05	96 x 240	8,168.00
1 1/2	61.26	96 x 240	9,801.60
2	81.68	96 x 240	13,068.80
2 1/4	91.89	96 x 240	14,702.40
2 1/2	102.10	96 x 240	16,336.00
3	122.52	96 x 240	19,603.20
3 1/4	132.73	96 x 240	21,236.80
3 1/2	142.94	96 x 240	22,870.40
4	163.36	96 x 240	26,137.60

PLATE & SHEET



Hot Rolled Carbon Steel Floor Plate

Raised Pattern

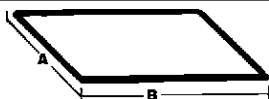
Thickness	Lbs. Per Sq. Ft.	Size	Lbs. Per Plate
14 Ga	3.75	48 x 96	120.00
		48 x 120	150.00
1/8	6.16	48 x 96	196.80
		48 x 120	246.00
		60 x 120	307.50
		72 x 120	369.00
3/16	8.71	48 x 96	278.72
		48 x 120	348.40
		48 x 240	696.80
		60 x 120	435.50
		60 x 240	871.00
		72 x 240	1,045.20
1/4	11.26	96 x 240	1,393.60
		48 x 96	360.32
		48 x 120	450.40
		48 x 240	900.80
		60 x 120	563.00
		60 x 240	1,126.00
3/8	16.37	72 x 240	1,351.20
		96 x 240	1,801.60
		48 x 96	523.84
		48 x 120	654.80
		60 x 120	818.50
		60 x 240	1,637.00
1/2	21.47	72 x 240	1,964.40
		96 x 240	2,619.20
		48 x 96	687.04
		48 x 120	858.80
		60 x 120	1,073.50
		96 x 240	3,435.20

Note: Thickness refers to body of plate, not including raised pattern.

PLATE & SHEET

Hot Rolled Sheet

ASTM A1011 CS, Commercial Quality



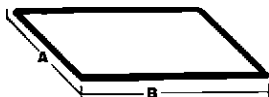
Gauge	Thickness		Size		Lbs. Per Sq. Ft.	Lbs. Per Sheet
		Decimal	A	B		
7 GA		.1793	48 x 96		7.50	240.0
			48 x 120			300.0
			48 x 144			360.0
			60 x 96			300.0
			60 x 120			375.0
			60 x 144			450.0
			72 x 120			450.0
			48 x 96			180.0
			48 x 120			225.0
			48 x 144			270.0
10 GA		.1345	60 x 96		5.625	225.0
			60 x 120			281.3
			60 x 144			337.5
			72 x 120			337.5
			72 x 144			405.0
11 GA		.1196	48 x 96		5.000	160.0
			48 x 120			200.0
			48 x 144			240.0
			60 x 96			200.0
			60 x 120			250.0
			60 x 144			300.0
			72 x 120			300.0
			72 x 144			360.0
			48 x 96			140.0
			48 x 120			175.0
12 GA		.1046	48 x 144		4.375	210.0
			60 x 96			175.0
			60 x 120			218.8
			60 x 144			262.5
			72 x 120			262.5
			72 x 144			315.0
			48 x 96			120.0
			48 x 120			150.0
			48 x 144			180.0
			60 x 96			150.0
13GA		.0897	60 x 120		3.75	187.5
			60 x 144			225.0
			72 x 120			225.0
			72 x 144			270.0
			48 x 96			100.0
14 GA		.0747	48 x 120		3.125	125.0
			48 x 144			150.0
			60 x 96			125.0
			60 x 120			156.3
			60 x 144			187.5
			72 x 120			187.5
			72 x 144			225.0

MOST OF THE ABOVE GAUGES AND SIZES ARE ALSO AVAILABLE IN PICKLE AND OILED IN 5,000# QUANTITIES. IDEA MATERIAL FOR LASERS.

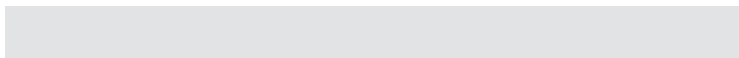
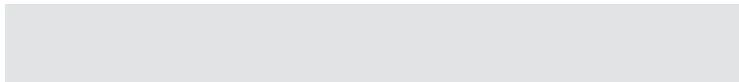
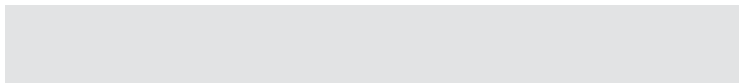
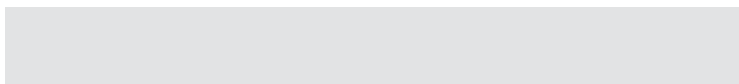
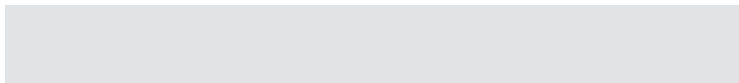
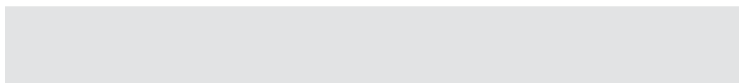
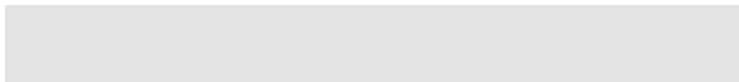
PLATE & SHEET

Hot Rolled Sheet

ASTM A1011 CS, Commercial Quality



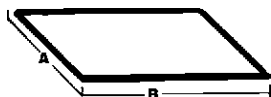
Gauge	Thickness		Size		Lbs. Per Sq. Ft.	Lbs. Per Sheet
	Decimal		A	B		
16 GA	.0598		48 x 96		2.500	80.0
			48 x 120			100.0
			48 x 144			120.0
			60 x 96			100.0
			60 x 120			125.0
			60 x 144			150.0



MOST OF THE ABOVE GAUGES AND SIZES ARE ALSO AVAILABLE IN PICKLE
AND OILED IN 5,000# QUANTITIES. IDEA MATERIAL FOR LASERS.

PLATE & SHEET

Galvanized Sheet



ASTM A526 (14 ga. and heavier,
Commercial Quality)

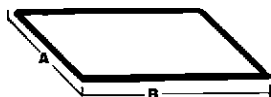
ASTM A527 (16 ga. and lighter,
Lock-forming Quality)

Est. Lbs include the weight
of the Zinc

ASTM A653 Type B 090

Gauge	Size		Lbs. Per Sq. Ft.	Lbs. Per Sheet
A	B			
10 GA	48 x	96	5.781	185.0
	48 x	120		231.2
	48 x	144		277.5
	60 x	96		231.2
	60 x	120		289.0
	60 x	144		346.9
11 GA	48 x	96	5.250	168.0
	48 x	120		210.0
	48 x	144		252.0
	60 x	96		210.0
	60 x	120		262.5
	60 x	144		315.0
12 GA	48 x	96	4.531	145.0
	48 x	120		181.2
	48 x	144		217.5
	60 x	96		181.2
	60 x	120		225.0
	60 x	144		271.9
14 GA	48 x	96	3.281	105.0
	48 x	120		131.2
	48 x	144		157.5
	60 x	96		131.2
	60 x	120		164.1
	60 x	144		196.9
16 GA	48 x	96	2.656	85.0
	48 x	120		106.2
	48 x	144		127.5
	60 x	96		106.2
	60 x	120		132.8
	60 x	144		159.4
18 GA	48 x	96	2.156	69.0
	48 x	120		86.2
	48 x	144		103.5
	60 x	96		86.2
	60 x	120		107.8
	60 x	144		129.4
20 GA	48 x	96	1.656	53.0
	48 x	120		66.2
	48 x	144		79.5
	60 x	96		66.2
	60 x	120		82.8
	60 x	144		99.4

PLATE & SHEET



Galvanized Sheet

ASTM A526 (14 ga. and heavier,
Commercial Quality)

ASTM A527 (16 ga. and lighter,
Lock-forming Quality)

Est. Lbs include the weight
of the Zinc

ASTM A653 Type B 090

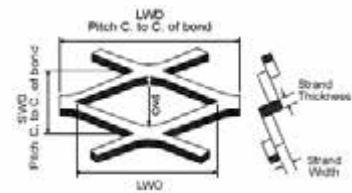
Gauge	Size		Lbs. Per Sq. Ft.	Lbs. Per Sheet
A	B			
22 GA	48 x	96	1.406	45.0
	48 x	120		56.2
	48 x	144		67.5
	60 x	96	56.2	56.2
	60 x	120		70.3
	60 x	144		84.4
24 GA	48 x	96	1.156	37.0
	48 x	120		46.2
	48 x	144		55.5
	60 x	96	46.2	46.2
	60 x	120		57.8
	60 x	144		69.4
26 GA	48 x	96	.906	29.0
	48 x	120		36.2
	48 x	144		43.5
	60 x	96	36.2	36.2
	60 x	120		45.3
	60 x	144		54.4

Galvanized sheets are continuously hot-dipped with a protective coating of zinc. Coating is G90 (1.25 oz per square foot).

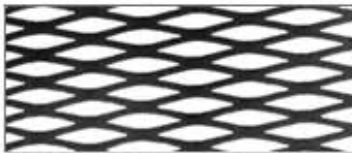
Galvanized sheets can be formed, rolled or otherwise fabricated at room temperature without disrupting their protective qualities.

Applications include heating and ventilation ducts, roof flashing, electrical boxes, and many general maintenance applications.

REGULAR EXPANDED METAL is a finished product as it comes from the press after having been die cut and expanded. The illustration shows that the strands and bonds angle to the original plane of the solid sheet.



1/4" #20 Regular



1/2" #16 Regular



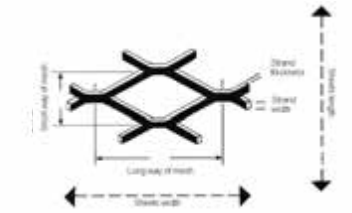
3/4" #9 Regular



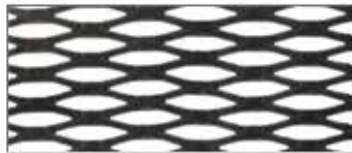
1 1/2" #9 Regular



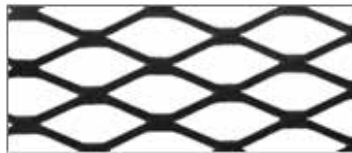
FLATTENED EXPANDED METAL is a regular expanded metal which has been cold rolled, leaving a flat, smooth surface. The length of the sheet is elongated, usually by 5% while the width stays the same.



1/4" #20 Flattened



1/2" #16 Flattened



3/4" #9 Flattened



1 1/2" #9 Flattened



SECTION 2

Expanded Metal & Grating

SECTION 2: Expanding Metal & Grating.....	27
Expanded Metal.....	29
Flattened Expanded Metal.....	29
Expanded Metal Grating.....	30
Stainless Steel Expanded Metal.....	31
Galvanized or Painted Bar Grating.....	31
Fiberglass Bar Grating.....	32
Safety Grating.....	33

[illegible]

EXPANDED METAL & GRATING

Expanded Metal

Carbon Steel
Standard (Raised)



Size Designation*	Sheet Size	Est. Lbs. Per Sq. Ft.	Approx. Size of Opening in Inches
1/4 x #18	48 x 96	1.14	.145 x .718
1/2 x #16	48 x 96	.86	.375 x .938
x #13	48 x 96	1.47	.312 x .938
3/4 x #16	48 x 96	.54	.813 x 1.750
x #13	48 x 96	.80	.750 x 1.688
	48 x 120		
	60 x 120		
x #9	48 x 96	1.80	.688 x 1.562
	48 x 120		
	60 x 120		
	72 x 120		
1 1/2 x #13	48 x 96	.60	1.188 x 2.500
	60 x 120		
x #9	48 x 96	1.20	1.125 x 2.375
x #6	48 x 96	2.50	1.000 x 2.313

NOTE: Stock sizes only shown above. Other sizes available from factory stock.

*The first number represents the nominal width of diamond in inches measured from center to center of bonds, and the second number represents the approximate gage of sheet or plate before expanding.

Flattened Expanded Metal



Size Designation*	Sheet Size	Est. Lbs. Per Sq. Ft.	Approx. Size of Opening in Inches
1/4 x #18	48 x 96	1.08	.118 x .715
1/2 x #16	48 x 96	.82	.312 x 1.000
x #13	48 x 96	1.40	.265 x 1.000
3/4 x #16	48 x 96	.51	.750 x 1.750
x #13	48 x 96	.75	.688 x 1.781
	48 x 120		
x #9	48 x 96	1.71	.563 x 1.688
	48 x 120		
	60 x 120		
	72 x 144		
1 1/2 x #13	48 x 96	.57	1.062 x 2.750
x #9	48 x 96	1.14	1.000 x 2.563

NOTE: Stock sizes only shown above. Other sizes available from factory stock.

*The first number represents the nominal width of diamond in inches measured from center to center of bonds, and the second number represents the approximate gage of sheet or plate before expanding.

Expanded Metal Grating



Carbon Steel — Regular

Style	Weight In Lbs. Per c.s.f.		Standard Sizes in Ft.	Size of Openings In Inches		Center to Center of Bond In Inches	Width-Thickness		Percent Open Area	Overall Thickness In Inches
	Plain	Galv		Width-Length	Width-Thickness		Width-Length	Width-Thickness		
3 lb.	300	320	4-6	8-10	.938 3.438	1.333 5.33	.261	.183	73	.500
3.14 lb.	314	334	4-6	8-10	1.625 4.875	2.000 6.00	.308	.250	74	.562
4 lb.	400	430	4-5-6	8-10	.938 3.438	1.333 5.33	.297	.215	65	.625
4.27 lb.	427	457	4-6	8-10	1.000 2.875	1.412 4.00	.297	.250	58	.625
5 lb.	500	550	4-5-6	8-10	.813 3.375	1.333 5.33	.327	.250	52	.625
6.25 lb.	625	685	4-6	8	.813 3.375	1.412 5.33	.347	.312	55	.750
7 lb.	700	750	4-6	8	.813 3.375	1.412 5.33	.338	.312	60	.750

Carbon Steel — Long Length SWD

3 lb.	300	320	10	2-21/2-3	.938 3.438	1.333 5.33	.261	.183	73	.500
3.14 lb.	314	334	10	2-21/2-3	1.625 4.875	2.000 6.00	.308	.250	74	.562
4 lb.	400	430	10	2-21/2-3	.938 3.438	1.330 5.33	.297	.215	65	.625
4.27 lb.	427	457	10	2-21/2-3	1.000 2.875	1.412 4.00	.297	.250	58	.625
5 lb.	500	550	10	2-21/2-3	.813 3.375	1.333 5.33	.327	.250	52	.625

EXPANDED METAL & GRATING



Stainless Steel Expanded Metal

T304 Flattened

Size Designation	Sheet Size	Est. Lbs. Per Sq. Ft.	Approx. Size of Opening In Inches
1/2 x #18	48 x 96	0.69	.313 x 1.000
x #16	48 x 96	0.86	.313 x 1.000
x #13	48 x 96	1.78	.250 x 1.000
3/4 x #13	48 x 96	0.87	.625 x 1.750
x #9	48 x 96	1.95	.563 x 1.688



Galvanized or Painted Black Welded Steel Bar Grating Plain or Serrated

13 1/4" x 4" Center to Center

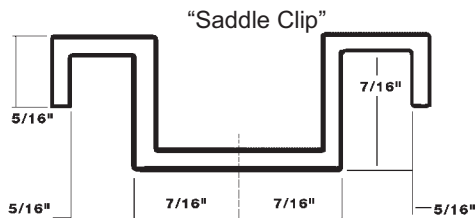
1/8" or 3/16" Bearing Bars

Possible Stock Lengths 20 Ft. and 24 Ft.

Bearing Bar Size	Width in Ft.	Lbs. Per Sq. Ft.
1 x 1/8	2 & 3	5.1
x 3/16	2 & 3	7.3
1 1/4 x 3/16	2 & 3	8.9
1 1/2 x 1/8	2 & 3	7.3
x 3/16	2 & 3	10.6

NOTE: Stocked sizes shown above. Other sizes and grating cut to your drawing are available.

Fastener, Bar Grating



Heavy-duty steel Hold-Down Clip. Use with 3/8" square shank carriage bolts, nuts and washers obtained locally.

EXPANDED METAL & GRATING

Fiberglass Bar Grating

Molded, Yellow or Gray fire Retardant
Square openings
Grit surface for maximum slip resistance



<u>Bearing bar size</u>	<u>Panel Size in Inches</u>	<u>Lbs. per Panel</u>
1-1/2 x 5/16	48 x 144	252.0

Many other sizes are available by special order.

Safety Grating (Weights are Approx., Per Lineal Foot)



Type	Channel Height	2 Diamond 4 3/4" Wide Weight Per LF	3 Diamond 7" Wide Weight Per LF	4 Diamond 9 1/2" Wide Weight Per LF	5 Diamond 11 3/4" Wide Weight Per LF	8 Diamond 18 3/4" Wide Weight Per LF
14 Gauge Galvanized Steel	1 1/2"	2.3	3.0	3.6	4.2	6.1
	2"	2.6	3.2	3.8	4.4	6.3
	2 1/2"	2.8	3.5	4.1	4.7	6.6
12 Gauge Galvanized Steel	1 1/2"	3.2	4.1	5.0	5.9	8.5
	2"	3.6	4.5	5.4	6.2	8.9
	2 1/2"	4.0	4.9	5.7	6.6	9.2
.080" Aluminum	2"	.92	1.2	1.37	1.6	2.2
16 Gauge Stainless Steel	2" Type 304			42016-S	52016-S	3.7
	Type 316 L			42016-SL	52016-SL	3.7

Safety Grating (Weights are Approx., Per Lineal Foot)

Type	Channel Heights	10 Diamond, 24" Wide Weight Per LF
Galvanized Steel		
14 Gauge Regular	2"	7.4
14 Gauge Walkway	4 1/2"	8.9
12 Gauge Regular	2"	10.4
12 Gauge Walkway	4 1/2"	12.5

NOTES: 1. Standard lengths are 12', tolerance: -0", +1/2". 2. Safety Grating products are also available in black steel or with a non-serrated surface.



SECTION 3

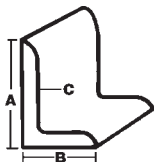
Structurals & Bar Shapes

SECTION 3: Structurals & Bar Shapes.....	35
Angles, Bar Size.....	37
Angles, Structural.....	38-39
Beams, American Standard.....	40
Beams, Wide Flange.....	40-42
Channels Bar.....	42
Channels Misc.....	42-43
Channels Structural.....	43
Tee Bar.....	44

[illegible]

STRUCTURAL & BAR SHAPES

When the greatest dimension of a steel shape is less than 3", it is classified a "Bar Shape". When at least one dimension is 3" or greater, it is classified a "Structural Shape".

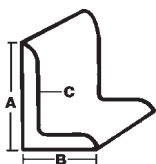


Bar Angles

ASTM A36
Stock Lengths
20 Ft. and 40 Ft.

Size in Inches			Lbs. Per Ft.	Lbs. Per 20'
A	B	C		
1/2	x 1/2	x 1/8	.38	7.60
3/4	x 3/4	x 1/8	.59	11.80
1	x 1	x 1/8	.80	16.00
1 1/4	x 1 1/4	x 3/16	1.16	23.20
		x 1/4	1.49	29.80
		x 1/8	1.01	20.20
1 1/2	x 1 1/2	x 3/16	1.48	29.60
		x 1/4	1.92	38.40
		x 1/8	1.23	24.60
1 3/4	x 1 3/4	x 3/16	1.80	36.00
		x 1/4	2.34	46.80
		x 3/16	2.12	42.40
2	x 1 1/2	x 1/4	2.77	55.40
		x 1/8	1.44	28.80
		x 3/16	2.12	42.40
2	x 2	x 1/4	2.77	55.40
		x 1/8	1.65	33.00
		x 3/16	2.44	48.80
		x 1/4	3.19	63.80
		x 5/16	3.92	78.40
		x 3/8	4.70	94.00
2 1/2	x 2	x 3/16	2.75	55.00
2 1/2	x 2 1/2	x 1/4	3.62	72.40
		x 3/16	3.07	61.40
		x 1/4	4.10	82.00
		x 5/16	5.00	100.00
		x 3/8	5.90	118.00
		x 1/2	7.70	154.00

STRUCTURAL & BAR SHAPES



Structural Angles

ASTM A36
Stock Lengths
20 Ft. and 40 Ft.

Size in Inches			Lbs. Per Ft.	Lbs. Per 40'
A	B	C		
3	x 2	x 3/16	3.1	124.0
		x 1/4	4.1	164.0
		x 5/16	5.0	200.0
3	x 2 1/2	x 3/8	5.9	236.0
		x 1/2	7.7	308.0
		x 1/4	4.5	180.0
3	x 3	x 5/16	5.6	224.0
		x 3/8	6.6	264.0
		x 3/16	3.71	148.4
3 1/2	x 2 1/2	x 1/4	4.9	196.0
		x 5/16	6.1	244.0
		x 3/8	7.2	288.0
3 1/2	x 3	x 1/2	9.4	376.0
		x 1/4	4.9	196.0
		x 5/16	6.1	244.0
3 1/2	x 3 1/2	x 3/8	7.2	288.0
		x 1/2	9.4	376.0
		x 1/4	5.4	216.0
4	x 3	x 5/16	6.6	264.0
		x 3/8	7.9	316.0
		x 1/2	10.2	408.0
4	x 3 1/2	x 1/4	5.8	232.0
		x 5/16	7.2	288.0
		x 3/8	8.5	340.0
4	x 4	x 1/2	11.1	444.0
		x 1/4	5.8	232.0
		x 5/16	7.2	288.0
4	x 3	x 3/8	8.5	340.0
		x 1/2	11.1	444.0
		x 1/4	6.2	248.0
5	x 3	x 5/16	7.7	308.0
		x 3/8	9.1	364.0
		x 1/2	11.9	476.0
5	x 4	x 1/4	6.6	264.0
		x 5/16	8.2	328.0
		x 3/8	9.8	392.0
5	x 3	x 1/2	12.8	512.0
		x 5/8	15.7	628.0
		x 3/4	18.5	740.0
5	x 3	x 1/4	6.6	264.0
		x 5/16	8.2	328.0
		x 3/8	9.8	392.0
5	x 4	x 1/2	12.8	512.0

STRUCTURAL & BAR SHAPES

Structural Angles (con't)

Size in Inches			Lbs.	Lbs.
A	B	C	Per Ft.	Per 40'
5	x 3 1/2	x 1/4	7.0	280.0
		x 5/16	8.7	348.0
		x 3/8	10.4	416.0
		x 1/2	13.6	544.0
		x 5/8	16.8	672.0
		x 3/4	19.8	792.0
5	x 5	x 5/16	10.3	412.0
		x 3/8	12.3	492.0
		x 1/2	16.2	648.0
		x 5/8	20.0	800.0
		x 3/4	23.6	944.0
		x 5/16	9.8	392.0
6	x 3 1/2	x 3/8	11.7	468.0
		x 1/2	15.3	612.0
		x 5/16	10.3	412.0
		x 3/8	12.3	492.0
		x 1/2	16.2	648.0
		x 5/8	20.0	800.0
6	x 4	x 3/4	23.6	944.0
		x 3/8	14.9	596.0
		x 1/2	19.6	784.0
		x 5/8	24.2	968.0
		x 3/4	28.7	1,148.0
		x 7/8	33.1	1,324.0
6	x 6	x 1	37.4	1,496.0
		x 3/8	13.6	544.0
		x 1/2	17.9	716.0
		x 5/8	22.1	884.0
		x 3/4	26.2	1,048.0
		x 1/2	19.6	784.0
7	x 4	x 3/4	28.7	1,148.0
		x 1/2	23.0	920.0
		x 3/4	33.8	1,352.0
		x 1	44.2	1,768.0
		x 1/2	26.4	1,056.0
		x 5/8	32.7	1,308.0
8	x 4	x 3/4	38.9	1,556.0
		x 7/8	45.0	1,800.0
		x 1	51.0	2,040.0
		x 3/4	38.9	1,556.0
		x 7/8	45.0	1,800.0
		x 1	51.0	2,040.0

STRUCTURAL & BAR SHAPES

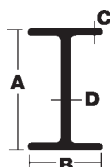


American Standard Beams

ASTM A36

Stock Lengths 20 Ft. and 40 Ft.

Size A		Lbs. Per Ft.	Depth B	Web Thickness D
3	x	5.7	2.330	.170
	x	7.5	2.509	.349
4	x	7.7	2.663	.193
	x	9.5	2.796	.326
5	x	10.0	3.004	.214
6	x	12.5	3.332	.232
	x	17.25	3.565	.465
7	x	15.3	3.662	.252
8	x	18.4	4.001	.271
	x	23.0	4.171	.441
10	x	25.4	4.661	.311
10	x	35.0	4.944	.594
12	x	31.8	5.000	.350
	x	40.8	5.252	.462



Wide Flange Beams

ASTM A992, A572 GR 50, A36

Stock Lengths 20 Ft.,

40 Ft., 45 Ft., 50 Ft. and 60 Ft.

Thickness		Lbs.	Depth	Flange Width	Flange Thickness	Web
Size		Per Ft.	A	B	C	D
4	x	13	4.16	4.060	.345	.280
5	x	16	5.01	5.000	.360	.240
	x	19	5.15	5.030	.430	.270
6	x	9	5.90	3.940	.215	.170
	x	12	6.03	4.000	.280	.230
	x	15	5.99	5.990	.260	.230
	x	16	6.28	4.030	.405	.260
	x	20	6.20	6.020	.365	.260
	x	25	6.38	6.080	.455	.320
8	x	10	7.89	3.940	.205	.170
	x	13	7.99	4.000	.255	.230
	x	15	8.11	4.015	.315	.245
	x	18	8.14	5.250	.330	.230
	x	21	8.28	5.270	.400	.250
	x	24	7.93	6.495	.400	.245
	x	28	8.06	6.535	.465	.285
	x	31	8.00	7.995	.435	.285
	x	35	8.12	8.020	.495	.310

STRUCTURAL & BAR SHAPES

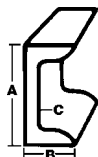
Wide Flange Beams (con't)

Size		Lbs. Per Ft.	Depth A	Flange Width B	Flange Thickness C	Web Thickness D
8	x	40	8.25	8.070	.560	.360
	x	48	8.50	8.110	.685	.400
10	x	12	9.87	3.960	.210	.190
	x	15	9.99	4.000	.270	.230
	x	17	10.11	4.010	.330	.240
	x	19	10.24	4.020	.395	.250
	x	22	10.17	5.750	.360	.240
	x	26	10.33	5.770	.440	.260
	x	30	10.47	5.810	.510	.300
	x	33	9.73	7.960	.435	.290
	x	39	9.92	7.985	.530	.315
	x	45	10.10	8.020	.620	.350
	x	49	9.98	10.000	.560	.340
	x	54	10.09	10.030	.615	.370
12	x	14	11.91	3.970	.225	.200
	x	16	11.99	3.990	.265	.220
	x	19	12.16	4.005	.350	.235
	x	22	12.31	4.030	.425	.260
	x	26	12.22	6.490	.380	.230
	x	30	12.34	6.520	.440	.260
	x	35	12.50	6.560	.520	.300
	x	40	11.94	8.005	.515	.295
	x	45	12.06	8.045	.575	.335
	x	50	12.19	8.080	.640	.370
	x	53	12.06	9.995	.575	.345
	x	58	12.19	10.010	.640	.360
	x	65	12.12	12.000	.605	.390
14	x	22	13.74	5.000	.335	.230
	x	26	13.91	5.025	.420	.255
	x	30	13.84	6.730	.385	.270
	x	34	13.98	6.745	.455	.285
	x	38	14.10	6.770	.515	.310
	x	43	13.66	7.995	.530	.305
	x	48	13.79	8.030	.595	.340
	x	53	13.92	8.060	.660	.370
16	x	26	15.69	5.500	.345	.250
	x	31	15.88	5.525	.440	.275
	x	36	15.86	6.985	.430	.295
	x	40	16.01	6.995	.505	.305
	x	45	16.13	7.035	.565	.345
	x	50	16.26	7.070	.630	.380
	x	57	16.43	7.120	.715	.430
18	x	35	17.70	6.000	.425	.300
	x	40	17.90	6.015	.525	.315
	x	46	18.06	6.060	.605	.360
	x	50	17.99	7.495	.570	.355

STRUCTURAL & BAR SHAPES

Wide Flange Beams (con't)

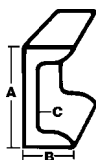
Thickness Size		Lbs. Per Ft.	Depth A	Flange Width B	Flange Thickness C	Web D
18	x	60	18.24	7.555	.695	.415
21	x	44	20.66	6.500	.450	.350
	x	50	20.83	6.530	.535	.380
	x	62	20.99	8.240	.615	.400
24	x	55	23.57	7.005	.505	.395
	x	60	23.73	8.965	.585	.415
	x	84	24.10	9.020	.770	.470



Bar Channels

ASTM A36
Stock Lengths 20 Ft.

Size in Inches			Lbs. Per Ft.	Lbs. Per 20'
A	B	C		
1	x 1/2	x 1/8	.84	16.80
1 1/4	x 1/2	x 1/8	1.01	20.20
1 1/2	x 1/2	x 1/8	1.12	22.40
2	x 1/2	x 1/8	1.43	28.60
2	x 5/8	x 1/4	2.28	45.60
	x 1	x 1/8	1.59	31.80
	x 1	x 3/16	2.32	46.40



Miscellaneous Channels

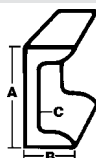
ASTM A36
Stock Lengths 20 Ft.

Size A	Lbs. Per Ft.	Web Thickness C	Flange Width B
3	x 7.1	.312	1.938
4	x 13.8	.500	2.500
6	x 12	.310	2.497
	x 15.3	.340	3.500
	x 16.3	.375	3.000
	x 18	.379	3.504
8	x 8.5	.179	1.874
	x 18.7	.353	2.978
	x 20	.400	3.025
	x 21.4	.375	3.450
	x 22.8	.427	3.502
9	x 25.4	.450	3.500
10	x 6.5	.152	1.127
	x 8.4	.170	1.500

STRUCTURAL & BAR SHAPES

Miscellaneous Channels (con't)

Size A	Lbs. Per Ft.	Web Thickness C	Flange Width B
10	x 22	.290	3.315
	x 25	.380	3.405
	x 28.5	.425	3.950
12	x 10.6	.190	1.500
	x 30.9	.450	3.450
	x 35	.467	3.767
	x 40	.590	3.890
	x 45	.712	4.012
	x 50	.835	4.135
18	x 42.7	.450	3.950
	x 45.8	.500	4.000



Structural Channels

ASTM A36

Stock Lengths 20 Ft.
and 40 Ft.

Size A	Lbs. Per Ft.	Web Thickness C	Flange Width B
3	x 3.5	.140	1.360
	x 4.1	.170	1.410
	x 5	.258	1.498
	x 6	.356	1.596
4	x 5.4	.184	1.584
	x 6.25	.247	1.647
	x 7.25	.321	1.721
5	x 6.7	.190	1.750
	x 9	.325	1.885
6	x 8.2	.200	1.920
	x 10.5	.314	2.034
	x 13	.437	2.157
7	x 9.8	.210	2.090
	x 12.25	.314	2.194
	x 14.75	.419	2.299
8	x 11.5	.220	2.260
	x 13.75	.303	2.343
	x 18.75	.487	2.527
9	x 13.4	.233	2.433
	x 15	.285	2.485
10	x 15.3	.240	2.600
	x 20	.379	2.739
	x 25	.526	2.886
	x 30	.673	3.033
12	x 20.7	.282	2.942
	x 25	.387	3.047
	x 30	.510	3.170
15	x 33.9	.400	3.400
	x 40	.520	3.520
	x 50	.716	3.716

STRUCTURAL & BAR SHAPES



Hot Rolled Bar Size Tees

ASTM A36

Stock Lengths 20 Ft.

Size in B	D	T	Lbs. Per Ft.	Lbs. Per 20'
1 1/4	x1 1/4	x3/16	1.55	31.00
1 1/2	x1 1/2	x3/16	1.90	38.00
2	x 2	x 1/4	3.62	72.40



SECTION 4

HR Bars & Reinforcing

SECTION 4: HR Bars & Reinforcing.....	45
General Information.....	47
Flat Bar Commercial Quality.....	48
Flat Bar HR ASTM A-36.....	49-52
Cover Rail (Top Rail Moulding).....	53
Rounds ASTM A-36.....	53
Threaded Rod.....	54
Squares.....	54
Reinforcing Bars (Deformed).....	55

[illegible]

HR BARS & REINFORCING

General Information on Hot Rolled Carbon Steel Bars

ASTM A36

Chemical Requirements

Thickness or Diameter	C Max	Mn	P Max	S Max	Si Max
All Shapes	.26	...	.04	.05	.40
Bars to 3/4" incl.	.26	...	.04	.05	.40
Bars over 3/4" to 1 1/2" incl.	.27	.60/.90	.04	.05	.40
Bars over 1 1/2 to 4" incl.	.28	.60/.90	.04	.05	.40
Bars over 4"	.29	.60/.90	.04	.05	.40

Tensile Requirements

	Bars	Shapes
Yield point, min, ksi	36	36
Tensile, ksi	58-80	58-80
Elongation 8 In, min, %	20	20
Elongation 2 In, min, %	23	21

HR BARS & REINFORCING



Hot Rolled Strip

Commercial Quality

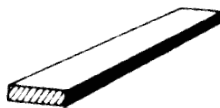
Stock Lengths 20 Ft.

Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
1/8 x 1/2	.2125	4.250
x 3/4	.3188	6.376
x 1	.4250	8.500
x 1 1/4	.5313	10.626
x 1 1/2	.6375	12.750
x 2	.8500	17.000
x 2 1/2	1.0630	21.260
x 3	1.2750	25.500
x 4	1.7000	34.000
x 5	2.1250	42.500
x 6	2.5500	51.000
x 8	3.4000	68.000
3/16 x 1/2	.3188	6.376
x 3/4	.4781	9.562
x 1	.6375	12.750
x 1 1/4	.7969	15.938
x 1 1/2	.9563	19.126
x 2	1.2750	25.500
x 2 1/2	1.5940	31.880
x 3	1.9130	38.260
x 4	2.5500	51.000
x 5	3.1880	63.760
x 6	3.8250	76.500
x 7	4.4625	89.250
x 8	5.1000	102.000

HR BARS & REINFORCING

Hot Rolled Flat Bars

ASTM A36, Square Edge
Stock Lengths 20 Ft.



Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
1/4 x 1/2	.4250	8.50
x 3/4	.6375	12.75
x 1	.850	17.00
x 1 1/4	1.063	21.26
x 1 1/2	1.275	25.50
x 1 3/4	1.488	29.76
x 2	1.700	34.00
x 2 1/4	1.913	38.26
x 2 1/2	2.125	42.50
x 3	2.550	51.00
x 3 1/4	2.763	55.26
x 3 1/2	2.975	59.50
x 4	3.400	68.00
x 4 1/2	3.825	76.50
x 5	4.250	85.00
x 5 1/2	4.675	93.50
x 6	5.100	102.00
x 6 1/2	5.525	110.50
x 7	5.950	119.00
x 8	6.800	136.00
x 9	7.660	153.20
x 10	8.510	170.20
x 11	9.360	187.18
x 12	10.210	204.20
5/16 x 1	1.063	21.26
x 1 1/4	1.329	26.58
x 1 1/2	1.594	31.88
x 2	2.125	42.50
x 2 1/2	2.656	53.12
x 3	3.188	63.76
x 4	4.250	85.00
x 4 1/2	4.781	95.62
3/8 x 1/2	.638	12.76
x 3/4	.956	19.13
x 1	1.275	25.50
x 1 1/4	1.594	31.88
x 1 1/2	1.913	38.26
x 1 3/4	2.231	44.62
x 2	2.550	51.00
x 2 1/2	3.188	63.76
x 3	3.825	76.50
x 3 1/2	4.463	89.26
x 4	5.100	102.00
x 4 1/2	5.738	114.76
x 5	6.375	127.50
x 5 1/2	7.013	140.26
x 6	7.650	153.00

HR BARS & REINFORCING

Hot Rolled Flat Bars (con't)

Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
x 6 1/2	8.288	165.76
x 7	8.925	178.50
x 8	10.200	204.00
x 9	11.490	229.80
x 10	12.770	255.40
x 11	14.040	280.80
x 12	15.320	360.40
1/2 x 3/4	1.275	25.50
x 1	1.700	34.00
x 1 1/4	2.125	42.50
x 1 1/2	2.550	51.00
x 1 3/4	2.975	59.50
x 2	3.400	68.00
x 2 1/4	3.825	76.50
x 2 1/2	4.250	85.00
x 3	5.100	102.0
x 3 1/4	5.525	110.5
x 3 1/2	5.950	119.0
x 4	6.800	136.0
x 4 1/2	7.650	153.0
x 5	8.500	170.0
x 5 1/2	9.350	187.0
x 6	10.200	204.0
x 6 1/2	11.050	221.0
x 7	11.900	238.0
x 8	13.600	272.0
x 9	15.320	306.4
x 10	17.020	340.4
x 11	18.720	374.4
x 12	20.420	408.4
5/8 x 1	2.125	42.5
x 1 1/4	2.656	53.1
x 1 1/2	3.188	63.8
x 2	4.250	85.0
x 2 1/2	5.313	106.3
x 3	6.375	127.5
x 3 1/2	7.438	148.8
x 4	8.500	170.0
x 4 1/2	9.563	191.3
x 5	10.630	212.0
x 6	12.750	255.0
x 7	14.880	297.0
x 8	17.000	340.0
x 9	15.320	306.4
x 10	17.020	340.4
x 12	20.420	408.4
3/4 x 1	2.550	51.0
x 1 1/4	3.186	63.7
x 1 1/2	3.825	76.5

HR BARS & REINFORCING

Hot Rolled Flat Bars (con't)

Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
x 1 3/4	4.463	89.3
x 2	5.100	102.0
x 2 1/2	6.375	127.0
x 3	7.650	153.0
x 3 1/2	8.925	178.5
x 4	10.200	204.0
x 4 1/2	11.475	229.5
x 5	12.700	255.0
x 5 1/2	13.975	279.5
x 6	15.300	306.0
x 6 1/2	16.575	331.5
x 7	17.800	357.0
x 8	20.400	408.0
x 9	22.970	459.4
x 10	25.530	510.6
x 11	28.080	561.6
x 12	30.630	612.6
1 x 1 1/4	4.250	85.0
x 1 1/2	5.100	102.0
x 2	6.800	136.0
x 2 1/2	8.500	170.0
x 3	10.200	204.0
x 3 1/2	11.900	238.0
x 4	13.600	272.0
x 4 1/2	15.300	306.0
x 5	17.000	340.0
x 5 1/2	18.700	374.0
x 6	20.400	408.0
x 7	23.800	476.0
x 8	27.200	544.0
x 10	34.030	680.6
x 12	40.840	816.8
1 1/4 x 1 1/2	6.375	127.5
x 2 1/4	9.563	191.3
x 2 1/2	10.625	212.5
1 1/4 x 3	12.750	255.0
x 3 1/2	14.875	297.5
x 4	17.000	340.0
x 4 1/2	19.125	382.5
x 5	21.250	425.0
x 5 1/2	23.375	467.5
x 6	25.500	510.0
x 7	29.750	595.0
x 8	34.000	680.0
1 1/2 x 2	10.200	204.0
x 2 1/2	12.750	255.0
x 3	15.300	306.0
x 3 1/2	17.850	357.0
x 4	20.40	408.0

HR BARS & REINFORCING

Hot Rolled Flat Bars (con't)

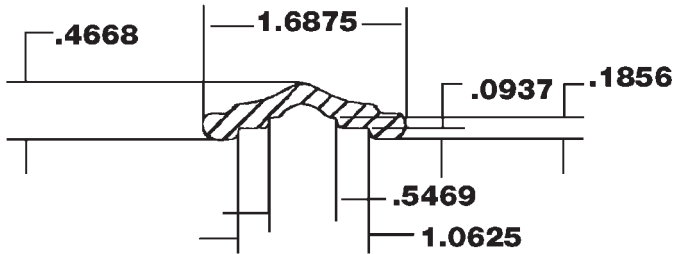
Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
x 4 1/2	22.95	459.0
x 5	25.50	510.0
x 5 1/2	28.05	561.0
x 6	30.60	612.0
x 7	35.70	714.0
x 8	40.80	816.0
1 3/4 x 2	11.90	238.0
x 2 1/2	14.88	297.6
x 3	17.85	357.0
x 3 1/2	20.83	416.6
x 4	23.80	476.0
x 4 1/2	26.78	535.6
x 5	29.75	595.0
x 5 1/2	32.73	654.6
x 6	35.70	714.0
2 x 2 1/2	17.00	340.0
x 3	20.40	408.0
x 3 1/2	23.80	476.0
x 4	27.20	544.0
x 4 1/2	30.60	612.0
x 5	34.00	680.0
x 6	40.80	816.0
2 1/2 x 3	25.55	511.0
x 3 1/2	29.75	595.0
x 4	34.00	680.0
x 4 1/2	38.25	765.0
x 5	42.50	850.0
x 6	51.00	1020.0
3 x 4	40.80	817.6
x 5	51.00	1020.0
x 6	61.20	1224.0

HR BARS & REINFORCING

Top Rail Moulding (Cover Rail)

Stock Lengths 20 Ft.

Size	Lbs. Per Ft.	Lbs. Per 20'
1633L	1.25	24.92



(Designed to Fit Over 1" Bar Channel)

Hot Rolled Rounds

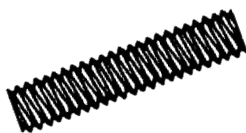
ASTM A36
Stock Lengths 20 Ft.



Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
1/4*	.1669	3.338
5/16*	.2608	5.216
3/8*	.3755	7.510
1/2	.6676	13.35
5/8	1.043	20.86
3/4	1.502	30.04
7/8	2.045	40.90
1	2.670	53.40
1 1/8	3.380	67.60
1 1/4	4.173	83.46
1 3/8	5.049	101.0
1 1/2	6.008	120.2
1 3/4	8.178	163.6
1 7/8	9.388	187.8
2	10.60	213.6
2 1/2	16.60	333.8
3	24.03	480.6
4	42.73	854.6

*Stocked as C.Q. only

HR BARS & REINFORCING



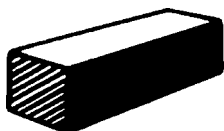
Threaded Steel Rounds

Low Carbon, Starting Material A36

Roll Threaded-Class 1A Fit

Stock Lengths 6 Ft. and 12 Ft.

Size in Inches	Threads Per Inch	Lbs. Per Ft.	Lbs. Per 6'
1/4	20	.118	.708
5/16	18	.197	1.182
3/8	16	.284	1.704
1/2	13	.515	3.090
5/8	11	.825	4.950
3/4	10	1.215	7.290
7/8	9	1.675	10.050
1	8	2.190	13.140
1 1/8	7	2.750	16.500
1 1/4	7	3.500	21.000



Hot Rolled Squares

ASTM A36

Stock Lengths 20 Ft.

Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
3/8	.4781	9.562
1/2	.8500	17.00
5/8	1.328	26.56
3/4	1.913	38.26
1	3.400	68.00
1 1/4	5.313	106.3
1 1/2	7.650	153.0
2	13.60	272.0
2 1/2	21.25	425.0
3	30.60	612.0
3 1/2	41.65	833.0
4	54.40	1088.0

HR BARS & REINFORCING

Reinforcing Bars (Deformed)

ASTM A615 Grade 40 and Grade 60



Inch Pound Bar Size	Diameter (in.)	Lbs. Per Ft.	Lbs. Per 20'
#3	0.375 (3/8)	.376	7.52
#4	0.500 (1/2)	.668	13.36
#5	0.625 (5/8)	1.043	20.86
#6	0.750 (3/4)	1.502	30.04
#7	0.875 (7/8)	2.044	40.88
#8	1.000 (1)	2.670	53.4
#9	1.128	3.400	68.0
#10	1.270	4.303	86.06
#11	1.410	5.313	106.26
#14	1.693	7.65	153.0
#18	2.257	13.60	272.0

Steel reinforcing bars help maintain integrity of concrete and stops cracking. Small lugs protrude from surface of rebar which inhibit longitudinal movement in surrounding concrete. Deformed billet steel rebars substantially stabilize concrete pouring of any size.

Mechanical Properties	Tensile Strength (PSI)	Yield Strength (PSI)
Grade 40	70,000 Min.	40,000 Min.
Grade 60	90,000 Min.	60,000 Min.

SECTION 5

Cold Finished Bars

SECTION 5: Cold Finished Bars.....	57
General Information.....	59-60
Rounds.....	61
Flats.....	62-64
Hexagons.....	65
Squares.....	65

[illegible]

COLD FINISHED BARS

General Information on Cold Finished

Manufacturing Tolerance

C1018, ASTM A108

Chemical Analysis

Carbon	Manganese	Phosphorus	Sulphur
.15/.20	.60/.90	.04 Max.	.05 Max.

Mechanical Properties (The following values are average and should be considered as representative of the grade).

Tensile Strength (PSI) Hardness	Yield Strength (PSI)	Elongation in 2"	Reduction of Area	Brinell
58,000 Min.	32,000 Min.	25%	50%	166

Flats

Size	Tolerance
To 3/4" Incl.	---.003"
Over 3/4" to 1 1/2" Incl.	---.004"
Over 1 1/2" to 3" Incl.	---.005"
Over 3" to 4" Incl.	---.006"
Over 4" to 6" Incl.	---.008"
Over 6"	---.013"

The tolerance on flats applies to thickness as well as width.

Squares and Hexagons

Size	Tolerance
Up to 3/4" Incl.	---.002"
Over 3/4" to 1 1/2" Incl.	---.003"
Over 1 1/2" to 2 1/2" Incl.	---.004"
Over 2 1/2" to 4" Incl. (sq.)	---.006"
Over 2 1/2" to 3" Incl. (hex.)	---.005"

COLD FINISHED BARS

Rounds

Size	Undersize Variation*
1 1/2" or Under	---.002"
Over 1 1/2" to 2 1/2" Incl.	---.003"
Over 2 1/2" to 4" Incl.	---.004"
Over 4" to 6" Incl.	---.005"
Over 6" to 6 1/2"	---.006"

*Max. of carbon range .28% or less

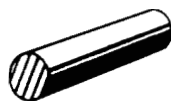
Turned, Ground and Polished Rounds Cold Drawn, Ground and Polished Rounds

Size Range in Inches	<u>Undersize Variations in Inches</u>	
	Turned, Ground and Polished Rounds	Cold Drawn, Ground and Polished Rounds
1 1/2 and under	.001	.001
Over 1 1/2 to less than 2 1/2	.0015	.0015
2 1/2 to 3, incl.	.002	.002
Over 3 to 4, incl.	.003	.003
Over 4 to 6, incl.	.004	---
Over 6 .005	---	

COLD FINISHED BARS

Cold Finished Rounds

AISI C-1018, C-1144, C-1117, C-1045,
C-12L14, C-1045TG&P ASTM A108
Stock Lengths 12 / 20 Ft.



Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
1/8	.0417	.83
3/16	.0939	1.88
1/4	.1669	3.34
5/16	.2608	5.22
3/8	.3755	7.51
7/16	.5111	10.22
1/2	.6676	13.35
9/16	.8449	16.90
5/8	1.043	20.86
11/16	1.262	25.24
3/4	1.502	30.04
13/16	1.763	35.26
7/8	2.045	40.90
15/16	2.347	46.94
1	2.670	53.40
1 1/16	3.015	60.30
1 1/8	3.380	67.60
1 3/16	3.766	75.32
1 1/4	4.173	83.46
1 5/16	4.600	92.00
1 3/8	5.049	100.98
1 7/16	5.518	110.36
1 1/2	6.008	120.16
1 9/16	6.520	130.40
1 5/8	7.052	141.04
1 11/16	7.604	152.08
1 3/4	8.178	163.56
1 15/16	10.02	200.40
2	10.68	213.60
2 1/8	12.06	241.20
2 1/4	13.52	270.40
2 3/8	15.06	301.20
2 7/16	15.87	317.40
2 1/2	16.69	333.80
2 5/8	18.40	368.00
2 3/4	20.19	403.80
2 15/16	23.04	460.80
3	24.03	480.60
3 1/4	28.21	564.20
3 7/16	31.55	631.00
3 1/2	32.71	654.20
3 15/16	41.40	828.00
4	42.73	854.60
4 15/16	65.10	1,302.00
5	66.76	1,335.20
6	96.13	1,922.60

COLD FINISHED BARS



Cold Finished Flats

AISI C-1018, ASTM A108

Stock Lengths 12 Ft.

Size in Inches		Lbs. Per Ft.	Lbs. Per 12'
1/8	x 3/8	.1594	1.913
	x 1/2	.2125	2.550
	x 5/8	.2656	3.187
	x 3/4	.3188	3.826
	x 1	.4250	5.100
	x 1 1/2	.6375	7.650
	x 2	.8500	10.200
	x 3	1.2750	15.300
3/16	x 4	1.7000	20.400
	x 5	2.1250	25.500
	x 6	2.5500	30.600
	x 3/8	.2391	2.869
	x 1/2	.3188	3.826
	x 3/4	.4781	5.737
	x 1	.6375	7.650
	x 1 1/4	.7969	9.563
1/4	x 1 3/8	.8766	10.519
	x 1 1/2	.9563	11.476
	x 2	1.2750	15.300
	x 2 1/2	1.5940	19.128
	x 3	1.9130	22.956
	x 4	2.5500	30.600
	x 5	3.1875	38.250
	x 6	3.8250	45.900
5/16	x 1/2	.4250	5.100
	x 3/4	.6375	7.650
	x 1	.8500	10.200
	x 1 1/4	1.063	12.756
	x 1 1/2	1.275	15.300
	x 2	1.700	20.400
	x 2 1/2	2.125	25.500
	x 3	2.550	30.600
3/8	x 4	3.400	40.800
	x 5	4.250	51.000
	x 6	5.100	61.200
	x 8	6.800	81.600
	x 1/2	.531	6.376
	x 3/4	.7969	9.563
	x 1	1.062	12.744
	x 2	2.124	25.488
1/2	x 3	3.186	38.232
	x 4	4.248	50.976
	x 1/2	.6375	7.650
	x 1	1.275	15.30
3/4	x 1 1/4	1.594	19.13

COLD FINISHED BARS



Cold Finished Flats (con't)

AISI C-1018, ASTM A108

Stock Lengths 12 Ft.

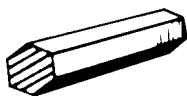
Size in Inches	Lbs. Per Ft.	Lbs. Per 12'
x 1 1/2	1.913	22.96
x 2	2.550	30.60
x 3	3.825	45.90
x 4	5.100	61.20
x 5	6.375	76.50
x 6	7.650	91.80
x 7	8.925	107.10
x 8	10.200	122.40
x 9	11.480	137.80
1/2 x 10	12.750	153.00
x 5/8	1.063	12.76
x 3/4	1.275	15.30
x 1	1.700	20.40
x 1 1/4	2.125	25.50
x 1 1/2	2.550	30.60
x 2	3.400	40.80
x 2 1/2	4.250	51.00
x 3	5.100	61.20
x 4	6.800	81.60
x 5	8.500	102.00
x 6	10.200	122.40
x 8	13.600	163.20
x 9	15.300	183.60
x 10	17.000	204.00
x 11	18.700	224.40
x 12	20.400	244.80
5/8 x 3/4	1.594	19.13
x 1	2.125	25.50
x 2	4.250	51.00
x 3	6.375	76.50
x 4	8.500	102.00
x 5	10.630	127.60
x 6	12.750	153.00
3/4 x 1	2.550	30.60
x 1 1/4	3.188	38.26
x 1 1/2	3.825	45.90
x 2	5.100	61.20
x 2 1/2	6.375	76.50
x 3	7.650	91.80
x 4	10.200	122.40
x 5	12.750	153.00
x 6	15.300	183.60
x 7	17.850	214.20
x 8	20.400	244.80
x 9	22.950	275.40

COLD FINISHED BARS

Cold Finished Flats (con't)

Size in Inches		Lbs. Per Ft.	Lbs. Per 12'
	x 10	25.50	306.0
	x 11	28.05	336.6
	x 12	30.60	369.2
1	x 1 1/4	4.250	51.00
	x 1 1/2	5.100	61.20
	x 2	6.800	81.60
	x 2 1/2	8.500	102.00
	x 3	10.200	122.40
	x 4	13.600	163.20
	x 4 1/2	15.300	183.60
	x 5	17.000	204.00
	x 6	20.400	244.80
	x 8	27.200	326.40
	x 9	30.600	367.20
	x 10	34.000	408.00
	x 11	37.400	448.80
	x 12	40.800	489.60
1 1/4	x 2	8.500	102.00
	x 3	12.750	153.00
	x 4	17.000	204.00
	x 5	21.250	255.00
	x 6	25.500	306.00
1 1/2	x 2	10.200	122.40
	x 3	15.300	183.60
	x 4	20.400	244.80
	x 5	25.500	306.70
	x 6	30.600	367.20
	x 7	35.000	428.40
	x 8	40.800	489.60
2	x 2 1/2	17.00	204.0
	x 3	20.40	244.8
	x 4	27.20	326.4
	x 6	40.80	489.6
	x 8	54.40	652.8
2 1/2	x 3	25.500	306.00
	x 4	34.000	408.00
3	x 4	40.800	489.60

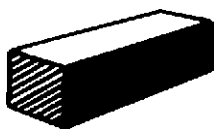
COLD FINISHED BARS



Cold Finished Hexagons

MBQ, Stock Lengths 12 Ft.

Size in Inches	Lbs. Per Ft.	Lbs. Per 12'
5/8	1.150	13.80
11/16	1.392	16.70
3/4	1.656	19.87
1	2.944	35.33
1 1/4	4.601	55.21
2	11.780	141.36



Cold Finished Squares

AISI C-1018, ASTM A108

Stock Lengths 12 Ft.

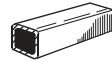
Size in Inches	Lbs. Per Ft.	Lbs. Per 12'
1/8	.0531	.637
3/16	.1195	1.434
1/4	.2125	2.550
5/16	.3320	3.984
3/8	.4781	5.737
7/16	.6508	7.810
1/2	.8500	10.20
9/16	1.076	12.91
5/8	1.328	15.94
11/16	1.607	19.28
3/4	1.913	22.96
7/8	2.603	31.24
1	3.400	40.80
1 1/8	4.303	51.64
1 1/4	5.313	63.76
1 1/2	7.650	91.80
1 3/4	10.41	124.9
2	13.60	163.2
3	30.60	367.2
3 1/2	41.65	499.8
4	54.40	652.8
5	85.00	1020.0
6	122.40	1468.8

SECTION 6

Tube & Pipe

SECTION 6: Tube & Pipe.....	67
Square Tubing.....	68-69
Rectangular Tubing.....	70-72
Round Tubing.....	73-99
Pipe Plain End.....	100

STEEL TUBING SQUARE WELDED



Produced to O.D. and Wall Dimensions

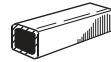
Low Carbon Mechanical

ASTM A 513 Flash In

Stock Lengths: 20', 24', 40' Random

Size & Ga.	Wall	I.D.	Lbs. per Ft.
3/8 x 3/8			
16	.065	.245	.2740
1/2 x 1/2			
18	.049	.402	.3005
16	.065	.370	.3845
5/8 x 5/8			
18	.049	.527	.3838
16	.065	.495	.4950
3/4 x 3/4			
18	.049	.652	.4671
16	.065	.620	.6055
14	.083	.584	.7529
11	.120	.510	1.028
7/8 x 7/8			
18	.049	.777	.5504
16	.065	.745	.7160
1 x 1			
18	.049	.902	.6337
16	.065	.870	.8265
15	.072	.854	.9100
14	.083	.834	1.035
12	.109	.782	1.321
11	.120	.760	1.436
1 1/8 x 1 1/8			
18	.049	1.027	.7170
1 1/4 x 1 1/4			
18	.049	1.152	.8003
16	.065	1.120	1.048
14	.083	1.084	1.317
13	.095	1.060	1.492
12	.109	1.032	1.691
11	.120	1.010	1.844
1 1/2 x 1 1/2			
18	.049	1.402	.9669
16	.065	1.370	1.269
14	.083	1.334	1.600
13	.095	1.310	1.815
12	.109	1.282	2.062
11	.120	1.260	2.252
1 3/4 x 1 3/4			
16	.065	1.620	1.490
14	.083	1.584	1.882
11	.120	1.510	2.660
2 x 2			
16	.065	1.870	1.711
14	.083	1.834	2.164
13	.095	1.810	2.461
12	.109	1.782	2.800
11	.120	1.760	3.068
2 1/4 x 2 1/4			
16	.065	2.120	1.932

STEEL TUBING SQUARE WELDED



Produced to O.D. and Wall Dimensions

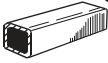
Low Carbon Mechanical

ASTM A 513 Flash In

Stock Lengths: 20', 24', 40' Random

Size & Ga.	Wall	I.D.	Lbs. per Ft.
2 1/2 x 2 1/2			
16	.065	2.370	2.153
14	.083	2.334	2.728
12	.109	2.282	3.544
3 x 3			
14	.083	2.834	3.293

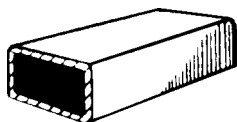
STEEL TUBING SQUARE STRUCTURAL WELDED*



ASTM A 500 Grade B/C
Stock Lengths 20, 24, and 40 Ft. Random

Size in Inches	Wall	Lbs. per Ft.
3 1/2 x 3 1/2	x .125	5.61
	.188	8.15
	.250	10.51
	.313	12.70
4 x 4	x .125	6.46
	.188	9.42
	.250	12.21
	.313	14.83
	.375	17.27
	.500	21.63
4 1/2 x 4 1/2	x .188	10.70
5 x 5	x .188	11.97
	.250	15.62
	.313	19.08
	.375	22.37
	.500	28.43
6 x 6	x .188	14.53
	.250	19.02
	.313	23.34
	.375	27.48
	.500	35.24

TUBE & PIPE



Rectangular Tubing

ASTM A500 Grade B & A513

Possible Stock Lengths 20 Ft., 24 Ft.

40 Ft. and 48 Ft.

* Stocked in ASTM A-513

Size in Inches		Gauge	Wall Thickness	Lbs. Per Ft.
2	x 1*	16	.065	0.606
		14	.083	1.600
		11	.120	2.252
2	x 1 1/2*	3/16	.188	3.040
		14	.083	1.882
		11	.120	2.660
2 1/2	x 1 1/2*	14	.083	2.164
		11	.120	3.068
		3/16	.188	4.320
3	x 1	14	.083	2.146
3	x 1	11	.120	3.068
		3/16	.188	4.327
3	x 1 1/2	14	.083	2.446
		11	.120	3.476
		3/16	.188	5.97
3	x 2	11	.120	3.90
		3/16	.188	5.59
		1/4	.250	7.11
4	x 2	11	.120	4.75
		3/16	.188	6.87
		1/4	.250	8.81
4	x 3	3/8	.375	12.165
		11	.120	5.61
		3/16	.188	8.15
		1/4	.250	10.51
		3/8	.375	14.717
5	x 2	3/16	.188	8.15
		1/4	.250	10.51
		3/8	.375	14.717
5	x 3	3/16	.188	9.42
		1/4	.250	12.21
		3/8	.375	17.27
6	x 2	3/16	.188	9.42
		1/4	.250	12.21
		3/8	.375	17.269
6	x 3	3/16	.188	10.70
		1/4	.250	13.91
		3/8	.375	19.82
		1/2	.500	25.029
6	x 4	1/4	.250	15.62
		5/16	.313	19.08
		3/8	.375	22.37
		1/2	.500	28.43
7	x 4	3/16	.188	14.53

TUBE & PIPE

Rectangular Tubing (con't)

Size in Inches		Gauge	Wall Thickness	Lbs. Per Ft.
7	x 5	1/4	.250	19.02
		3/16	.188	14.53
		5/16	.313	23.34
		3/8	.375	27.48
		1/2	.500	35.24
		3/16	.188	11.97
8	x 2	1/4	.250	15.62
		3/16	.188	13.25
		1/4	.250	17.32
		3/8	.375	24.93
		3/16	.188	14.53
		1/4	.250	19.02
		5/16	.313	23.34
		3/8	.375	27.48
		1/2	.500	35.24
8	x 6	3/16	.188	17.08
		1/4	.250	22.42
		5/16	.313	27.59
		3/8	.375	32.58
		1/2	.500	42.05
		3/16	.188	14.53
10	x 2	1/4	.250	19.02
		3/16	.188	17.08
		1/4	.250	22.42
		5/16	.313	27.59
		3/8	.375	32.58
		1/2	.500	42.05
10	x 6	1/4	.250	25.82
		5/16	.313	31.84
		3/8	.375	37.69
		1/2	.500	48.85
		1/4	.250	29.23
		3/8	.375	42.79
12	x 4	1/2	.500	55.66
		3/16	.188	19.63
		1/4	.250	25.82
		5/16	.313	31.84
		3/8	.375	37.69
		1/2	.500	48.85
12	x 6	1/4	.250	29.23
		5/16	.313	36.10
		3/8	.375	42.79
		1/2	.500	55.66
		1/4	.250	32.63
		5/16	.313	40.35
12	x 8	3/8	.375	47.90
		1/2	.500	62.46
		5/8	.625	76.33

TUBE & PIPE

Rectangular Tubing (con't)

Size in Inches		Gauge	Wall Thickness	Lbs. Per Ft.
12	x 10	1/4	.250	36.03
		3/8	.375	49.86
		1/2	.500	63.68
14	x 4	1/4	.250	29.23
		3/8	.375	42.79
		1/2	.500	55.66
14	x 6	1/4	.250	32.63
		3/8	.375	47.90
		1/2	.500	62.46
16	x 4	1/4	.250	32.63
		3/8	.375	47.90
		1/2	.500	62.46
16	x 8	1/4	.250	39.43
		3/8	.375	58.10
		1/2	.500	76.09

STEEL TUBING DESCRIPTIVE INFORMATION ROUND MECHANICAL



Cold Drawn Seamless

1026 ASTM A 519

Cold Drawn Seamless Tube is normally drawn to O.D. and I.D. dimensions.
Certain sizes must be drawn to O.D. and Wall dimensions and are so noted.

Random Lengths 8 to 24 Ft.

Hot Finished Seamless

1026 ASTM A 519 (except tolerance)

Hot Finished Tube is produced to O.D. and Wall dimensions.

Random Lengths 8 to 24 Ft.

Welded D.O.M.

Drawn Over Mandrel — Tested

Up to 4" O.D. Inclusive (10 Ga. Wall and Lighter) 1020

All other sizes (O.D.'s and Walls) 1026

ASTM A 513 Type 5

An Electric Welded Tube with all weld flash removed.

Tested for weld soundness, drawn over a mandrel and retested.

This product is superior in finish and wall uniformity to seamless tubing.
Normally drawn to O.D. and I.D. dimensions and exceptions are so noted.

Random Lengths 8 to 24 Ft.

Electric Welded

Up to 6" O.D. Inclusive — MT 1010

Cold Rolled and Hot Rolled

Up to 6¹/₂" O.D. Inclusive ASTM A 513 CR Type 2, HR Type 1

6⁵/₈" O.D. & Over (No ASTM)

An Electric Resistance Welded Tube

Under 1" O.D. — Flash In

1" O.D. & Larger — Flash Controlled

Electric Welded Tubing is produced to O.D. and Wall dimensions.

This is the least expensive mechanical tubing.

It is produced from low carbon steel and possesses relatively good cold
working characteristics.

Random Lengths 20 Ft.

Cold Drawn Butt Welded

10 Ga. Wall and Lighter - 1020

All other sizes - 1026

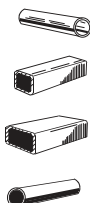
ASTM A 512

The least expensive drawn tube.

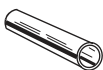
Produced from Electric Resistance Welded hollows.

Drawn to O.D. and I.D. dimensions. Not intended for pressure applications.

Random Lengths 8 to 24 Ft.



**Hydraulic-Line
Square Welded
Square Structural
Rectangular Welded
Rectangular Structural
Pipe & Pipe Size Tube**



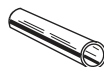
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*
1/8 x						
24	.022	.081	.0242	X	..	..
5/32 x						
22	.028	.100	.0383	X	..	..
21	.032	.092	.0424	X	..	..
3/16 x						
24	.022	.144	.0390	X	..	..
22	.028	.132	.0478	X	..	..
20	.035	.118	.0572	X	..	..
18	.049	.090	.0727	X	..	..
17	.058	.072	.0805	X	..	..
16	.065	.058	.0854	X	..	..
7/32 x						
20	.035	.149	.0688	X	..	..
1/4 x						
24	.022	.206	.0536	..	X	..
23	.025	.200	.0601	..	X	..
22	.028	.194	.0664	..	X	..
20	.035	.180	.0804	..	X	..
19	.042	.166	.0933	..	X	..
18	.049	.152	.1052	..	X	..
16	.065	.120	.1284	..	X	..
14	.083	.084	.1480	X	..	..
13	.095	.060	.1573	X	..	..
9/32 x						
18	.049	.183	.1214	..	X	..
5/16 x						
24	.022	.269	.0684	..	X	..
22	.028	.257	.0852	..	X	..
20	.035	.243	.1039	..	X	..
18	.049	.215	.1382	..	X	..
17	.058	.197	.1580	..	X	..
16	.065	.183	.1722	..	X	..
14	.083	.147	.2039	..	X	..
11/32 x						
21	.032	.280	.1066	..	X	..
3/8 x						
24	.022	.331	.0829	..	X	..
22	.028	.319	.1038	..	X	X
20	.035	.305	.1271	..	X	X
18	.049	.277	.1706	..	X	X

* Produced to O.D. and Wall dimensions

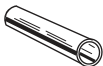
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*
3/8 x						
17	.058	.259	.1964	..	X	..
16	.065	.245	.2152	..	X	X
14	.083	.209	.2588	..	X	..
13	.095	.185	.2841	X	..	..
12	.109	.157	.3097	..	X	..
10	.134	.107	.3449	X	..	..
13/32 x						
16	.065	.276	.2367	..	X	..
14	.083	.240	.2863	..	X	..
13	.095	.216	.3155	..	X	..
7/16 x						
22	.028	.382	.1226	..	X	..
20	.035	.368	.1506	..	X	..
18	.049	.340	.2036	..	X	X
17	.058	.322	.2354	..	X	..
16	.065	.308	.2589	..	X	X
14	.083	.272	.3147	..	X	..
13	.095	.248	.3480	..	X	..
1/8	.125	.188	.4179	..	X	..
1/2 x						
24	.022	.456	.1123	..	X	..
22	.028	.444	.1411	..	X	..
21	.032	.436	.1599	..	X	..
20	.035	.430	.1738	..	X	X
19	.042	.416	.2054	..	X	..
18	.049	.402	.2360	..	X	X
17	.058	.384	.2738	..	X	..
16	.065	.370	.3020	..	X	X
15	.072	.356	.3291	..	X	..
14	.083	.334	.3696	..	X	..
13	.095	.310	.4109	..	X	..
12	.109	.282	.4552	..	X	..
11	.120	.260	.4870	..	X	..
1/8	.125	.250	.5006	..	X	..
10	.134	.232	.5238	..	X	..
5/32	.156	.188	.5731	..	X	..
17/32 x						
16	.065	.401	.3235	..	X	..
14	.083	.365	.3971	..	X	..
1/8	.125	.281	.5420	..	X	..

*Produced to O.D. and Wall dimensions



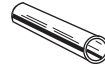
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*
9/16 x						
22	.028	.507	.1600	..	X	..
20	.035	.493	.1974	..	X	..
18	.049	.465	.2690	..	X	X
16	.065	.433	.3457	..	X	X
14	.083	.397	.4255	..	X	..
13	.095	.373	.4748	..	X	..
12	.109	.345	.5285	..	X	..
1/8	.125	.313	.5847	..	X	..
5/8 x						
22	.028	.569	.1785	..	X	X
20	.035	.555	.2205	..	X	X
18	.049	.527	.3014	..	X	X
17	.058	.509	.3512	..	X	..
16	.065	.495	.3888	..	X	X
15	.072	.481	.4252	..	X	..
14	.083	.459	.4805	..	X	X
13	.095	.435	.5377	..	X	..
12	.109	.407	.6007	..	X	..
11	.120	.385	.6472	..	X	..
1/8	.125	.375	.6675	..	X	..
10	.134	.357	.7027	..	X	..
5/32	.156	.313	.7814	..	X	..
3/16	.188	.249	.8774	..	X*	..
7/32	.219	.187	.9496	..	X*	..
21/32 x						
13	.095	.466	.5692	..	X	..
11/16 x						
22	.028	.632	.1974	..	X	..
21	.032	.624	.2242	..	X	..
18	.049	.590	.3344	..	X	..
16	.065	.558	.4325	..	X	X
14	.083	.522	.5363	..	X	..
13	.095	.498	.6017	..	X	..
12	.109	.470	.6740	..	X	..
11	.120	.448	.7279	..	X	..
1/8	.125	.438	.7516	..	X	..
10	.134	.420	.7928	..	X	..
5/32	.156	.376	.8864	..	X	..
7/32	.219	.250	1.097	..	X*	..
3/4 x						
22	.028	.694	.2159	..	X	..
20	.035	.680	.2673	..	X	X
18	.049	.652	.3668	..	X	X

*Produced to O.D. and Wall dimensions

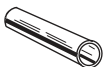
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED ELECTRIC WELDED C.D. BUTT WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*	C.D. Butt Welded
3/4 x							
17	.058	.634	.4287	..	X	..	..
16	.065	.620	.4755	..	X	X**	..
14	.083	.584	.5913	..	X	X	..
13	.095	.560	.6646	..	X	..	..
12	.109	.532	.7462	..	X	X	..
11	.120	.510	.8074	..	X	X	..
1/8	.125	.500	.8344	..	X	..	..
10	.134	.482	.8816	..	X	..	X
5/32	.156	.438	.9897	..	X	..	..
11/64	.172	.406	1.062	..	X	..	..
3/16	.188	.374	1.128	..	X	..	..
7/32	.219	.312	1.242	..	X*	..	..
1/4	.250	.250	1.335	..	X*	..	..
13/16 x							
22	.028	.757	.2347	..	X	..	..
20	.035	.743	.2908	..	X	..	..
18	.049	.715	.3998	..	X	..	..
16	.065	.683	.5193	..	X	X	..
14	.083	.647	.6471	..	X	..	..
13	.095	.623	.7285	..	X	..	..
12	.109	.595	.8195	..	X	..	..
11	.120	.573	.8881	..	X	..	..
1/8	.125	.563	.9185	..	X	..	..
10	.134	.545	.9717	..	X	..	..
5/32	.156	.501	1.095	..	X	..	..
3/16	.188	.437	1.255	..	X	..	..
7/32	.219	.375	1.389	..	X	..	..
1/4	.250	.313	1.503	..	X*	..	..
27/32 x							
12	.109	.626	.8556	..	X	..	..
5/32	.156	.532	1.146	..	X	..	..
7/8 x							
21	.032	.811	.2881	..	X	..	..
20	.035	.805	.3140	..	X	X	..
18	.049	.777	.4323	..	X	X	..
17	.058	.759	.5061	..	X	..	..
16	.065	.745	.5623	..	X	X	..
15	.072	.731	.6175	..	X	..	..
14	.083	.709	.7021	..	X	X	..
13	.095	.685	.7914	..	X	X	..
12	.109	.657	.8917	..	X	..	..
11	.120	.635	.9676	..	X	X	..
1/8	.125	.625	1.001	..	X	..	..
10	.134	.607	1.061	..	X	..	..
5/32	.156	.563	1.198	..	X	..	X
3/16	.188	.499	1.379	..	X	..	..
7/32	.219	.437	1.534	..	X	..	..
1/4	.250	.375	1.669	..	X*	..	..
9/32	.281	.313	1.783	..	X*	..	..

*Produced to O.D. and Wall dimensions



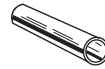
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED C.D. BUTT WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*	C.D. Butt Welded
15/16 x							
20	.035	.868	.3375	..	X	..	..
18	.049	.840	.4652	..	X	..	..
16	.065	.808	.6060	..	X	..	..
14	.083	.772	.7579	..	X	..	..
13	.095	.748	.8553	..	X	..	..
1 1/8	.125	.688	1.085	..	X	..	..
10	.134	.670	1.151	..	X	..	..
5/32	.156	.626	1.303	..	X	..	..
3/16	.188	.562	1.506	..	X	..	..
1/4	.250	.438	1.837	..	X	..	..
1 x							
22	.028	.944	.2907	..	X	..	..
20	.035	.930	.3607	..	X	X	..
18	.049	.902	.4977	..	X	X	..
17	.058	.884	.5835	..	X	..	..
16	.065	.870	.6491	..	X	X	..
15	.072	.856	.7136	..	X	..	..
14	.083	.834	.8129	..	X	X	..
13	.095	.810	.9182	..	X	X	..
12	.109	.782	1.037	..	X	X	..
11	.120	.760	1.128	..	X	X	..
1 1/8	.125	.750	1.168	..	X	..	..
10	.134	.732	1.239	..	X	..	..
5/32	.156	.688	1.406	..	X	..	..
1 1/64	.172	.656	1.521	..	X	..	..
7	.180	.640	1.576	..	X	..	..
3/16	.188	.624	1.630	..	X	..	..
7/32	.219	.562	1.827	..	X	..	..
1/4	.250	.500	2.003	..	X	..	..
9/32	.281	.438	2.158	..	X	..	..
3/8	.375	.250	2.503	..	X	..	..
1 1/16 x							
20	.035	.993	.3843	..	X	..	..
18	.049	.965	.5306	..	X	..	..
16	.065	.933	.6928	..	X	X	..
14	.083	.897	.8687	..	X	..	..
13	.095	.873	.9821	..	X	..	..
12	.109	.845	1.111	..	X	..	..
11	.120	.823	1.209	..	X	..	..
1 1/8	.125	.813	1.252	..	X	..	..
10	.134	.795	1.330	..	X	..	..
5/32	.156	.751	1.511	..	X	..	..
3/16	.188	.687	1.757	..	X	..	..
7/32	.219	.625	1.974	..	X	..	..
1/4	.250	.563	2.171	..	X	..	..
5/16	.313	.437	2.507	X*	..	..	..

* Produced to O.D. and Wall dimensions

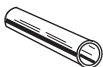
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED C.D. BUTT WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*	C.D. Butt Welded
1 1/8 x							
20	.035	1.055	.4074	..	X	X	..
18	.049	1.027	.5631	..	X	X	..
17	.058	1.009	.6609	..	X	..	..
16	.065	.995	.7359	..	X	X	..
14	.083	.959	.9237	..	X	X	..
13	.095	.935	1.045	..	X	..	..
12	.109	.907	1.183	..	X	..	..
11	.120	.885	1.288	..	X	X	..
1 1/8	.125	.875	1.335	..	X	..	..
10	.134	.857	1.418	..	X	..	X
5/32	.156	.813	1.614	..	X	..	..
11/64	.172	.781	1.751	..	X	..	..
3/16	.188	.749	1.881	..	X	..	X
7/32	.219	.687	2.119	..	X	..	..
1/4	.250	.625	2.336	..	X	..	X
9/32	.281	.563	2.533	..	X	..	..
5/16	.313	.499	2.714	..	X	..	..
3/8	.375	.375	3.004	X*	X	..	..
1 3/16 x							
21	.032	1.124	.3951	..	X	..	..
20	.035	1.118	.4310	..	X	..	..
18	.049	1.090	.5961	..	X	..	..
16	.065	1.058	.7796	..	X	X	..
14	.083	1.022	.9795	..	X	..	..
13	.095	.998	1.109	..	X	..	..
1 1/8	.125	.938	1.419	..	X	..	..
5/32	.156	.876	1.719	..	X	..	..
3/16	.188	.812	2.008	..	X	..	..
7/32	.219	.750	2.266	..	X	..	..
1/4	.250	.688	2.505	..	X	..	..
5/16	.313	.562	2.925	..	X	..	..
1 1/4 x							
22	.028	1.194	.3654	..	X	..	..
20	.035	1.180	.4542	..	X	X	..
18	.049	1.152	.6285	..	X	X	..
16	.065	1.120	.8226	..	X	X	..
14	.083	1.084	1.035	..	X	X	..
13	.095	1.060	1.172	..	X	X	..
12	.109	1.032	1.328	..	X	X	..
11	.120	1.010	1.448	..	X	X	..
1 1/8	.125	1.000	1.502	..	X	..	..
10	.134	.982	1.597	..	X	..	..
5/32	.156	.938	1.823	..	X	..	X
3/16	.188	.874	2.132	..	X	..	..
7/32	.219	.812	2.411	..	X	..	..
1/4	.250	.750	2.670	..	X	..	..
9/32	.281	.688	2.908	..	X	..	..
5/16	.313	.624	3.132	..	X	..	..
11/32	.344	.562	3.329	..	X	..	..
3/8	.375	.500	3.504	..	X	..	..
7/16	.438	.374	3.798	X*	..	..	..

* Produced to O.D. and Wall dimensions



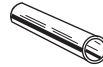
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED C.D. BUTT WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*	C.D. Butt Welded
1⁵/₁₆ x							
20	.035	1.243	.4777	..	X	..	..
17	.058	1.197	.7774	..	X	..	..
16	.065	1.183	.8664	..	X	..	..
14	.083	1.147	1.090	..	X	..	..
13	.095	1.123	1.236	..	X	..	..
12	.109	1.095	1.402	..	X	..	..
11	.120	1.073	1.529	..	X	..	..
1¹/₈	.125	1.063	1.586	..	X	..	..
10	.134	1.045	1.687	..	X	..	..
9	.148	1.017	1.841	..	X	..	..
5³/₃₂	.156	1.001	1.928	..	X	..	X
3¹/₁₆	.188	.937	2.259	..	X	..	..
7³/₃₂	.219	.875	2.559	..	X	..	..
1¹/₄	.250	.813	2.838	..	X	..	..
9³/₃₂	.281	.751	3.097	..	X	..	..
5¹/₁₆	.313	.687	3.343	..	X	..	..
3³/₈	.375	.563	3.757	..	X*	..	..
1³/₈ x							
22	.028	1.319	.4028	..	X	..	..
20	.035	1.305	.5009	..	..	X	..
18	.049	1.277	.6939	..	X	X	..
17	.058	1.259	.8158	..	X	..	..
16	.065	1.245	.9094	..	X	X	..
14	.083	1.209	1.145	..	X	X	..
13	.095	1.185	1.299	..	X	..	..
12	.109	1.157	1.474	..	X	..	..
11	.120	1.135	1.608	..	X	X	..
1¹/₈	.125	1.125	1.669	..	X	..	..
10	.134	1.107	1.776	..	X	..	..
5³/₃₂	.156	1.063	2.031	..	X	..	..
1¹/₁₆	.172	1.031	2.210	..	X	..	..
3¹/₁₆	.188	.999	2.383	..	X	..	..
7³/₃₂	.219	.937	2.704	..	X	..	..
1¹/₄	.250	.875	3.004	..	X	..	..
9³/₃₂	.281	.813	3.283	..	X	..	..
5¹/₁₆	.313	.749	3.550	..	X	..	..
3³/₈	.375	.625	4.005	..	X	..	..
1⁷/₁₆ x							
16	.065	1.308	.9531	..	X	..	..
14	.083	1.272	1.201	..	X	..	..
13	.095	1.248	1.363	..	X	..	..
11	.120	1.198	1.689	..	X	..	..
1¹/₈	.125	1.188	1.753	..	X	..	..
5³/₃₂	.156	1.126	2.136	..	X	..	..
3¹/₁₆	.188	1.062	2.510	..	X	..	..
7³/₃₂	.219	1.000	2.851	..	X	..	..
1¹/₄	.250	.938	3.172	..	X	..	..

*Produced to O.D. and Wall dimensions

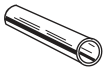
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED C.D. BUTT WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*	C.D. Butt Welded
1½ x							
20	.035	1.430	.5476	..	X	X	..
18	.049	1.402	.7593	..	X	X	..
17	.058	1.384	.8932	..	X	..	..
16	.065	1.370	.9962	..	X	X	..
14	.083	1.334	1.256	..	X	X	..
13	.095	1.310	1.426	..	X	X	..
12	.109	1.282	1.619	..	X	X	..
11	.120	1.260	1.769	..	X	X	..
1/8	.125	1.250	1.836	..	X	..	..
10	.134	1.232	1.955	..	X	X	..
5/32	.156	1.188	2.239	..	X	..	..
3/16	.188	1.124	2.634	..	X	..	..
7/32	.219	1.062	2.996	..	X	..	..
1/4	.250	1.000	3.338	..	X	..	..
9/32	.281	.938	3.658	..	X	..	..
5/16	.313	.874	3.968	..	X	..	..
11/32	.344	.812	4.247	..	X	..	..
3/8	.375	.750	4.506	..	X	..	..
7/16	.438	.624	4.968	X*	X	..	..
1/2	.500	.500	5.340	X*	..	..	..
1⅞ x							
20	.035	1.493	.5712	..	X	..	..
16	.065	1.433	1.040	..	X	..	..
13	.095	1.373	1.489	..	X	..	..
12	.109	1.345	1.693	..	X	..	..
1/8	.125	1.313	1.920	..	X	..	..
10	.134	1.295	2.045	..	X	..	..
5/32	.156	1.251	2.344	..	X	..	..
3/16	.188	1.187	2.761	..	X	..	..
1/4	.250	1.063	3.506	..	X	..	..
5/16	.313	.937	4.179	..	X	..	..
3/8	.375	.813	4.758	..	X	..	..
1⅝ x							
20	.035	1.555	.5943	..	..	X	..
18	.049	1.527	.8248	..	X	X	..
17	.058	1.509	.9707	..	X	..	..
16	.065	1.495	1.083	..	X	X	..
14	.083	1.459	1.367	..	X	X	..
13	.095	1.435	1.552	..	X	..	..
12	.109	1.407	1.765	..	X	..	..
11	.120	1.385	1.929	..	X	X	..
1/8	.125	1.375	2.003	..	X	..	..
10	.134	1.357	2.134	..	X	..	X
5/32	.156	1.313	2.448	..	X	..	..
11/64	.172	1.281	2.669	..	X	..	..
3/16	.188	1.249	2.885	..	X	..	..
7/32	.219	1.187	3.289	..	X	..	X
1/4	.250	1.125	3.671	..	X	..	..
9/32	.281	1.063	4.034	..	X	..	..
5/16	.313	.999	4.386	..	X	..	..
3/8	.375	.875	5.006	..	X	..	..
7/16	.438	.749	5.553	X*	..	..	..
1/2	.500	.625	6.008	X*	..	..	..

* Produced to O.D. and Wall dimensions



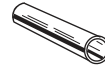
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED C.D. BUTT WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*	C.D. Butt Welded
1¹¹/₁₆ x							
16	.065	1.558	1.127	..	X	..	..
1¹/₈	.125	1.438	2.087	..	X	..	..
5³²/₃₂	.156	1.376	2.552	..	X	..	..
3¹⁶/₁₆	.188	1.312	3.012	..	X	..	..
1⁴/₄	.250	1.188	3.840	..	X	..	..
1³/₄ x							
20	.035	1.680	.6411	..	X	..	..
18	.049	1.652	.8902	..	X	X	..
16	.065	1.620	1.170	..	X	X	..
14	.083	1.584	1.478	..	X	X	..
13	.095	1.560	1.679	..	X	X	..
12	.109	1.532	1.910	..	X	..	..
11	.120	1.510	2.089	..	..	X	..
1¹/₈	.125	1.500	2.169	..	X	..	..
10	.134	1.482	2.313	..	X	..	..
5³²/₃₂	.156	1.438	2.656	..	X	..	..
3¹⁶/₁₆	.188	1.374	3.136	..	X	..	..
7³²/₃₂	.219	1.312	3.581	..	X	..	..
1⁴/₄	.250	1.250	4.005	..	X	..	..
9³²/₃₂	.281	1.188	4.409	..	X	..	..
5¹⁶/₁₆	.313	1.124	4.804	..	X	..	..
3⁸/₈	.375	1.000	5.507	..	X	..	..
7¹⁶/₁₆	.438	.874	6.137	X	..	..	..
1²/₂	.500	.750	6.675	X*	..	..	..
9¹⁶/₁₆	.563	.624	7.137	X*	..	..	..
5⁸/₈	.625	.500	7.509	X*	..	..	..
1¹³/₁₆ x							
1¹/₈	.125	1.563	2.254	..	X	..	..
5³²/₃₂	.156	1.501	2.761	..	X	..	..
3¹⁶/₁₆	.188	1.437	3.263	..	X	..	..
1⁴/₄	.250	1.313	4.173	..	X	..	..
1⁷/₈ x							
18	.049	1.777	.9556	..	X	..	..
16	.065	1.745	1.257	..	X	X	..
14	.083	1.709	1.589	..	X	..	..
13	.095	1.685	1.806	..	X	X	..
12	.109	1.657	2.056	..	X	..	..
11	.120	1.635	2.249	..	..	X	..
1¹/₈	.125	1.625	2.336	..	X	..	..
10	.134	1.607	2.492	..	X	..	..
5³²/₃₂	.156	1.563	2.864	..	X	..	..
3¹⁶/₁₆	.188	1.499	3.387	..	X	..	..
7³²/₃₂	.219	1.437	3.873	..	X	..	..
1⁴/₄	.250	1.375	4.339	..	X	..	..
9³²/₃₂	.281	1.313	4.784	..	X	..	..
5¹⁶/₁₆	.313	1.249	5.222	..	X	..	..
3⁸/₈	.375	1.125	6.008	..	X	..	..
7¹⁶/₁₆	.438	.999	6.722	X	..	..	..
1²/₂	.500	.875	7.343	X*	..	..	..
9¹⁶/₁₆	.563	.749	7.889	X*	..	..	..

*Produced to O.D. and Wall dimensions

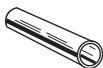
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED C.D. BUTT WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*	C.D. Butt Welded
1¹⁵/₁₆ x							
¹ / ₈	.125	1.688	2.420	..	X	..	..
⁵ / ₃₂	.156	1.626	2.969	..	X	..	..
⁷ / ₃₂	.219	1.500	4.021	..	X	..	..
¹ / ₄	.250	1.438	4.507	..	X	..	..
³ / ₈	.375	1.188	6.260	..	X	..	..
2 x							
20	.035	1.930	.7345	..	..	X	..
18	.049	1.902	1.021	..	X	X	..
16	.065	1.870	1.343	..	X	X	..
14	.083	1.834	1.699	..	X	X	..
13	.095	1.810	1.933	..	X	X	..
12	.109	1.782	2.201	..	X	X	..
11	.120	1.760	2.409	..	X	X	..
¹ / ₈	.125	1.750	2.503	..	X	..	..
10	.134	1.732	2.671	..	X	X	..
⁵ / ₃₂	.156	1.688	3.072	..	X	..	..
7	.180	1.640	3.499	..	..	X	..
³ / ₁₆	.188	1.624	3.638	..	X	..	..
⁷ / ₃₂	.219	1.562	4.166	..	X	..	..
¹ / ₄	.250	1.500	4.673	..	X	..	..
⁹ / ₃₂	.281	1.438	5.159	..	X	..	..
⁵ / ₁₆	.313	1.374	5.639	..	X	..	..
¹¹ / ₃₂	.344	1.312	6.084	..	X	..	X
³ / ₈	.375	1.250	6.508	..	X	..	..
⁷ / ₁₆	.438	1.124	7.307	..	X	..	..
¹ / ₂	.500	1.000	8.010	X	..	..	..
⁹ / ₁₆	.563	.874	8.641	X*	..	..	..
⁵ / ₈	.625	.750	9.178	X*	X	..	..
³ / ₄	.750	.500	10.01	X*	..	..	..
2¹/₁₆ x							
⁵ / ₃₂	.156	1.751	3.177	..	X	..	..
³ / ₁₆	.188	1.687	3.765	..	X	..	..
¹ / ₄	.250	1.563	4.841	..	X	..	..
⁵ / ₁₆	.313	1.437	5.850	..	X	..	..
2¹/₈ x							
18	.049	2.027	1.086	..	..	X	..
16	.065	1.995	1.430	..	X	X	..
14	.083	1.959	1.810	..	X	..	..
13	.095	1.935	2.060	..	X	..	..
11	.120	1.885	2.570	..	X	..	..
¹ / ₈	.125	1.875	2.670	..	X	..	..
⁵ / ₃₂	.156	1.813	3.281	..	X	..	..
³ / ₁₆	.188	1.749	3.889	..	X	..	..
⁷ / ₃₂	.219	1.687	4.458	..	X	..	..
¹ / ₄	.250	1.625	5.006	..	X	..	..
⁹ / ₃₂	.281	1.563	5.534	..	X	..	..
⁵ / ₁₆	.313	1.499	6.057	..	X	..	..
³ / ₈	.375	1.375	7.009	..	X	..	..
⁷ / ₁₆	.438	1.249	7.892	..	X	..	..

*Produced to O.D. and Wall dimensions



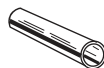
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED C.D. BUTT WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*	C.D. Butt Welded
2³/₁₆ x							
1/8	.125	1.938	2.754	..	X	..	..
1/4	.250	1.688	5.175	..	X	..	..
2¹/₄ x							
20	.035	2.180	.828	..	..	X	..
18	.049	2.152	1.152	..	X	X	..
16	.065	2.120	1.517	..	X	X	..
14	.083	2.084	1.921	..	X	X	..
13	.095	2.060	2.187	..	X	..	..
12	.109	2.032	2.492	..	X	X	..
11	.120	2.010	2.730	..	..	X	..
1/8	.125	2.000	2.837	..	X	..	..
10	.134	1.982	3.028	..	X	..	..
5/32	.156	1.938	3.489	..	X	..	X
3/16	.188	1.874	4.140	..	X	..	..
7/32	.219	1.812	4.750	..	X	..	..
1/4	.250	1.750	5.340	..	X	..	..
9/32	.281	1.688	5.909	..	X	..	..
5/16	.313	1.624	6.475	..	X	..	..
11/32	.344	1.562	7.003	..	X	..	..
3/8	.375	1.500	7.509	..	X	..	..
13/32	.406	1.438	7.996	..	X	..	..
7/16	.438	1.374	8.476	..	X	..	..
1/2	.500	1.250	9.345	..	X	..	..
9/16	.563	1.124	10.14	X	..	..	..
5/8	.625	1.000	10.85	X*	..	..	..
3/4	.750	.750	12.02	X*	..	..	..
2⁵/₁₆ x							
3/16	.188	1.937	4.267	..	X	..	..
2³/₈ x							
18	.049	2.277	1.217	..	..	X	..
16	.065	2.245	1.604	..	X	X	..
14	.083	2.209	2.032	..	X	..	..
13	.095	2.185	2.313	..	X	..	..
1/8	.125	2.125	3.004	..	X	..	..
5/32	.156	2.063	3.697	..	X	..	..
3/16	.188	1.999	4.391	..	X	..	..
7/32	.219	1.937	5.043	..	X	..	..
1/4	.250	1.875	5.674	..	X	..	..
9/32	.281	1.813	6.284	..	X	..	..
5/16	.313	1.749	6.893	..	X	..	..
3/8	.375	1.625	8.010	..	X	..	..
7/16	.438	1.499	9.061	..	X	..	..
1/2	.500	1.375	10.01	..	X	..	..
9/16	.563	1.249	10.90	..	X	..	..
5/8	.625	1.125	11.68	X*	..	..	..

*Produced to O.D. and Wall dimensions

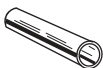
STEEL TUBING ROUND MECHANICAL



**SEAMLESS DOM WELDED
ELECTRIC WELDED**

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*
2⁷/₁₆ x						
1/4	.250	1.938	5.842	..	X	..
2¹/₂ x						
18	.049	2.402	1.283	..	..	X
16	.065	2.370	1.690	..	X	X
14	.083	2.334	2.143	..	X	X
13	.095	2.310	2.440	..	X	X
12	.109	2.282	2.783	..	X	..
11	.120	2.260	3.050	..	X	X
1/8	.125	2.250	3.171	..	X	..
5/32	.156	2.188	3.905	..	X	..
7	.180	2.140	4.460	..	..	X
3/16	.188	2.124	4.642	..	X	..
7/32	.219	2.062	5.335	..	X	..
1/4	.250	2.000	6.008	..	X	..
9/32	.281	1.938	6.659	..	X	..
5/16	.313	1.874	7.311	..	X	..
11/32	.344	1.812	7.921	..	X	..
3/8	.375	1.750	8.511	..	X	..
7/16	.438	1.624	9.646	..	X	..
1/2	.500	1.500	10.68	..	X	..
9/16	.563	1.374	11.65	..	X	..
5/8	.625	1.250	12.52	X	..	..
3/4	.750	1.000	14.02	X*	..	..
2⁹/₁₆ x						
1/4	.250	2.063	6.176	..	X	..
2⁵/₈ x						
16	.065	2.495	1.777	..	X	X
13	.095	2.435	2.567	..	X	..
12	.109	2.407	2.929	..	X	..
1/8	.125	2.375	3.338	..	X	..
5/32	.156	2.313	4.114	..	X	..
7	.180	2.265	4.700	..	..	X
3/16	.188	2.249	4.893	..	X	..
7/32	.219	2.187	5.627	..	X	..
1/4	.250	2.125	6.341	..	X	..
9/32	.281	2.063	7.035	..	X	..
5/16	.313	1.999	7.729	..	X	..
3/8	.375	1.875	9.011	..	X	..
7/16	.438	1.749	10.23	..	X	..
1/2	.500	1.625	11.35	..	X	..
9/16	.563	1.499	12.40	..	X	..
5/8	.625	1.375	13.35	..	X	..
2³/₄ x						
18	.049	2.652	1.414	..	..	X
16	.065	2.620	1.864	..	X	X
14	.083	2.584	2.364	..	X	..
13	.095	2.560	2.694	..	X	..

*Produced to O.D. and Wall dimensions



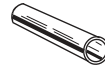
STEEL TUBING ROUND MECHANICAL

**SEAMLESS DOM WELDED
ELECTRIC WELDED**

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	DOM Welded	Electric Welded*
2³/₄ x						
11	.120	2.510	3.371	..	..	X
1¹/₈	.125	2.500	3.504	..	X	..
5³/₃₂	.156	2.438	4.322	..	X	..
3¹/₁₆	.188	2.374	5.144	..	X	..
7³/₃₂	.219	2.312	5.920	..	X	..
1¹/₄	.250	2.250	6.675	..	X	..
5¹/₁₆	.313	2.124	8.147	..	X	..
1¹/₃₂	.344	2.062	8.840	..	X	..
3³/₈	.375	2.000	9.512	..	X	..
7¹/₁₆	.438	1.874	10.82	..	X	..
1¹/₂	.500	1.750	12.02	..	X	..
9¹/₁₆	.563	1.624	13.15	..	X	..
5³/₈	.625	1.500	14.18	..	X	..
1¹/₁₆	.688	1.374	15.15	X	..	..
3¹/₄	.750	1.250	16.02	X*	..	..
7³/₈	.875	1.000	17.52	X*	..	..
2⁷/₈ x						
16	.065	2.745	1.951	..	X	X
13	.095	2.685	2.821	..	X	..
11	.120	2.635	3.531	..	..	X
1¹/₈	.125	2.625	3.671	..	X	..
3¹/₁₆	.188	2.499	5.395	..	X	..
7³/₃₂	.219	2.437	6.212	..	X	..
1¹/₄	.250	2.375	7.009	..	X	..
9³/₃₂	.281	2.313	7.785	..	X	..
5¹/₁₆	.313	2.249	8.564	..	X	..
3³/₈	.375	2.125	10.01	..	X	..
7¹/₁₆	.438	1.999	11.40	..	X	..
1¹/₂	.500	1.875	12.68	..	X	..
9¹/₁₆	.563	1.749	13.90	..	X	..
5³/₈	.625	1.625	15.02	..	X	..
3¹/₄	.750	1.375	17.02	X*	..	..
3 x						
18	.049	2.902	1.544	..	..	X
16	.065	2.870	2.038	..	X	X
14	.083	2.834	2.586	..	X	X
13	.095	2.810	2.947	..	X	X
12	.109	2.782	3.366	..	X	X
11	.120	2.760	3.691	..	..	X
1¹/₈	.125	2.750	3.838	..	X	..
10	.134	2.732	4.102	..	X	..
5³/₃₂	.156	2.688	4.738	..	X	..
7	.180	2.640	5.421	..	..	X
3¹/₁₆	.188	2.624	5.646	..	X	..
7³/₃₂	.219	2.562	6.505	..	X	..
1¹/₄	.250	2.500	7.343	..	X	X
9³/₃₂	.281	2.438	8.160	..	X	..
5¹/₁₆	.313	2.374	8.982	..	X	..

*Produced to O.D. and Wall dimensions

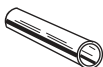
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	HF Seamless*	DOM Welded	Electric Welded*
3 x							
1 ¹ / ₃₂	.344	2.312	9.758	..	..	X	..
3 ¹ / ₈	.375	2.250	10.51	..	..	X	..
7 ¹ / ₁₆	.438	2.124	11.98	..	..	X	..
1 ¹ / ₂	.500	2.000	13.35	..	..	X	..
9 ¹ / ₁₆	.563	1.874	14.65	..	..	X	..
5 ¹ / ₈	.625	1.750	15.85	..	..	X	..
1 ¹ / ₁₆	.688	1.624	16.99	X	..	..	..
3 ¹ / ₄	.750	1.500	18.02	X	X	..	..
7 ¹ / ₈	.875	1.250	19.86	X	..	..	..
1	1.000	1.000	21.36	X*	..	..	..
3¹/₈ x							
16	.065	2.995	2.124	..	..	X	X
11	.120	2.885	3.851	..	..	X	..
1 ¹ / ₈	.125	2.875	4.005	..	..	X	..
3 ¹ / ₁₆	.188	2.749	5.897	..	..	X	..
7 ¹ / ₃₂	.219	2.687	6.797	..	..	X	..
1 ¹ / ₄	.250	2.625	7.676	..	..	X	..
5 ¹ / ₁₆	.313	2.499	9.400	..	..	X	..
3 ¹ / ₈	.375	2.375	11.01	..	..	X	..
7 ¹ / ₁₆	.438	2.249	12.57	..	..	X	..
1 ¹ / ₂	.500	2.125	14.02	..	..	X	..
9 ¹ / ₁₆	.563	1.999	15.40	..	..	X	..
3 ¹ / ₄	.750	1.625	19.02	X	..	..	..
3¹/₄ x							
16	.065	3.120	2.221	..	..	..	X
13	.095	3.060	3.201	..	..	X	..
11	.120	3.010	4.011	..	..	X	X
5 ¹ / ₃₂	.156	2.938	5.155	..	..	X	..
3 ¹ / ₁₆	.188	2.874	6.148	..	..	X	..
7 ¹ / ₃₂	.219	2.812	7.089	..	..	X	..
1 ¹ / ₄	.250	2.750	8.010	..	..	X	..
9 ¹ / ₃₂	.281	2.688	8.910	..	..	X	..
5 ¹ / ₁₆	.313	2.624	9.818	..	..	X	..
1 ¹ / ₃₂	.344	2.562	10.68	..	..	X	..
3 ¹ / ₈	.375	2.500	11.51	..	..	X	..
7 ¹ / ₁₆	.438	2.374	13.15	..	..	X	..
1 ¹ / ₂	.500	2.250	14.69	..	..	X	..
9 ¹ / ₁₆	.563	2.124	16.16	..	..	X	..
5 ¹ / ₈	.625	2.000	17.52	..	..	X	..
3 ¹ / ₄	.750	1.750	20.03	X	..	..	..
7 ¹ / ₈	.875	1.500	22.19	X*	..	..	..
1	1.000	1.250	24.03	X*	..	..	..

*Produced to O.D. and Wall dimensions



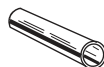
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
3³/₈ x							
1¹/₈	.125	3.125	4.339	..	..	X	..
3¹/₁₆	.188	2.999	6.399	..	..	X	..
1¹/₄	.250	2.875	8.344	..	..	X	..
5¹/₁₆	.313	2.749	10.24	..	..	X	..
3¹/₈	.375	2.625	12.02	..	..	X	..
7¹/₁₆	.438	2.499	13.74	..	..	X	..
1¹/₂	.500	2.375	15.35	..	..	X	..
5¹/₈	.625	2.125	18.36	..	..	X	..
3¹/₄	.750	1.875	21.03	X	..	..	..
3¹/₂ x							
18	.049	3.402	1.806	..	..	..	X
16	.065	3.370	2.385	..	..	X	X
14	.083	3.334	3.029	..	..	X	X
11	.120	3.260	4.332	..	..	X	X
1¹/₈	.125	3.250	4.506	..	..	X	..
10	.134	3.232	4.817	..	..	X	..
5¹/₃₂	.156	3.188	5.571	..	..	X	..
7	.180	3.140	6.382	..	..	..	X
3¹/₁₆	.188	3.124	6.650	..	..	X	..
7¹/₃₂	.219	3.062	7.674	..	..	X	..
1¹/₄	.250	3.000	8.678	..	..	X	X
9¹/₃₂	.281	2.938	9.661	..	..	X	..
5¹/₁₆	.313	2.874	10.65	..	..	X	..
11¹/₃₂	.344	2.812	11.59	..	..	X	..
3¹/₈	.375	2.750	12.52	..	..	X	..
7¹/₁₆	.438	2.624	14.32	..	..	X	..
1¹/₂	.500	2.500	16.02	..	X	X	..
9¹/₁₆	.563	2.374	17.66	..	..	X	..
5¹/₈	.625	2.250	19.19	..	..	X	..
3¹/₄	.750	2.000	22.03	X	..	..	..
7¹/₈	.875	1.750	24.53	X	..	..	..
1	1.000	1.500	26.70	X*	..	..	..
3⁵/₈ x							
16	.065	3.495	2.471	..	..	X	..
1¹/₈	.125	3.375	4.673	..	..	X	..
3¹/₁₆	.188	3.249	6.901	..	..	X	..
1¹/₄	.250	3.125	9.011	..	..	X	..
5¹/₁₆	.313	2.999	11.07	..	..	X	..
3¹/₈	.375	2.875	13.02	..	..	X	..
1¹/₂	.500	2.625	16.69	..	..	X	..
9¹/₁₆	.563	2.499	18.41	..	..	X	..
5¹/₈	.625	2.375	20.03	..	..	X	..
3¹/₄	.750	2.125	23.03	X	..	..	..
3³/₄ x							
13	.095	3.560	3.708	..	..	X	..
1¹/₈	.125	3.500	4.839	..	..	X	..
10	.134	3.482	5.175	..	..	X	..

* Produced to O.D. and Wall dimensions

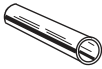
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
3³/₄ x							
3 ¹ / ₁₆	.188	3.374	7.152	..	..	X	..
7 ¹ / ₃₂	.219	3.312	8.259	..	..	X	..
1 ¹ / ₄	.250	3.250	9.345	..	..	X	..
5 ¹ / ₁₆	.313	3.124	11.49	..	..	X	..
11 ¹ / ₃₂	.344	3.062	12.51	..	..	X	..
3 ¹ / ₈	.375	3.000	13.52	..	..	X	..
7 ¹ / ₁₆	.438	2.874	15.49	..	..	X	..
1 ¹ / ₂	.500	2.750	17.36	..	X	X	..
9 ¹ / ₁₆	.563	2.624	19.16	..	..	X	..
5 ¹ / ₈	.625	2.500	20.86	..	..	X	..
11 ¹ / ₁₆	.688	2.374	22.50	X	..	..	..
3 ¹ / ₄	.750	2.250	24.03	X	..	..	..
7 ¹ / ₈	.875	2.000	26.87	X	..	..	..
1	1.000	1.750	29.37	X*	X	..	..
3⁷/₈ x							
1 ¹ / ₈	.125	3.625	5.006	..	..	X	..
3 ¹ / ₁₆	.188	3.499	7.403	..	..	X	..
1 ¹ / ₄	.250	3.375	9.679	..	..	X	..
5 ¹ / ₁₆	.313	3.249	11.91	..	..	X	..
3 ¹ / ₈	.375	3.125	14.02	..	..	X	..
7 ¹ / ₁₆	.438	2.999	16.08	..	..	X	..
1 ¹ / ₂	.500	2.875	18.02	..	..	X	..
3 ¹ / ₄	.750	2.375	25.03	X	..	..	..
4 x							
16	.065	3.870	2.732	..	..	..	X
14	.083	3.834	3.472	..	..	..	X
13	.095	3.810	3.962	..	..	X	X
11	.120	3.760	4.973	..	..	X	X
1 ¹ / ₈	.125	3.750	5.173	..	..	X	..
10	.134	3.732	5.533	..	..	..	X
7	.180	3.640	7.344	..	..	..	X
3 ¹ / ₁₆	.188	3.624	7.654	..	..	X	..
7 ¹ / ₃₂	.219	3.562	8.844	..	..	X	X
1 ¹ / ₄	.250	3.500	10.01	..	..	X	X
9 ¹ / ₃₂	.281	3.438	11.16	..	..	X	..
5 ¹ / ₁₆	.313	3.374	12.33	..	..	X	..
3 ¹ / ₈	.375	3.250	14.52	..	..	X	..
7 ¹ / ₁₆	.438	3.124	16.66	..	..	X	..
1 ¹ / ₂	.500	3.000	18.69	..	X	X	..
9 ¹ / ₁₆	.563	2.874	20.67	..	..	X	..
5 ¹ / ₈	.625	2.750	22.53	..	..	X	..
11 ¹ / ₁₆	.688	2.624	24.34	X	..	..	..
3 ¹ / ₄	.750	2.500	26.03	X	X	..	..
7 ¹ / ₈	.875	2.250	29.20	X	..	..	..
1	1.000	2.000	32.04	X	X	..	..
1 ¹ / ₈	1.125	1.750	34.54	X*	..	..	..
1 ¹ / ₄	1.250	1.500	36.71	X*	..	..	..

*Produced to O.D. and Wall dimensions



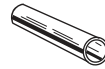
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
4¹/₈ x							
1¹/₄	.250	3.625	10.35	..	..	X	..
5¹/₁₆	.313	3.499	12.74	..	..	X	..
3¹/₈	.375	3.375	15.02	..	..	X	..
1¹/₂	.500	3.125	19.36	..	..	X	..
4¹/₄ x							
16	.065	4.120	2.905	..	..	..	X
11	.120	4.010	5.293	..	..	..	X
1¹/₈	.125	4.000	5.507	..	..	X	..
5¹/₃₂	.156	3.938	6.821	..	..	X	..
1¹/₄	.250	3.750	10.68	..	..	X	..
5¹/₁₆	.313	3.624	13.16	..	..	X	..
1¹/₃₂	.344	3.562	14.35	..	..	X	..
3¹/₈	.375	3.500	15.52	..	..	X	..
7¹/₁₆	.438	3.374	17.83	..	..	X	..
1¹/₂	.500	3.250	20.03	..	..	X	..
5¹/₈	.625	3.000	24.20	..	..	X	..
1¹/₁₆	.688	2.874	26.17	X	..	..	..
3¹/₄	.750	2.750	28.04	X	..	..	..
7¹/₈	.875	2.500	31.54	X	..	..	..
1	1.000	2.250	34.71	X	X	..	..
1¹/₈	1.125	2.000	37.55	X*	..	..	..
1¹/₄	1.250	1.750	40.05	X*	..	..	..
4³/₈ x							
3¹/₁₆	.188	3.999	8.407	..	..	X	..
1¹/₄	.250	3.875	11.01	..	..	X	..
5¹/₁₆	.313	3.749	13.58	..	..	X	..
3¹/₈	.375	3.625	16.02	..	..	X	..
1¹/₂	.500	3.375	20.69	..	..	X	..
5¹/₈	.625	3.125	25.03	..	..	X	..
3¹/₄	.750	2.875	29.04	X	..	..	..
4¹/₂ x							
16	.065	4.370	3.079	..	..	..	X
14	.083	4.334	3.915	..	..	..	X
13	.095	4.310	4.469	..	..	X	X
11	.120	4.260	5.613	..	..	..	X
1¹/₈	.125	4.250	5.841	..	..	X	..
7	.180	4.140	8.305	..	..	..	X
3¹/₁₆	.188	4.124	8.658	..	..	X	..
7¹/₃₂	.219	4.062	10.01	..	..	X	..
1¹/₄	.250	4.000	11.35	..	..	X	X
5¹/₁₆	.313	3.874	14.00	..	..	X	..

* Produced to O.D. and Wall dimensions

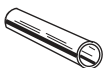
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
4 1/2 x							
3/8	.375	3.750	16.52	..	..	X	..
7/16	.438	3.624	19.00	..	..	X	..
1/2	.500	3.500	21.36	..	..	X	..
9/16	.563	3.374	23.67	..	..	X	..
5/8	.625	3.250	25.87	..	..	X	..
3/4	.750	3.000	30.04	X	X	..	..
7/8	.875	2.750	33.88	X	..	..	..
1	1.000	2.500	37.38	X	X	..	..
1 1/8	1.125	2.250	40.55	X	..	..	..
1 1/4	1.250	2.000	43.39	..	X	..	..
1 1/2	1.500	1.500	48.06	..	X	..	..
4 5/8 x							
3/16	.188	4.249	8.909	..	..	X	..
1/4	.250	4.125	11.68	..	..	X	..
5/16	.313	3.999	14.41	..	..	X	..
3/8	.375	3.875	17.02	..	..	X	..
1/2	.500	3.625	22.03	..	..	X	..
3/4	.750	3.125	31.04	X	..	..	..
4 3/4 x							
1 1/8	.120	4.510	5.934	..	..	..	X
1/8	.125	4.500	6.174	..	..	X	..
3/16	.188	4.374	9.160	..	..	X	..
1/4	.250	4.250	12.02	..	..	X	..
5/16	.313	4.124	14.83	..	..	X	..
3/8	.375	4.000	17.52	..	..	X	..
7/16	.438	3.874	20.17	..	..	X	..
1/2	.500	3.750	22.70	..	..	X	..
5/8	.625	3.500	27.53	..	..	X	..
3/4	.750	3.250	32.04	X	X	..	..
7/8	.875	3.000	36.21	X	..	..	..
1	1.000	2.750	40.05	X	..	..	..
4 7/8 x							
3/16	.188	4.499	9.411	..	..	X	..
7/16	.438	3.999	20.76	..	..	X	..
1/2	.500	3.875	23.36	..	..	X	..
3/4	.750	3.375	33.04	X	..	..	..
5 x							
16	.065	4.870	3.426	..	..	..	X
14	.083	4.834	4.359	..	..	..	X
11	.120	4.760	6.254	..	..	X	X
1/8	.125	4.750	6.508	..	..	X	..
7	.180	4.640	9.266	..	..	..	X
3/16	.188	4.624	9.662	..	..	X	..
1/4	.250	4.500	12.68	..	..	X	X
5/16	.313	4.374	15.67	..	..	X	..

*Produced to O.D. and Wall dimensions



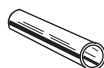
STEEL TUBING ROUND MECHANICAL

SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
5 x							
3/8	.375	4.250	18.52	..	..	X	..
7/16	.438	4.124	21.34	..	..	X	..
1/2	.500	4.000	24.03	..	..	X	..
5/8	.625	3.750	29.20	..	..	X	..
3/4	.750	3.500	34.04	X	X	..	..
7/8	.875	3.250	38.55	X	X	..	..
1	1.000	3.000	42.72	X	X	..	..
1 1/8	1.125	2.750	46.56	X	..	..	..
1 1/4	1.250	2.500	50.06	X	..	..	..
1 1/2	1.500	2.000	56.07	..	X	..	..
5 1/8 x							
5/16	.313	4.499	16.09	..	..	X	..
5/8	.625	3.875	30.04	..	..	X	..
5 1/4 x							
1/8	.125	5.000	6.842	..	..	X	..
3/16	.188	4.874	10.16	..	..	X	..
1/4	.250	4.750	13.35	..	..	X	..
5/16	.313	4.624	16.50	..	..	X	..
3/8	.375	4.500	19.52	..	..	X	..
1/2	.500	4.250	25.37	..	..	X	..
5/8	.625	4.000	30.87	..	..	X	..
3/4	.750	3.750	36.05	X	..	..	..
7/8	.875	3.500	40.88	X	X	..	..
1	1.000	3.250	45.39	X	X	..	..
1 1/4	1.250	2.750	53.40	X	X	..	..
5 3/8 x							
3/16	.188	4.999	10.41	..	..	X	..
5 1/2 x							
16	.065	5.370	3.773	..	..	..	X
11	.120	5.260	6.895	..	..	..	X
3/16	.188	5.124	10.67	..	..	X	..
1/4	.250	5.000	14.02	..	..	X	X
5/16	.313	4.874	17.34	..	..	X	..
3/8	.375	4.750	20.53	..	..	X	..
7/16	.438	4.624	23.68	..	..	X	..
1/2	.500	4.500	26.70	..	..	X	..
5/8	.625	4.250	32.54	..	..	X	..
3/4	.750	4.000	38.05	X	..	..	..
7/8	.875	3.750	43.22	X	..	..	..
1	1.000	3.500	48.06	X	X	..	..
1 1/4	1.250	3.000	56.74	X	..	..	..
1 1/2	1.500	2.500	64.08	..	X	..	..
5 5/8 x							
5/16	.313	4.999	17.76	..	..	X	..
5/8	.625	4.375	33.38	..	..	X	..

*Produced to O.D. and Wall dimensions

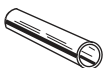
STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
5^{3/4} x							
1/8	.125	5.500	7.509	..	..	X	..
1/4	.250	5.250	14.69	..	..	X	..
5/16	.313	5.124	18.18	..	..	X	..
3/8	.375	5.000	21.53	..	..	X	..
1/2	.500	4.750	28.04	..	..	X	..
3/4	.750	4.250	40.05	X	..	..	..
7/8	.875	4.000	45.56	X	..	..	..
1	1.000	3.750	50.73	X	X	..	..
6 x							
16	.065	5.870	4.120	..	..	..	X
14	.083	5.834	5.245	..	..	..	X
11	.120	5.760	7.536	..	..	..	X
1/8	.125	5.750	7.843	..	..	X	..
10	.134	5.732	8.395	..	..	..	X
7	.180	5.640	11.19	..	..	..	X
3/16	.188	5.624	11.67	..	..	X	..
1/4	.250	5.500	15.35	..	..	X	X
5/16	.313	5.374	19.01	..	..	X	..
3/8	.375	5.250	22.53	..	..	X	..
1/2	.500	5.000	29.37	..	X	X	..
5/8	.625	4.750	35.88	..	..	X	..
3/4	.750	4.500	42.05	X	..	..	..
7/8	.875	4.250	47.89	X	..	..	..
1	1.000	4.000	53.40	X	X	..	..
1 1/4	1.250	3.500	63.41	X	X	..	..
1 1/2	1.500	3.000	72.09	..	X	..	..
6 1/4 x							
1/8	.125	6.000	8.177	..	..	X	..
3/16	.188	5.874	12.17	..	..	X	..
1/4	.250	5.750	16.02	..	..	X	..
5/16	.313	5.624	19.85	..	..	X	..
3/8	.375	5.500	23.53	..	..	X	..
1/2	.500	5.250	30.71	..	..	X	..
5/8	.625	5.000	37.55	..	..	X	..
3/4	.750	4.750	44.06	X	..	..	..
7/8	.875	4.500	50.23	X	..	..	..
1	1.000	4.250	56.07	X	X	..	..
6 1/2 x							
10	.134	6.232	9.111	..	..	X	..
3/16	.188	6.124	12.67	..	..	X	..
1/4	.250	6.000	16.69	..	..	X	..
3/8	.375	5.750	24.53	..	..	X	..
1/2	.500	5.500	32.04	..	..	X	..
5/8	.625	5.250	39.22	..	..	X	..
3/4	.750	5.000	46.06	X	..	..	..
7/8	.875	4.750	52.57	X	..	..	..

*Produced to O.D. and Wall dimensions



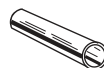
STEEL TUBING ROUND MECHANICAL

**SEAMLESS DOM WELDED
ELECTRIC WELDED**

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
6^{1/2} x							
1	1.000	4.500	58.74	X	X	..	..
1^{1/4}	1.250	4.000	70.09	X	X	..	..
1^{1/2}	1.500	3.500	80.10	..	X	..	..
6^{5/8} x							
1/8	.125	6.375	8.678	..	..	..	X
3/16	.188	6.249	12.92	..	..	X	..
6^{3/4} x							
1/4	.250	6.250	17.36	..	..	X	..
3/8	.375	6.000	25.53	..	..	X	..
1/2	.500	5.750	33.38	..	..	X	..
7/8	.875	5.000	54.90	X	..	..	..
1	1.000	4.750	61.41	X	X	..	..
7 x							
17	.058	6.884	4.300	..	..	..	X
15	.072	6.856	5.327	..	..	..	X
1/8	.125	6.750	9.178	..	..	..	X
3/16	.188	6.624	13.68	..	..	X	..
1/4	.250	6.500	18.02	..	..	X	..
3/8	.375	6.250	26.53	..	..	X	..
1/2	.500	6.000	34.71	..	..	X	..
5/8	.625	5.750	42.55	..	..	X	..
3/4	.750	5.500	50.06	X	X	..	..
1	1.000	5.000	64.08	X	X	..	..
1^{1/4}	1.250	4.500	76.76	X	X	..	..
1^{1/2}	1.500	4.000	88.11	..	X	..	..
2	2.000	3.000	106.8	..	X	..	..
7^{1/4} x							
3/16	.188	6.874	14.18	..	..	X	..
1/4	.250	6.750	18.69	..	..	X	..
3/8	.375	6.500	27.53	..	..	X	..
1/2	.500	6.250	36.05	..	..	X	..
1	1.000	5.250	66.75	X	X	..	..
7^{1/2} x							
1/4	.250	7.000	19.36	..	..	X	..
3/8	.375	6.750	28.54	..	..	X	..
1/2	.500	6.500	37.38	..	..	X	..
5/8	.625	6.250	45.89	..	..	X	..
3/4	.750	6.000	54.07	X	..	..	..
1	1.000	5.500	69.42	X	X	..	..
1^{1/4}	1.250	5.000	83.44	X	..	..	..
1^{1/2}	1.500	4.500	96.12	..	X	..	..

*Produced to O.D. and Wall dimensions

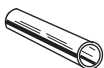
STEEL TUBING ROUND MECHANICAL



**SEAMLESS DOM WELDED
ELECTRIC WELDED**

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
7³/₄ x							
1¹/₄	.250	7.250	20.03	..	..	X	..
3³/₈	.375	7.000	29.54	..	..	X	..
1¹/₂	.500	6.750	38.72	..	..	X	..
5⁵/₈	.625	6.500	47.56	..	..	X	..
1	1.000	5.750	72.09	X	X	..	..
8 x							
15	.072	7.856	6.096	..	..	..	X
12	.109	7.782	9.186	..	..	..	X
1¹/₈	.125	7.750	10.51	..	..	..	X
10	.134	7.732	11.26	..	..	..	X
3³/₁₆	.188	7.624	15.69	..	..	..	X
1¹/₄	.250	7.500	20.69	..	..	X	X
3³/₈	.375	7.250	30.54	..	..	X	..
1¹/₂	.500	7.000	40.05	..	X	X	..
5⁵/₈	.625	6.750	49.23	..	..	X	..
3³/₄	.750	6.500	58.07	X	X	..	..
1	1.000	6.000	74.76	X	X	..	..
1¹/₈	1.125	5.750	82.60	X	..	..	..
1¹/₄	1.250	5.500	90.11	X	..	..	..
1¹/₂	1.500	5.000	104.1	..	X	..	..
2	2.000	4.000	128.2	..	X	..	..
8¹/₄ x							
1¹/₄	.250	7.750	21.36	..	..	X	..
5⁵/₈	.625	7.000	50.90	..	..	X	..
1	1.000	6.250	77.43	X	X	..	..
8¹/₂ x							
1¹/₄	.250	8.000	22.03	..	..	X	..
3³/₈	.375	7.750	32.54	..	..	X	..
1¹/₂	.500	7.500	42.72	..	..	X	..
3³/₄	.750	7.000	62.08	X	..	..	..
1	1.000	6.500	80.10	..	X	..	..
1¹/₄	1.250	6.000	96.79	X	X	..	..
1¹/₂	1.500	5.500	112.1	..	X	..	..
8⁵/₈ x							
1¹/₈	.125	8.375	11.35	..	..	..	X
8³/₄ x							
3³/₈	.375	8.000	33.54	..	..	X	..
1	1.000	6.750	82.77	X	X	..	..
1¹/₂	1.500	5.750	116.1	..	X	..	..

*Produced to O.D. and Wall dimensions



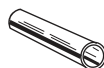
STEEL TUBING ROUND MECHANICAL

**SEAMLESS DOM WELDED
ELECTRIC WELDED**

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
9 x							
1/4	.250	8.500	23.36	..	..	X	..
3/4	.750	7.500	66.08	..	X	..	..
1	1.000	7.000	85.44	..	X	..	..
1 1/4	1.250	6.500	103.5	..	X	..	..
1 1/2	1.500	6.000	120.2	..	X	..	..
2	2.000	5.000	149.5	..	X	..	..
9 1/4 x							
1/2	.500	8.250	46.73	..	..	X	..
1	1.000	7.250	88.11	X	X	..	..
9 1/2 x							
1/4	.250	9.000	24.70	..	..	X	..
1/2	.500	8.500	48.06	..	..	X	..
3/4	.750	8.000	70.09	X	..	..	..
1	1.000	7.500	90.78	X	X	..	..
1 1/2	1.500	6.500	128.2	..	X	..	..
2	2.000	5.500	160.2	..	X	..	..
9 3/4 x							
1/4	.250	9.250	25.37	..	..	X	..
1/2	.500	8.750	49.40	..	..	X	..
1	1.000	7.750	93.45	..	X	..	..
10 x							
15	.072	9.856	7.634	..	..	..	X
12	.109	9.782	11.51	..	..	..	X
10	.134	9.732	14.12	..	..	..	X
3/16	.188	9.624	19.70	..	..	..	X
1/4	.250	9.500	26.03	..	..	X	..
3/8	.375	9.250	38.55	..	..	X	..
1/2	.500	9.000	50.73	..	..	X	..
3/4	.750	8.500	74.09	X	..	..	..
1	1.000	8.000	96.12	..	X	..	..
1 1/4	1.250	7.500	116.8	X	X	..	..
2	2.000	6.000	170.9	..	X	..	..
10 1/4 x							
1 1/2	1.500	7.250	140.2	..	X	..	..

*Produced to O.D. and Wall dimensions

STEEL TUBING ROUND MECHANICAL



SEAMLESS DOM WELDED
ELECTRIC WELDED

O.D. & Ga.	Wall	I.D.	Lbs. Per Ft.	C.D. Seamless	H.F. Seamless*	DOM Welded	Electric Welded*
10^{1/2} x							
1/4	.250	10.000	27.37	..	..	X	..
3/8	.375	9.750	40.55	..	..	X	..
1/2	.500	9.500	53.40	..	..	X	..
1	1.000	8.500	101.5	..	X	..	..
1 1/4	1.250	8.000	123.5	..	X	..	..
1 1/2	1.500	7.500	144.2	..	X	..	..
10^{3/4} x							
1	1.000	8.750	104.1	..	X	..	..
1 1/4	1.250	8.250	126.8	..	X	..	..
11 x							
1/2	.500	10.000	56.07	..	..	X	..
1	1.000	9.000	106.8	..	X	..	..
1 1/2	1.500	8.000	152.2	..	X	..	..
2	2.000	7.000	192.2	..	X	..	..
11 1/2 x							
1	1.000	9.500	112.1	..	X	..	..
11 3/4 x							
3/4	.750	10.250	88.11	X	X	..	..
12 x							
3/16	.188	11.624	23.72	..	..	..	X
1/4	.250	11.500	31.37	..	..	X	..
3/8	.375	11.250	46.56	..	..	X	..
1/2	.500	11.000	61.41	..	..	X	..
3/4	.750	10.500	90.11	..	X	..	..
1	1.000	10.000	117.5	..	X	..	..
1 1/2	1.500	9.000	168.2	..	X	..	..
2	2.000	8.000	213.6	..	X	..	..
12 1/4 x							
3/4	.750	10.750	92.12	..	X	..	..
13 x							
1	1.000	11.000	128.2	..	X	..	..
15 x							
3/4	.750	13.500	114.1	..	X	..	..

*Produced to O.D. and Wall dimensions



STEEL HYDRAULIC-LINE TUBING

Cold Drawn Welded

Produced To O.D. and I.D. Dimensions

Soft Annealed—Oiled

SAE J525—Electronically tested

Stock Lengths: 20 Ft. Random

O.D. & Ga.	Wall	I.D.	Lbs. per Ft.
1/8 x			
22 *	.028	.069	.0290
1/4 x			
22	.028	.194	.0664
20	.035	.180	.0804
18	.049	.152	.1052
5/16 x			
20	.035	.243	.1039
18	.049	.215	.1382
3/8 x			
20	.035	.305	.1271
18	.049	.277	.1706
16	.065	.245	.2152
1/2 x			
20	.035	.430	.1738
18	.049	.402	.2360
16	.065	.370	.3020
14	.083	.334	.3696
5/8 x			
20	.035	.555	.2205
18	.049	.527	.3014
16	.065	.495	.3888
14	.083	.459	.4805
13	.095	.435	.5377
3/4 x			
20	.035	.680	.2673
18	.049	.652	.3668
16	.065	.620	.4755
14	.083	.584	.5913
13	.095	.560	.6646
11	.120	.510	.8074
7/8 x			
16	.065	.745	.5623
14	.083	.709	.7021
13	.095	.685	.7914
12	.109	.657	.8917
1 x			
16	.065	.870	.6491
14	.083	.834	.8129
13	.095	.810	.9182
12	.109	.782	1.037
11	.120	.760	1.128
1 1/4 x			
18	.049	1.152	.6285
16	.065	1.120	.8226
13	.095	1.060	1.172
12	.109	1.032	1.328
11	.120	1.010	1.448
1 1/2 x			
16	.065	1.370	.9962
13	.095	1.310	1.426
11	.120	1.260	1.769
2 x			
16	.065	1.870	1.343
11	.120	1.760	2.409

* Produced to O.D. and Wall dimensions



PIPE SIZE STEEL TUBING ROUND STRUCTURAL

46 ksi Minimum Yield

ASTM A 500 Grade C

Produced by the Electric Resistance Welded Process. Uncoated.
Not Pressure Tested. This product is less expensive than regular pipe and
has higher mechanical properties and better finish.
Random Lengths 21 Ft.

Nom. Size in Inches	Wall	O.D.	Lbs. per Ft.	Nom. Size in Inches	Wall	O.D.	Lbs. per Ft.
1/2	.083	.840	.6710	1 1/4	.140	1.660	2.273
1/2	.109	.840	.8510	1 1/2	.109	1.900	2.085
3/4	.113	1.050	1.130	1 1/2	.145	1.900	2.718
1	.109	1.315	1.404	2	.109	2.375	2.638
1	.133	1.315	1.679	2	.154	2.375	3.653
1 1/4	.109	1.660	1.806	2 1/2	.203	2.815	5.790



STEEL ROUND BLACK PIPE

Uncoated
Plain Ends*

Also available Galvanized

A 53 Type F Schedule 40

Schedule 80

A 53 Gr. B, Type E Schedule 40 & Std

Schedule 80 & XS

Nominal Size in Inches	Schedule	Wall	O.D.	Lbs. per Ft.	ASTM A 53 Type F	ASTM A 53 Type E Gr. B
1/8	40	.068	.405	.24	21'	..
1/4	40	.088	.540	.42	21'	..
1/4	80	.119	.540	.54	21'	..
3/8	40	.091	.675	.57	21'	..
3/8	80	.126	.675	.74	21'	..
1/2	40	.109	.840	.85	21'	..
1/2	80	.147	.840	1.09	21'	..
3/4	40	.113	1.050	1.13	21'	..
3/4	80	.154	1.050	1.47	21'	..
1	40	.133	1.315	1.68	21'	..
1	80	.179	1.315	2.17	21'	..
1 1/4	40	.140	1.660	2.27	21'	..
1 1/4	80	.191	1.660	3.00	21'	..
1 1/2	40	.145	1.900	2.72	21'	..
1 1/2	80	.200	1.900	3.63	21'	..
2	40	.154	2.375	3.65	21'	..
2	80	.218	2.375	5.02	21'	..
2 1/2	40	.203	2.875	5.79	21'	..
2 1/2	80	.276	2.875	7.66	21'	..
3	40	.216	3.500	7.58	21'	..
3	80	.300	3.500	10.25	21'	..
3 1/2	40	.226	4.000	9.11	21'	..
3 1/2	80	.318	4.000	12.51	21'	..
4	40	.237	4.500	10.79	21'	..
4	80	.337	4.500	14.98	21'	..
5	40	.258	5.563	14.62	..	20-24'
5	80	.375	5.563	20.78	..	20-24'
6	40	.280	6.625	18.97	..	20-24'
6	80	.432	6.625	28.57	..	20-24'
8	40	.322	8.625	28.55	..	20-24'
8	80	.500	8.625	43.39	..	20-24'
10	40	.365	10.750	40.48	..	20-24'
12	XS	.500	12.750	65.42	..	20-24'
14	Std.	.375	14.000	54.57	..	20-24'
14	XS	.500	14.000	72.09	..	20-24'
16	XS	.500	16.000	82.77	..	20-24'

* Can be furnished threaded or threaded and coupled

TUBE & PIPE



Pipe, Plain End

Structural Grade
ASTM A500, Stock Length 21 Ft.

Nominal Size In Inch	Weight Per Ft. In Lbs.	O.D. In Inches	Wall Thickness Inches	Butt Welded ASTM A53F	ERW ASTM A53E	Pipe Size ERW
Schedule 40 - Standard¹						
1/8	.2400	.405	.0680	X	..	..
1/4	.4200	.540	.0880	X	..	..
3/8	.5700	.675	.0910	X	..	..
1/2	.8500	.840	.1090	X	X	X
3/4	1.130	1.050	.1130	X	X	X
1	1.680	1.315	.1330	X	..	X
1 1/4	2.270	1.660	.1400	X	..	X
1 1/2	2.720	1.900	.1450	X	..	X
2	3.650	2.375	.1540	X	..	X
2 1/2	5.790	2.875	.2030	X	X	X
3	7.580	3.500	.2160	X	X	X
3 1/2	9.110	4.000	.2260	X	X	X
4	10.79	4.500	.2370	X	X	X
5	14.62	5.563	.2580	..	X	..
6	18.97	6.625	.2800	..	X	X
8	28.55	8.625	.3220	..	X	X
10	40.48	10.750	.3650	..	X	..
12	49.56	12.750	.3750	..	X	..
14	54.57	14.000	.3750	..	X	..
16	62.58	16.000	.3750	..	X	..
Schedule 80 - Extra Heavy²						
1/4	.5400	.540	.1190	X	..	..
3/8	.7388	.675	.1260	X	..	..
1/2	1.090	.840	.1470	X	..	..
3/4	1.470	1.050	.1540	X	..	..
1	2.170	1.315	.1790	X	..	..
1 1/4	3.000	1.660	.1910	X	..	..
1 1/2	3.630	1.900	.2000	X	..	..
2	5.020	2.375	.2180	X	..	..
2 1/2	7.660	2.875	.2760	X	..	..
3	10.25	3.500	.3000	X	..	..
3 1/2	12.51	4.000	.3180	X	..	..
4	14.98	4.500	.3370	X	..	..
10	54.74	10.750	.5000	..	X	..
12	65.42	12.750	.5000	..	X	..
14	72.09	14.000	.5000	..	X	..
16	82.77	16.000	.5000	..	X	..

¹ For sizes under 12" Schedule 40 and Standard are the same.

² For sizes under 10" Schedule 80 and Extra Heavy are the same.

³ Seamless ASTM A53 GR.B stocked in San Francisco only.

SECTION 7

Galvanized

SECTION 7: Galvanized.....	101
General Information	102
Angles.....	103
Beams American Standard.....	103
Beams Wide Flange.....	104
Channels.....	104
Tees.....	104
Plate.....	105
Expanded Metal.....	106
Strip.....	106
Flat Bars.....	106-107
Rounds.....	107
Square Tubing.....	107
Pipe Threaded & Coupled.....	108

Products in this section are normally stocked. Most products in this catalog can be sent out per your requirement.

General Information on Hot Dip Galvanized Steel

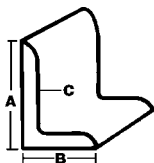
Hot dip galvanizing is the process of applying a zinc coating to iron and steel by immersing the material in a bath consisting primarily of molten zinc.

There are three basic elements in the galvanizing process:

1. **Surface Preparation** — This process consists of hot alkali solution to remove organic contaminants like dirt, paint markings, grease, and oil from metal surfaces. Next the material is pickled by dipping it in a diluted solution of hot sulfuric acid or ambient temperature hydrochloric acid. The material is then fluxed by dipping it in an aqueous solution of zinc ammonium chloride.
2. **Galvanizing** — This is the complete immersion of the material in a bath of at least 98% pure molten zinc until it reaches bath temperature of 850 degrees fahrenheit. It is then slowly withdrawn and the excess galvanizing is removed.
3. **Inspection** — This consists of visual checks for appearance and a variety of simple laboratory tests for thickness, uniformity and adherence of coating.

Galvanizing is used in a variety of applications such as: bridges, highways, power generation, transportation, water and waste treatment, buildings, agriculture and food processing, petrochemical and chemical, pulp and paper, and original equipment manufacturing.

GALVANIZED



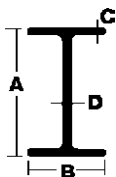
Galvanized Angles

A36 Hot Rolled, Hot Dipped

Stock Lengths 20 Ft.

Est. Lbs include Wgt of Zinc

Size in Inches			Est. Lbs.	Est. Lbs.
A	B	C	Per Ft.	Per 20'
3/4	x 3/4	x 1/8	.620	12.40
1	x 1	x 1/8	.840	16.80
		x 3/16	1.218	24.36
		x 1/4	1.565	31.29
1 1/4	x 1 1/4	x 1/8	1.061	21.21
		x 3/16	1.554	31.08
		x 1/4	2.016	40.32
1 1/2	x 1 1/2	x 1/8	1.292	25.83
		x 3/16	1.890	37.80
		x 1/4	2.457	49.14
2	x 2	x 1/8	1.733	34.65
		x 3/16	2.562	51.24
		x 1/4	3.350	66.99
		x 3/8	4.935	98.70
2 1/2	x 2 1/2	x 1/4	4.305	86.10
3	x 3	x 3/16	3.896	77.92
		x 1/4	5.145	102.90
3	x 3	x 3/8	7.56	151.20
4	x 4	x 1/4	6.93	138.60
		x 5/16	8.61	172.20
		x 3/8	10.29	205.80



Galvanized American Standard Beams

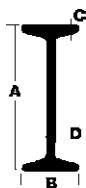
A36 Hot Rolled, Hot Dipped

Stock Lengths 20 Ft.

Galvanizing adds approximately 5%
to the Lbs per foot shown

Size	Lbs.	Depth	Flange Thickness	Web
Thickness	Per Ft.	B	C	D
3	x 5.7	2.330	.260	.170
4	x 7.7	2.663	.293	.193
6	x 12.5	3.332	.359	.232
8	x 18.4	4.001	.425	.271

GALVANIZED



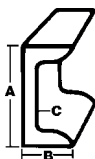
Galvanized Wide Flange Beams

A36 Hot Rolled, Hot Dipped

Stock Lengths 20 Ft.

Galvanizing adds approximately 5%
to the Lbs per foot shown

Size		Lbs. Per Ft.	Depth A	Flange Width B	Flange Thickness C	Web Thickness D
4	x	13	4.16	4.060	.345	.280
6	x	15	5.99	5.990	.260	.230
	x	20	6.20	6.020	.365	.260
8	x	18	8.14	5.250	.330	.230
12	x	26	12.22	6.490	.380	.230



Galvanized Channels

A36 Hot Rolled, Hot Dipped

Stock Lengths 20 Ft.

Galvanizing adds approximately 5%
to the Lbs per foot shown

Size					Lbs. Per Ft.	Lbs. Per 20'
2	x	1	x	3/16	2.436	48.72
3	x	4.1#			4.305	86.10
4	x	5.4#			5.67	113.40
6	x	8.2#			8.61	172.20
8	x	11.5#			12.075	241.50
10	x	15.3#			16.065	321.30

Galvanized Tees

A36 Hot Rolled, Hot Dipped

Stock Lengths 20 Ft.

Est. Lbs include the weight of the Zinc



Size in Inches			Lbs. Per Ft.	Lbs. Per 20'
B	D	T		
2	x 2	x 1/4	3.801	76.02

GALVANIZED

Galvanized Plate

A36 Hot Rolled, Hot Dipped
Est. Lbs include the weight
of the Zinc



Thickness	Lbs. Per Sq. Ft.	Size		Lbs. Per Plate
		A	B	
3/16	8.043	48	120	321.72
1/4	10.721	48	120	428.84
1	42.882	48	96	1,372.22

GALVANIZED



Galvanized Expanded Metal

Hot Rolled, Hot Dipped
Flattened and Standard (Raised)
Est. Lbs include the weight of the Zinc

Size Designation	Sheet Size	Est. Lbs. Per Sq. Ft.	Approx. Size of Opening in Inches
1/2 x #16	48 x 96	.903	.375 x .938
x #13	48 x 96	1.5435	.312 x .938
	48 x 120		
3/4 x #13	48 x 96	.84	.750 x 1.688
x # 9	48 x 96	1.89	.688 x 1.562



Galvanized Strip

CQ Hot Rolled, Hot Dipped
Stock Lengths 20 Ft.
Est. Lbs include the weight of the Zinc

Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
1/8 x 1	.4505	9.010
x 1 1/2	.6758	13.516
x 2	.901	18.020
3/16 x 1	.6758	13.516
x 1 1/4	.8447	16.894
x 1 1/2	1.0136	20.274
x 2	1.352	27.030
x 3	2.028	40.556
x 4	2.703	54.060



Galvanized Flat Bars

A36 Hot Rolled, Hot Dipped
Stock Lengths 20 Ft.
Est. Lbs include the weight of the Zinc

Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
1/4 x 1	.8925	17.85
x 1 1/4	1.1162	22.32
x 1 1/2	1.3388	26.78
x 2	1.785	35.70
x 3	2.6775	53.55
x 4	3.57	71.40
x 6	5.355	107.10
3/8 x 1	1.3388	26.78
x 1 1/4	1.6737	33.47
x 1 1/2	2.0087	40.17

GALVANIZED

Galvanized Flat Bars (con't)

Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
3/8 x 2	2.6775	53.55
x 3	4.0163	80.33
x 4	5.3550	107.10
1/2 x 3	5.3550	107.10
x 6	10.7100	214.20

Galvanized Rounds

A36 Hot Rolled, Hot Dipped
Stock Lengths 20 Ft.

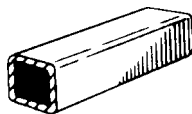
Est. Lbs include the weight
of the Zinc



Size in Inches	Lbs. Per Ft.	Lbs. Per 20'
3/8	.3943	7.89
1/2	.7010	14.02
5/8	1.0952	21.90
3/4	1.5771	31.54

Galvanized Square Tubing

Hot Rolled, Hot Dipped
Stock Lengths 20 Ft. and 24 Ft.
Est. Lbs include the weight of the Zinc



Size in Inches	Wall Thickness	Length	Lbs. Per Ft.	Lbs. Per 20'
1	.120	24	1.51	30.2
1 1/2	.120	24	2.36	47.2
2	.120	24	3.22	64.4
2	.250	20	5.68	113.6

GALVANIZED

Galvanized Pipe, Threaded and Coupled

ASTM A53 Tested, Schedule 40

Stock Lengths 21 Ft.

Est. Lbs include the weight of the Zinc

Nominal Size	O.D.	I.D.	Wall Thickness	Lbs. Per Ft.	Lbs. Per 21'
1/2	.840	.622	.109	.8925	18.74
3/4	1.050	.824	.113	1.1865	24.91
1	1.315	1.049	.133	1.7640	37.04
1 1/4	1.660	1.380	.140	2.3835	50.05
1 1/2	1.900	1.610	.145	2.8560	59.98
2	2.375	2.067	.154	3.8325	80.48
2 1/2	2.875	2.469	.203	6.0795	127.67
3	3.500	3.068	.216	7.9590	167.14
4	4.500	4.026	.237	11.3295	237.92

SECTION 8

Stainless Steel

SECTION 8: Stainless Steel.....	109
General Information.....	110-113
Sheet.....	114-116
Plate.....	117-118
Rounds ASTM A276, 303, 304 316.....	119-121
Flat Bar.....	122-124
Angles.....	125
Steel Tubing.....	126-128
Pipe.....	129
Channels, Beams, Tees.....	130

General Information on Stainless Steel Standard Finishes of Stainless Steel Flat-Rolled Products

Surface finishes on stainless steel sheets, strip, and plates are generally selected for appearance, although degree and extent of forming and welding should be taken into consideration. Where forming is severe, or much welding is done, it is often more economical to use a cold rolled finish and then polish.

Unpolished Finishes

No. 1 Finish. Hot rolled, annealed and descaled. Produced by hot rolling followed by annealing and descaling. Generally used in industrial applications, such as for heat or corrosion resistance, where smoothness of finish is not of particular importance.

No. 2D Finish. A dull cold rolled finish produced by cold rolling, annealing, and descaling. The dull finish may result from the descaling or pickling operation or may be developed by a final light cold roll pass on dull rolls. The dull finish is favorable for the retention of lubricants on the surface in deep drawing operations.

This finish is generally used in forming deep drawn articles which may be polished after fabrication.

No. 2B Finish. A bright cold rolled finish commonly produced in the same manner as No. 2D, except that the annealed and descaled sheet receives a final light cold rolled pass on polished rolls. This is a general purposes cold rolled finish. It is commonly used for all but exceptionally difficult deep drawing applications.

This is more readily polished than No. 1 or No. 2D Finish.

Polished Finishes

Sheets can be produced with one or two sides polished. When polished on one side only, the other side may be rough ground in order to obtain the necessary flatness.

No. 3 Finish is a polished finish obtained with abrasives approximately 100 mesh, and which may or may not be additionally polished during fabrication.

No. 4 Finish is a general purpose polished finish widely used for restaurant equipment, kitchen equipment, store fronts, dairy equipment, etc. Following initial grinding with coarser abrasives, sheets are generally finished last with abrasives approximately 120 to 150 mesh.

No. 6 Finish is a dull satin finish having lower reflectivity than No. 4 Finish. It is produced by Tampico brushing No. 4 Finish sheets in a medium of abrasive and oil.

It is used for architectural applications and ornamentation where a high luster is undesirable; it is also used effectively to contrast with brighter finishes.

No. 7 Finish has a high degree of reflectivity. It is produced by buffing of finely ground surface, but the grit lines are not removed. It is chiefly used for architectural and ornamental purposes.

No. 8 Finish is the most reflective finish that is commonly produced. It is obtained by polishing with successively finer abrasives and buffing extensively with very fine buffing rouges. The surface is essentially free of grit lines from preliminary grinding operations. This finish is most widely used for press plates, as well as for small mirrors and reflectors.

Type 303

C	Mn	P	S	Si	Cr	Ni
0.15	2.00	0.20	0.15	1.00	<u>17.00</u>	<u>8.00</u>
Max.	Max.	Max.	Min.	Max.	19.00	10.00

Type 303 is a chromium-nickel stainless steel modified by the addition of selenium or sulphur, as well as phosphorous, to improve machinability and non-seizing properties. It is the most readily machinable of all the chromium-nickel grades and has good corrosion resistance. It is non-magnetic in the annealed condition and non hardenable by heat treatment. Tensile strength can be increased by cold working.

Applications—Used almost exclusively for parts requiring machining, grinding or polishing where good corrosion resistance is also required. It is non-seizing and non-galling properties make it ideal for moving parts. Being an austenitic steel, it is useful where low magnetic permeability is desired.

STAINLESS STEEL

Type 304

C	Mn	P	S	Si	Cr	Ni
0.08	2.00	0.045	0.030	0.75	<u>18.00</u>	<u>8.00</u>
Max.	Max.	Max.	Max.	Max.	20.00	10.50

Type 304 is the basic chromium-nickel stainless steel. It combines excellent mechanical properties with excellent resistance to many corrosive agents encountered in domestic and industrial use. It is non-magnetic in the annealed condition and not hardened by heat treatment. Both hardness and tensile strength can be increased by cold working. The analysis of Type 304 is similar to that of Type 302, except that Type 304 is modified by lowered carbon content. This provides good resistance to corrosion in welded construction where subsequent heat treatment is not practicable.

Applications—Used where corrosion resistance and good mechanical properties are primary requirements. These grades are widely accepted in such industries as dairy, beverage and other food products where the highest degree of sanitation and cleanliness is of prime importance. Parts for handling acetic, nitric and citric acids, organic and inorganic chemicals, dyestuffs, crude and refined oils, etc., are fabricated from this material. Because of its lack of magnetism it is highly desirable for instruments. It is also widely used for architectural trim. Type 304, as noted above, finds particular use in applications requiring welding.

Type 304 L (ELC)

C	Mn	P	S	Si	Cr	Ni
0.030	2.00	0.045	0.030	0.75	<u>18.00</u>	<u>8.00</u>
Max.	Max.	Max.	Max.	Max.	20.00	12.00

Type 304 L (or ELC) is a very low carbon chromium nickel steel with corrosion resistance similar to T 304, but with superior resistance to intergranular corrosion following welding or stress relieving. The range of carbon content is controlled to the level of .03 maximum. This limits the formation of harmful carbides to a great extent. Post-weld annealing isn't necessary in most cases.

Applications—Any fabricating applications where annealing after welding is impractical, or where the specifications are very exact regarding intergranular corrosion, otherwise used in same types of equipment as 304.

STAINLESS STEEL

Type 316

C	Mn	P	S	Si	Cr	Ni	Mo
0.08	2.00	0.045	0.030	0.75	<u>16.00</u>	<u>10.00</u>	<u>2.00</u>
Max.	Max.	Max.	Max.	Max.	18.00	14.00	3.00

Type 316 is a chromium-nickel stainless steel modified by the addition of molybdenum, which greatly increases its corrosion resistance as well as its mechanical properties at elevated temperatures. It is non-magnetic in the annealed condition and not hardenable by heat treatment. It is an outstanding stainless steel suitable for a large number of applications.

Applications—Widely used in the paper, textile and chemical industries, where parts are subjected to the corrosive effects of salts and reducing acids. Also used in the manufacture of pharmaceuticals in order to avoid excessive metallic contamination. Since Type 316 possesses the highest creep and tensile strength at elevated temperatures of any of the more commonly used stainless steels, it finds extensive use where the combination of high strength and good corrosion resistance at elevated temperatures is required. In aircraft applications, Type 316 is used for parts requiring good corrosion resistance and low magnetic permeability.

Type 316 L (ELC)

C	Mn	P	S	Si	Cr	Ni	Mo
0.030	2.00	0.045	0.030	0.75	<u>16.00</u>	<u>10.00</u>	<u>2.00</u>
Max.	Max.	Max.	Max.	Max.	18.00	14.00	3.00

Type 316L is very low carbon grade with general corrosion resistance similar to Type 316, but with superior resistance to intergranular corrosion during welding or stress relieving. This precludes any harmful carbide precipitation in the 800 to 1500 F range, such as might otherwise occur in welding heavy sections.

Applications—Same as those for Type 316. All other physical characteristics and applications are similar or equivalent to regular Type 316.

STAINLESS STEEL SHEETS TYPE 304/304L



Cold Rolled, Annealed No. 2B and #4

ASTM A 240**	ASME SA-240**	ASTM A 666 Anld.
Gage and Size in Inches	Lbs. per Square Foot	Est. Lbs. per Sheet
26 Ga. (.018)		
48 x 96	.7560	24.19
48 x 120	.7560	30.24
24 Ga. (.024)		
48 x 96	1.008	32.26
48 x 120	1.008	40.32
22 Ga. (.030)		
48 x 96	1.260	40.32
48 x 120	1.260	50.40
48 x 144	1.260	60.48
20 Ga. (.036)		
48 x 96	1.512	48.38
48 x 120	1.512	60.48
48 x 144	1.512	72.58
60 x 120	1.512	75.60
60 x 144	1.512	90.72
18 Ga. (.048)		
48 x 96	2.016	64.51
48 x 120	2.016	80.64
48 x 144	2.016	96.77
60 x 120	2.016	100.8
60 x 144	2.016	121.0
16 Ga. (.060)		
48 x 96	2.520	80.64
48 x 120	2.520	100.8
48 x 144	2.520	121.0
60 x 96	2.520	100.8
60 x 120	2.520	126.0
60 x 144	2.520	151.2
14 Ga. (.075)		
48 x 96	3.150	100.8
48 x 120	3.150	126.0
48 x 144	3.150	151.2
60 x 96	3.150	126.0
60 x 120	3.150	157.5
60 x 144	3.150	189.0
13 Ga. (.090)		
48 x 120	3.780	151.2
12 Ga. (.105)		
48 x 96	4.410	141.1
48 x 120	4.410	176.4
48 x 144	4.410	211.7
60 x 96	4.410	176.4
60 x 120	4.410	220.5
60 x 144	4.410	264.6
11 Ga. (.120)		
48 x 96	5.040	161.3
48 x 120	5.040	201.6
48 x 144	5.040	241.9
60 x 96	5.040	201.6
60 x 120	5.040	252.0
60 x 144	5.040	302.4
10 Ga. (.135)		
48 x 96	5.670	181.4
48 x 120	5.670	226.8
48 x 144	5.670	272.2
60 x 96	5.670	226.8
60 x 120	5.670	283.5
60 x 144	5.670	340.2
7 Ga. (.1874)		
48 x 96	7.871	251.9
48 x 120	7.871	314.8
48 x 144	7.871	377.8
60 x 120	7.871	393.6



STAINLESS STEEL SHEETS
TYPE 316/316L
Cold Rolled, Annealed No. 2B Finish

ASTM A 240** ASME SA-240** ASTM A 666 Anld.

Gage and Size in Inches	Lbs. per Square Foot	Est. Lbs. per Sheet
24 Ga. (.024)		
48 x 96	1.008	32.26
48 x 120	1.008	40.32
22 Ga. (.030)		
48 x 120	1.260	50.40
20 Ga. (.036)		
48 x 120	1.512	60.48
18 Ga. (.048)		
48 x 96	2.016	64.51
48 x 120	2.016	80.64
16 Ga. (.060)		
48 x 96	2.520	80.64
48 x 120	2.520	100.8
60 x 120	2.520	126.0
60 x 144	2.520	151.2
14 Ga. (.075)		
48 x 96	3.150	100.8
48 x 120	3.150	126.0
60 x 120	3.150	157.5
60 x 144	3.150	189.0
12 Ga. (.105)		
48 x 120	4.410	176.4
48 x 144	4.410	211.7
60 x 120	4.410	220.5
60 x 144	4.410	264.6
11 Ga. (.120)		
48 x 96	5.040	161.3
48 x 120	5.040	201.6
48 x 144	5.040	241.9
60 x 120	5.040	252.0
60 x 144	5.040	302.4
10 Ga. (.135)		
48 x 120	5.670	226.8
48 x 144	5.670	272.2
60 x 120	5.670	283.5
60 x 144	5.670	340.2
7 Ga. (.1874)		
48 x 120	7.871	314.8
60 x 120	7.871	393.5

STAINLESS STEEL SHEETS TYPE 309, 310, 321, 330

ASTM A240 ASTM B536



Gage and Size in Inches	Lbs. per Square Foot	Est. Lbs. per Sheet
10 48 x 120	5.67	226.8
11 48 x 120	5.04	201.6
12 48 x 120	4.43	177.1
14 48 x 120	3.15	126.2
16 48 x 120	2.50	100.0
18 48 x 120	2.02	80.6
20 48 x 120	1.50	60.0

STAINLESS STEEL SHEETS TYPE 409, 410, 430

ASTM A240



Gage and Size in Inches	Lbs. per Square Foot	Est. Lbs. per Sheet
24 Ga. (.024) 48 x 96	.9888	31.64
48 x 120	.9888	39.55
22 Ga. (.030) 48 x 120	1.236	49.44
20 Ga. (.036) 48 x 120	1.483	59.32
18 Ga. (.048) 48 x 120	1.978	79.12
16 Ga. (.060) 48 x 120	2.472	98.88
14 Ga. (.075) 48 x 120	3.090	123.6
12 Ga. (.105) 48 x 120	4.326	173.0
11 Ga. (.120) 48 x 120	4.944	197.8
10 Ga. (.134) 48 x 120	5.560	222.5

STAINLESS STEEL PLATES
TYPES 304, 304L, 304/304L
Hot Rolled, Annealed and Pickled
Non-Magnetic*



ASTM A 240		ASME SA-240	ASTM A 666 Anld		
Size in Inches	Lbs. Per Sq. Ft.	Est. Lbs. per Ft.	304	304L	304/304L
3/16 x	48	34.32	X	X	..
	60	42.90	X	X	..
	72	51.47	X	X	..
	96	68.63	X	X	..
1/4 x	48 ... 11.16	44.64	X	X	..
	60	55.80	X	X	..
	72	66.96	X	..	..
	96	89.28	X	X	..
5/16 x	48 ... 13.75	55.00	X	X	..
	60	68.75	X	X	..
	72	82.50	X	X	..
	96	110.0	X	X	..
3/8 x	48 ... 16.50	66.00	X	X	..
	60	82.50	X	X	..
	72	99.00	X	..	..
	96	132.0	X	X	..
1/2 x	48 ... 21.66	86.64	X	X	..
	60	108.3	X	X	..
	96	173.3	X	X	..
5/8 x	48 ... 26.83	107.3	..	..	X
	60	134.1	..	..	X
	96	214.6	..	..	X
3/4 x	48 ... 32.12	128.5	..	..	X
	60	160.6	..	..	X
	96	257.0	..	..	X
7/8 x	60 ... 37.29	186.4	..	..	X
	96	298.3	..	..	X
1 x	48 ... 42.67	170.7	..	..	X
	60	213.3	..	..	X
	96	341.4	..	..	X
1 1/8 x	60 ... 47.83	239.1	..	..	X
1 1/4 x	48 ... 53.00	212.0	..	..	X
	60	265.0	..	..	X
	96	424.0	..	..	X
1 1/2 x	48 ... 63.34	253.4	..	..	X
	60	316.7	..	..	X
	96	506.7	..	..	X
1 3/4 x	48 ... 73.67	294.7	..	..	X
	60	368.3	..	..	X
	96	589.4	..	..	X



STAINLESS STEEL PLATES

TYPES 316/316L

Hot Rolled, Annealed and Pickled

ASTM A 240 ASME SA-240

ASTM A 666 Anld

Size in Inches	Lbs. Per Sq. Ft.	Est. Lbs. per Ft.
3/16 x 48	8.579	34.32
60		42.90
72		51.47
96		68.63
1/4 x 48	11.16	44.64
60		55.80
72		66.96
96		89.28
5/16 x 48	13.75	55.00
60		68.75
72		82.50
96		110.0
3/8 x 48	16.50	66.00
60		82.50
72		99.00
96		132.0
1/2 x 48	21.66	86.64
60		108.3
96		173.3
5/8 x 48	26.83	107.3
60		134.1
96		214.6
3/4 x 48	32.12	128.5
60		160.6
96		257.0
7/8 x 60	37.29	186.4
96		298.3
1 x 48	42.67	170.7
60		213.3
96		341.4
1 1/4 x 48	53.00	212.0
60		265.0
96		424.0
1 1/2 x 48	63.34	253.4
60		316.7
96		506.7
1 3/4 x 48	73.67	294.7
60		368.3

*May be slightly magnetic when cold worked



STAINLESS STEEL ROUNDS
TYPE 303 & 316
Bearing Shaft Quality
Annealed and Centerless Ground
Optimum Machining

ASTM A 582 Cond. A AMS 5640 Type 1 QQ-S-764 Cond. A
Stock Lengths 12 Ft. Random

Size in Inches	Est. Lbs. per Ft.
.2495/ .2485	.1655
.3745/ .3735	.3735
.4995/ .4985	.6648
.6245/ .6235	1.040
.7495/ .7485	1.498
.8745/ .8735	2.040
.9995/ .9985	2.665
1.1245/1.1235	3.373
1.1870/1.1860	3.759
1.2495/1.2485	4.165
1.3745/1.3735	5.041
1.4370/1.4360	5.510
1.4995/1.4985	6.000
1.7495/1.7480	8.165
1.9995/1.9980	10.67

STAINLESS STEEL ROUNDS

TYPES: 203EZ, 303, 303 Accuracy 304, 304L, 316, 316L



Specifications	203EZ	303	Accuracy Stock 303	304	304L	316	316L
ASTM A276, A479, A580	..	..	..	X	X	X	X
ASTM A581, A582	X	X	..	..	..	..	..
ASME SA479	..	..	..	X	X	X	X
AMS 5639	..	..	..	X	..	..	..
ASM 5640	..	X	..	..	..	X	..
AMS 5647	..	..	..	..	X	..	..
AMS 5648	..	..	..	..	..	X	..
AMS 5653	..	..	..	..	..	..	X
AMS 5762	X	..	..	..	..	..	..
QQS 763	..	..	..	X	X	X	X

STAINLESS STEEL ROUNDS

TYPES: 203EZ, 303, 303 Accuracy 304, 304L, 316, 316L



Size in Inches	Lbs. per Ft.	203EZ	303	Accuracy Stock 303	304	304L	316	316L
1/16	.0104	..	X	..	..	..	..	..
5/64	.0163	..	X	..	..	..	..	..
3/32	.0235	X	X	..	..	..	..	..
7/64	.0320	..	X	..	..	..	..	..
1/8	.0417	X	X	..	X	..	X	..
9/64	.0528	..	X	..	..	..	..	..
5/32	.0652	X	X	..	..	..	..	..
3/16	.0939	X	X	..	X	..	X	..
13/64	.1102	..	X	..	..	..	..	..
7/32	.1278	X	X	..	..	..	..	..
1/4	.1669	X	X	..	X	..	X	..
17/64	.1884	..	X	..	..	..	..	..
9/32	.2113	X	X	..	..	..	..	..
5/16	.2608	X	X	..	X	..	X	..
21/64	.2875	..	X	..	..	..	..	..
11/32	.3156	X	X	..	..	..	..	..
3/8	.3755	X	X	X	X	X	X	X
25/64	.4074	..	X	..	..	..	..	..
13/32	.4408	X	X	..	..	..	..	..
7/16	.5111	X	X	..	X	..	X	..
15/32	.5869	..	X	..	..	..	..	..
1/2	.6676	X	X	X	X	X	X	X
17/32	.7538	X	X	..	..	..	..	..
9/16	.8449	X	X	..	X	..	X	..
19/32	.9416	X	X	..	..	..	..	..
5/8	1.043	X	X	X	X	X	X	X
21/32	1.150	..	X	..	..	..	..	..



STAINLESS STEEL ROUNDS **TYPES: 203EZ, 303, 303 Accuracy** **304, 304L, 316, 316L**

Size in Inches	Lbs. per Ft.	203EZ	303	Accuracy Stock 303	304	304L	316	316L
1 1/16	1.262	X	X	..	X	..	X	..
3/4	1.502	X	X	X	X	X	X	X
1 3/16	1.763	X	X	..	X	..	X	..
7/8	2.045	X	X	X	X	..	X	..
1 5/16	2.347	X	X	..	X	..	X	..
1	2.670	X	X	X	X	X	X	X
1 1/16	3.015	X	X	..	X	..	X	..
1 1/8	3.380	X	X	..	X	..	X	..
1 3/16	3.766	X	X	..	X	..	X	..
1 1/4	4.173	X	X	X	X	X	X	X
1 5/16	4.600	X	X	..	X	..	X	..
1 3/8	5.049	X	X	..	X	X	X	X
1 7/16	5.518	..	X	..	X	..	..	..
1 1/2	6.008	X	X	..	X	X	X	X
1 9/16	6.520	..	X	..	X	..	X	..
1 5/8	7.052	X	X	..	X	X	X	X
1 11/16	7.604	..	X	..	X	..	X	..
1 3/4	8.178	X	X	..	X	X	X	X
1 7/8	9.388	X	X	..	X	X	X	X
1 15/16	10.02	..	X	..	X	..	X	..
2	10.68	X	X	..	X	X	X	X
2 1/16	11.36	..	X	..	..	..	..	..
2 1/8	12.06	X	X	..	X	X	X	X
2 1/4	13.52	X	X	..	X	X	X	X
2 3/8	15.06	X	X	..	X	X	X	X
2 7/16	15.87	..	X	..	X	..	X	..
2 1/2	16.69	X	X	..	X	X	X	X
2 9/16	17.53	..	X	..	X	..	..	..
2 5/8	18.40	..	X	..	X	X	X	X
2 3/4	20.19	..	X	..	X	X	X	X
2 7/8	22.07	..	X	..	X	..	X	..
3	24.03	X	X	..	X	X	X	X
3 1/8	26.08	..	X	..	X	..	X	..
3 1/4	28.21	..	X	..	X	X	X	X
3 3/8	30.42	..	X	..	X	X	X	X
3 1/2	32.71	..	X	..	X	X	X	X
3 5/8	35.09	..	X	..	X	..	X	..
3 3/4	37.55	..	X	..	X	..	X	X
3 7/8	40.10	..	..	..	X	..	..	..
4	42.73	X	X	..	X	X	X	X
4 1/4	48.23	..	X	..	X	X	X	X
4 1/2	54.08	..	X	..	X	X	X	X

STAINLESS STEEL FLATS

TYPES 304/304L, 316/316L



Annealed and Pickled

QQ-S-763 Cond. A ASTM A 276 Cond. A
 ASTM A 479 Cond. A ASME SA-479 Cond. A
 Stock Lengths 12 Ft. Random

STRIP FLATS

Size in Inches	Lbs. per Foot	Est. Lbs. 12' Bar	304/ 304L	316/ 316L
1/8 x 1/2	.2125	2.550	X	..
5/8	.2656	3.187	X	..
3/4	.3188	3.826	X	..
1	.4250	5.100	X	..
1 1/4	.5313	6.376	X	..
1 1/2	.6375	7.650	X	..
1 3/4	.7438	8.962	X	..
2	.8500	10.20	X	X
2 1/2	1.063	12.76	X	..
3	1.275	15.30	X	..
4	1.700	20.40	X	..
3/16 x 1/2	.3188	3.826	X	..
5/8	.3984	4.781	X	..
3/4	.4781	5.737	X	..
1	.6375	7.650	X	..
1 1/4	.7969	9.563	X	..
1 1/2	.9563	11.48	X	..
3/16 x 1 3/4	1.116	13.39	X	..
2	1.275	15.30	X	X
2 1/2	1.594	19.13	X	..
3	1.913	22.96	X	..
4	2.550	30.60	X	..
5	3.188	38.26	X	..
6	3.825	45.90	X	..
1/4 x 3/4	.6375	7.650	X	..
1	.8500	10.20	X	X
1 1/4	1.063	12.76	X	..
1 1/2	1.275	15.30	X	X
1 3/4	1.488	17.86	X	..
2	1.700	20.40	X	X
2 1/4	1.913	22.96	X	..
2 1/2	2.125	25.50	X	X
3	2.550	30.60	X	..
3 1/2	2.975	35.70	X	..
4	3.400	40.80	X	..
6	5.100	61.20	X	..

STAINLESS STEEL FLATS

TYPES 304/304L, 316/316L



Annealed and Pickled

QQ-S-763 Cond. A ASTM A 276 Cond. A
 ASTM A 479 Cond. A ASME SA-479 Cond. A
 Stock Lengths 12 Ft. Random

BAR FLATS

Size in Inches	Lbs. per Foot	Est. Lbs. 12' Bar	304/ 304L	316/ 316L
1/4 x 1/2	.4250	5.100	X	..
5/8	.5313	6.376	X	..
3/8 x 1/2	.6375	7.650	X	..
3/4	.9563	11.48	X	..
1	1.275	15.30	X	..
1 1/4	1.594	19.13	X	..
1 1/2	1.913	22.96	X	..
2	2.550	30.60	X	..
3	3.825	45.90	X	..
4	5.100	61.20	X	..
5	6.375	76.50	X	..
1/2 x 3/4	1.275	15.30	X	..
1	1.700	20.40	X	X
1 1/4	2.125	25.50	X	..
1 1/2	2.550	30.60	X	X
1 3/4	2.975	35.70	X	..
1/2 x 2	3.400	40.80	X	..
2 1/2	4.250	51.00	X	..
3	5.100	61.20	X	..
3 1/2	5.950	71.40	X	..
4	6.800	81.60	X	..
5	8.500	102.0	X	..
6	10.20	122.4	X	..
5/8 x 1	2.125	25.50	X	..
3/4 x 1	2.550	30.60	X	..
1 1/4	3.188	38.26	X	..
1 1/2	3.825	45.90	X	..
2 1/2	6.375	76.50	X	..
1 x 1 1/2	5.100	61.20	X	..
2	6.800	81.60	X	X
3	10.20	122.4	X	..
4	13.60	163.2	X	X
6	20.40	244.8	X	..



STAINLESS STEEL PLATE FLATS TYPE 304/316

**Sheared and Edge Conditioned
Hot Rolled, Annealed and Pickled**

ASTM A 276 Cond. A ASTM A 479 Cond. A ASME SA-479 Cond. A
QQ-S-763 Cond. A ASTM A 240 ASME SA-240

Stock Lengths 12 Ft. Random

Size in Inches	Lbs. per Ft.	Est. Lbs. 12' Bar
3/8 x 1	1.275	15.30
1^{1/2}	1.913	22.96
1^{3/4}	2.231	26.77
2	2.550	30.60
2^{1/2}	3.188	38.26
3	3.825	45.90
4	5.100	61.20
5	6.375	76.50
6	7.650	91.80
1/2 x 1	1.770	20.40
1/2 x 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
4^{1/2}	7.650	91.80
5	8.500	102.0
6	10.20	122.4

*May be slightly magnetic when cold worked



STAINLESS STEEL ANGLES

TYPES 304/304L, 316/316L

Annealed and Pickled

ASTM A 276 Cond. A ASTM A 479 Cond. A ASME SA-479 Cond. A
 QQ-S-763 Cond. A

Stock Lengths 20 Ft. Random

Size in Inches	t	Est. Lbs. per Foot	Est. Lbs. 20' Bar	304/ 304L	316/ 316L
1 x 3/4	1/8	0.59	11.80	X	..
1 x 1	1/8	0.80	16.00	X	X
	3/16	1.16	23.20	X	..
	1/4	1.49	29.80	X	..
1 1/4 x 1 1/4	1/8	1.01	20.20	X	..
	3/16	1.48	29.60	X	..
	1/4	1.92	38.40	X	..
1 1/2 x 1 1/2	1/8	1.23	24.60	X	X
	3/16	1.80	36.00	X	X
	1/4	2.34	46.80	X	..
2 x 2	1/8	1.65	33.00	X	..
	3/16	2.44	48.80	X	X
	1/4	3.19	63.80	X	X
	3/8	4.70	94.00	X	..
2 1/2 x 2 1/2	3/16	3.07	61.40	X	..
	1/4	4.10	82.00	X	..
	3/8	5.90	118.00	X	..
3 x 1 1/2	1/4	3.51	70.20	X	..
3 x 2	3/16	3.07	61.40	X	..
	1/4	4.10	82.00	X	..
3 x 3	1/4	4.90	98.00	X	X
	3/8	7.20	144.00	X	X
3 1/2 x 3 1/2	1/4	5.80	116.00	X	..
4 x 4	1/4	6.60	132.00	X	..
	3/8	9.80	196.00	X	..
	1/2	12.80	256.00	X	..
5 x 3	3/8	9.85	197.00	X	..

*May be slightly magnetic when cold worked

STAINLESS STEEL TUBING **ROUND WELDED TYPE 304/304L** **Cold Finished, Annealed and Pickled or Bright Annealed**



1/2" & under ASTM A 269
Over 1/2" ASTM A 249 ASME SA-249 ASTM A 269
Stock Lengths 17-24 Ft. Random

O.D.	Gage	Wall	I.D.	Lbs. per Ft.
1/8	x 22	.028	.069	.0293
	3/16 x 22	.028	.132	.0481
	20	.035	.118	.0575
1/4	x 22	.028	.194	.0670
	20	.035	.180	.0811
	18	.049	.152	.1062
5/16	x 22	.028	.257	.0859
	20	.035	.243	.1047
	18	.049	.215	.1392
	16§	.065	.183	.1734
3/8	x 22	.028	.319	.1047
	20	.035	.305	.1283
	18	.049	.277	.1722
	16	.065	.245	.2172
7/16	x 20	.035	.368	.1519
	18	.049	.340	.2052
	16	.065	.308	.2610
	13§	.095	.310	.4148
1/2	x 22	.028	.444	.1425
	20	.035	.430	.1754
	18	.049	.402	.2382
	16	.065	.370	.3048
5/8	x 22	.028	.569	.1802
	20	.035	.555	.2226
	18	.049	.527	.3043
	16	.065	.495	.3924
3/4	x 20	.035	.680	.2698
	18	.049	.652	.3703
	16	.065	.620	.4800
	13	.095	.560	.6708
7/8	x 20	.035	.805	.3169
	18	.049	.777	.4363
	16	.065	.745	.5676
	11	.120	.635	.9767
1	x 20	.035	.930	.3641
	18	.049	.902	.5023
	16	.065	.870	.6552
	14	.083	.834	.8205
3/16	x 11	.120	.760	1.1384
	x 11	.188	.624	1.6456

STAINLESS STEEL TUBING **ROUND WELDED TYPE 304/304L** **Cold Finished, Annealed and Pickled or Bright Annealed**



1/2" & under ASTM A 269
Over 1/2" ASTM A 249 ASME SA-249 ASTM A 269
Stock Lengths 17-24 Ft. Random

O.D.	Gage	Wall	I.D.	lbs. per Ft.
1¹/₈	x 16	.065	.995	.7427
1¹/₄	x 20	.035	1.180	.4584
	18	.049	1.152	.6344
	16	.065	1.120	.8303
	14	.083	1.084	1.0442
	11	.120	1.010	1.4618
1³/₈	x 16	.065	1.245	.9179
1¹/₂	x 20	.035	1.430	.5527
	18	.049	1.402	.7664
	16	.065	1.370	1.0055
	14	.083	1.334	1.2678
	11	.120	1.260	1.7852
	³ / ₁₆	.188	1.124	2.6590
1⁵/₈	x 16	.065	1.495	1.0931
1³/₄	x 20	.035	1.680	.6471
	18	.049	1.652	.8985
	16	.065	1.620	1.1807
	11	.120	1.510	2.1086
2	x 20	.035	1.930	.7414
	18	.049	1.902	1.0306
	16	.065	1.870	1.3559
	14	.083	1.834	1.7152
	11	.120	1.760	2.4320
2¹/₄	x 16	.065	2.120	1.5310
	11	.120	2.010	2.7554
	³ / ₁₆	.188	1.874	4.1789
2¹/₂	x 18	.049	2.402	1.2947
	16	.065	2.370	1.7062
	11	.120	2.260	3.0788
3	x 16	.065	2.870	2.0566
	14	.083	2.834	2.6100
	11	.120	2.760	3.7256
3¹/₄	x 11	.120	3.010	4.0490
3¹/₂	x 16	.065	3.370	2.4069
	11	.120	3.260	4.3724
4	x 16	.065	3.870	2.7573
	14	.083	3.834	3.5047
	11	.120	3.760	5.0192

STAINLESS STEEL TUBING **SQUARE AND RECTANGULAR WELDED** **TYPE 304**



ASTM A 554

For Ornamental, Structural and Mechanical Applications
 Stock Lengths 20 Ft. Random

Size in Inches	Wall		lbs. per Ft.
	Gage	Dec	
1/2 x 1/2	x 18	.049	.301
3/4 x 3/4	x 16	.065	.6055
	x 14	.083	1.034
1 x 1	x 18	.049	.6337
	x 14	.083	1.034
	x 16	.065	.8265
1 1/4 x 1 1/4	x 11	.120	1.436
	x 16	.065	1.047
	x 16	.065	1.269
1 1/2 x 1 1/2	x 14	.083	1.600
	x 11	.120	2.252
	x 7	.180	3.321
	x 3/16	.187	3.600
	x 16	.065	1.269
2 x 1	x 11	.120	2.255
	x 7	.180	3.068
	x 1/4	.250	4.455
2 x 2	x 7	.180	6.007
	x 3/16	.187	4.430
	x 3/16	.187	5.680
2 1/2 x 2 1/2	x 11	.120	3.884
	x 7	.180	5.679
	x 11	.120	4.700
3 x 2	x 7	.180	6.903
	x 1/4	.250	8.953
	x 11	.120	4.700
3 x 3	x 7	.180	6.903
	x 1/4	.250	8.953
	x 11	.120	6.260
4 x 2	x 7	.180	9.270
	x 1/4	.250	12.683
	x 11	.120	6.260



STAINLESS STEEL PIPE **ROUND WELDED** **TYPE 304/304L**

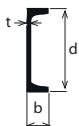
Cold Finished, Annealed and Pickled

ASTM A 312 ASME SA-312

Random Lengths 17-24 Ft.

Schedule 40 & Schedule 80

Nominal Size in Inches	Schedule	Wall	O.D.	Lbs. per Ft.
1/8	40	.068	.405	.2470
	80	.095	.405	.3175
1/4	40	.088	.540	.4288
	80	.119	.540	.5401
3/8	40	.091	.675	.5729
1/2	40	.109	.840	.8589
	80	.147	.840	1.098
3/4	40	.113	1.050	1.141
	80	.154	1.050	1.487
1	40	.133	1.315	1.695
	80	.179	1.315	2.192
1 1/4	40	.140	1.660	2.294
1 1/2	40	.145	1.900	2.743
	80	.200	1.900	3.665
2	40	.154	2.375	3.687
	80	.218	2.375	5.069
2 1/2	40	.203	2.875	5.847
3	40	.216	3.500	7.647
	80	.300	3.500	10.35
3 1/2	40	.226	4.000	9.195
	80	.318	4.000	12.62
4	40	.237	4.500	10.89
5	40	.258	5.563	14.75
6	40	.280	6.625	19.15



STAINLESS CHANNELS

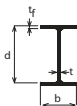
Bar Size

ASTM A276 ASTM A479

ASME SA479 QQS 763

Random Lengths 20' to 24'

Size in Inches			Lbs. Per Foot	Est. Lbs. 20'
d	b	t		
2	x 1	x 1/4	2.60	52.00
3	x 1 3/8	x 3/16	4.19	83.80
3	x 1 1/2	x 1/4	4.75	95.00
4	x 1 3/4	x 1/4	6.69	133.8
4	x 2	x 1/4	6.65	133.0
5	x 1 7/8	x 3/8	10.43	208.6
6	x 1.9	x .343	8.32	166.4
8	x 2.53	x .39	18.7	374.0



STAINLESS BEAMS

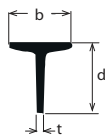
Bar Size

ASTM A276 ASTM A479

ASME SA479 QQS 763

Random Lengths 20' to 24'

Size in Inches	Lbs. Per Foot	Est. Lbs. 20'
3 x 2 3/8 x 1/4	6.60	132.00
4 x 2 3/4 x 1/4	8.44	168.80



STAINLESS TEES

Bar Size

ASTM A276 ASTM A479

ASME SA479 QQS 763

Random Lengths 20' to 24'

Flange Inches b	Stem Inches d	Thickness Inches t	Lbs. Per Foot	Est. Lbs. 20'
2	2	1/4	3.19	63.80

SECTION 9

Aluminum

SECTION 9: Aluminum.....	131
General Information.....	132-134
Sheets.....	135-137
Diamond Floor Plate.....	138-139
Plates.....	138-139
Angles.....	140-142
Channels.....	143
Rectangular Bars.....	144-146
Rounds.....	146-147
Squares.....	147
Tubing Square.....	147
Tubing Rectangular.....	148
Pipe.....	148

General Information on Aluminum Alloys

In high-purity form aluminum is soft and ductile. Most commercial uses, however, require greater strength than pure aluminum affords. This is achieved by the addition of other elements to produce various alloys, which singly or in combination impart strength to the metal. Further strengthening is possible by means which classify the alloys roughly into two categories, non-heat-treatable and heat-treatable.

Non-Heat-Treatable Alloys—The initial strength of alloys in this group depends upon the hardening effect of elements such as manganese, silicon, iron and magnesium, singly or in various combinations. The non-heat-treatable alloys are usually designated, therefore, in the 1000, 3000, 4000, or 5000 series. Since these alloys are work-hardenable, further strengthening is made possible by various degrees of cold working, denoted by the “H” series of tempers. Alloys containing appreciable amounts of magnesium when supplied in strain-hardened tempers are usually given a final elevated-temperature treatment called stabilizing to insure stability of properties.

Heat-Treatable Alloys—The initial strength of alloys in this group is enhanced by the addition of alloying elements such as copper, magnesium, zinc, and silicon. Since these elements singly or in various combinations show increasing solid solubility in aluminum with increasing temperature, it is possible to subject them to thermal treatments which will impart pronounced strengthening.

The first step, called heat treatment or solution heat treatment, is an elevated-temperature process designed to put the soluble element or elements in solid solution. This is followed by rapid quenching, usually in water, which momentarily “freezes” the structure and for a short time renders the alloy very workable. It is at this stage that some fabricators retain this more workable structure by storing the alloys at below freezing temperatures until they are ready to form them. At room or elevated temperatures the alloys are not stable after quenching, however, and precipitation of the constituents from the super-saturated solution begins. After a period of several days at room temperature, termed aging or room-temperature precipitation, the alloy is considerably stronger. Many alloys approach a stable condition at room temperature, but some alloys, particularly those containing magnesium and silicon or magnesium and zinc, continue to age-harden for long periods of time at room temperature.

Effect of Alloying Elements

1000 Series—Aluminum of 99 percent or higher purity has many applications, especially in the electrical and chemical fields. These alloys are characterized by excellent corrosion resistance, high thermal and electrical conductivity, low mechanical properties and excellent workability. Moderate increases in strength may be obtained by strain-hardening. Iron and silicon are the major impurities.

2000 Series—Copper is the principal alloying element in this group. These alloys require solution heat-treatment to obtain optimum properties; in the heat treated condition mechanical properties are similar to, and sometimes exceed, those of mild steel. In some instances artificial aging is employed to further increase the mechanical properties. This treatment materially increases yield strength, with attendant loss in elongation; its effect on tensile (ultimate) strength is not as great. The alloys in the 2000 series do not have as good corrosion resistance as most other aluminum alloys and under certain conditions they may be subject to intergranular corrosion. Therefore, these alloys in the form of sheet are usually clad with a high-purity alloy or a magnesium-silicon alloy of the 6000 series which provides galvanic protection to the core material and thus greatly increases resistance to corrosion. Alloy 2024 is perhaps the best known and most widely used aircraft alloy.

3000 Series—Manganese is the major alloying element of alloys in this group, which are generally non-heat-treatable. Because only a limited percentage of manganese, up to about 1.5 percent, can be effectively added to aluminum, it is used as a major element in only a few instances. One of these, however, is the popular 3003, which is widely used as a general-purpose alloy for moderate-strength applications requiring good workability.

5000 series—Magnesium is one of the most effective and widely used alloying elements for aluminum. When it is used as the major alloying element or with manganese, the result is a moderate to high strength non-heat-treatable alloy. Magnesium is considerably more effective than manganese as a hardener, about 0.8 percent magnesium being equal to 1.25 percent manganese, and it can be added in considerably higher quantities. Alloys in this series possess good welding characteristics and good resistance to corrosion in marine atmosphere. However, certain limitations should be placed on the amount of cold work and the safe operating temperatures permissibly for the higher magnesium content alloys (over about 3 1/2 percent for operating temperatures above about 150 F (66 C) to avoid susceptibility to stress corrosion.

6000 Series—Alloys in this group contain silicon and magnesium in approximate proportions to form magnesium silicide, thus making them heat-treatable. Major alloy in this series is 6061, one of the most versatile of the heat-treatable alloys. Though less strong than most of the 2000 or 7000 alloys, the magnesium-silicon (or magnesium-silicide) alloys possess good formability and corrosion resistance, with medium strength. Alloys in this heat-treatable group may be formed in the T4 temper (solution heat-treated but not artificially aged) and then reach full T6 properties by artificial aging.

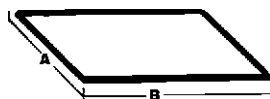
ALUMINUM

Aluminum Flat Sheets

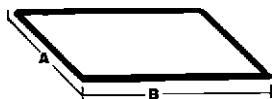
3003-H14, Federal Specification

QQ-A-250/2 (1)

Mill Finish



Thickness	Est. Lbs. Per Sq. Ft.	Size		Est. Lbs. Per Sheet
		A	B	
.025	.356	48 x 96		11.39
		48 x 120		14.24
.032	.456	48 x 120		18.24
		48 x 144		21.89
.040	.570	48 x 96		18.24
		48 x 120		22.80
		48 x 144		27.36
.050	.713	48 x 96		22.82
		48 x 120		28.52
		48 x 144		34.22
.063	.898	48 x 96		28.74
		48 x 120		35.92
		48 x 144		43.10
		60 x 120		44.90
		60 x 144		53.88
.080	1.139	48 x 120		45.56
.090	1.287	48 x 96		41.18
		48 x 120		51.48
.100	1.426	48 x 144		61.78
		48 x 96		45.63
		48 x 120		57.04
.125	1.782	48 x 144		68.45
		48 x 96		57.02
		48 x 120		71.28
		48 x 144		85.54
		60 x 120		89.10
.190	2.713	60 x 144		106.92
		48 x 96		86.82
		48 x 120		108.52
		48 x 144		130.22
		60 x 120		135.65
		60 x 144		162.78



Aluminum Flat Sheets

5052-H32, Federal Specification
QQ-A-250/8 (1) Mill Finish

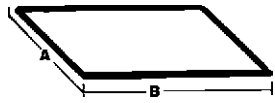
Thickness	Est. Lbs. Per Sq. Ft.	Size		Est. Lbs. Per Sheet
		A	B	
.040	.559	48	x 120	22.34
.050	.698	48	x 120	27.92
.063	.880	48	x 120	35.20
.080	1.117	60	x 120	52.80
.090	1.257	48	x 120	35.74
.090	1.257	48	x 96	50.28
.125	1.746	48	x 96	83.81
.190	2.654	48	x 144	127.39

- (1) Standard stock sheets meet all requirements of the referenced Federal Specification with the exception of stenciling.

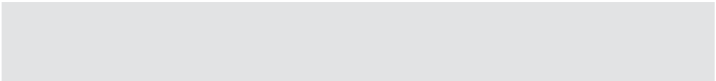
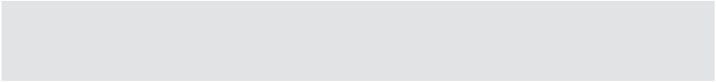
ALUMINUM

Bare Aluminum Flat Sheets

6061-T6, Federal Specification
QQ-A-250/11 (1)
Mill Finish



Thickness	Est. Lbs. Per Sq. Ft.	Size A	B	Est. Lbs. Per Sheet
.032	.452	48 x	144	21.70
.040	.565	48 x	144	27.12
.050	.706	48 x	144	33.89
		60 x	144	42.36
.063	.889	48 x	144	42.67
.090	1.270	48 x	144	60.96
.125	1.764	48 x	96	56.45
		48 x	144	84.67
.190	2.681	48 x	144	128.69



(1) Standard stock sheets meet all requirements of the referenced Federal Specification, however certain sizes may not be stenciled.

ALUMINUM



Aluminum Diamond Floor Plates

6061-T6

Thickness	Est. Lbs. Per Sq. Ft.	Size	Est. Lbs. Per Plate
.125	1.905	48 x 192	121.92
		60 x 192	152.40
.188	2.820	48 x 192	180.48
		60 x 192	225.60
.250	3.700	48 x 192	236.80
		60 x 192	296.00
.375	5.490	48 x 192	351.36
		60 x 192	439.20
.500	7.270	48 x 192	465.28



ALUMINUM CAST TOOL AND JIG PLATE

Cast, Stress Relieved, and Machined
Vinyl Covered Both Sides and Identified

Both surfaces machined to 25 micro-inches or better.

Thickness tolerance is plus or minus .005 in.

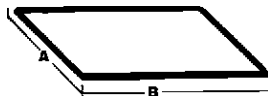
Typical uses: stretch-forming dies, rubber pad process form blocks, assembly jigs, locating devices, drill jigs, pattern and core plates, and inspection fixtures.

	Size in Inches	Lbs. per Sq. Ft.	Est. Lbs. Per Plate
1/4 x48 x 96		3.636.....	118.2
3/8 x48 x 96		5.454.....	177.3
1/2 x48 x 96		7.272.....	236.4
48 x 144			353.9
5/8 x48 x 144		9.090.....	442.4
3/4 x48 x 96		10.91.....	354.6
48 x 144			531.0
60 x 144			662.3
1 x48 x 96		14.54.....	472.6
48 x 144			707.6
1 1/2 x48 x 144		21.82.....	1061.0

ALUMINUM

Bare Aluminum Plates

606T-T6 Federal Specification
QQ-A-250/11, Mill Finish



Thickness	Est. Lbs. Per Sq. Ft.	Size	Est. Lbs. Per Plate
3/16	2.685	48 x 96	85.92
		48 x 120	107.40
		48 x 144	128.88
1/4	3.660	48 x 96	117.12
3/8	5.440	48 x 144	175.68
		48 x 96	174.08
		48 x 144	261.12
1/2	7.250	48 x 96	232.00
		48 x 144	348.00
		48 x 144	514.90
3/4	10.58	48 x 144	686.70
1	14.11	48 x 144	858.50
1 1/4	17.64	48 x 144	1030.00
1 1/2	21.17	48 x 144	1202.00
1 3/4	24.70	48 x 144	1373.00
2	28.22	48 x 144	1545.00
2 1/4	31.75	48 x 144	1717.00
2 1/2	35.28	48 x 144	2061.00
3	42.34	48 x 144	2404.00
3 1/2	49.39	48 x 144	2747.00
4	56.45	48 x 144	

Many other grades and sizes of aluminum plates are readily available, please inquire.



Aluminum Diamond Floor Plates

Bright Finish 3003

Thickness	Est. Lbs. Per Sq. Ft.	Size	Est. Lbs. Per Plate
.060	.912	48 x 96	29.18
.100	1.568	48 x 96	100.35
.125	1.925	48 x 96	92.40
		48 x 120	77.00
		48 x 192	123.20
.188	2.823	60x 120	180.67

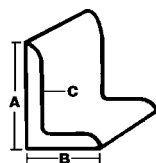
ALUMINUM

Aluminum Angles

6063 Square Edge, 6061-T6 Structural

QQ-A-200/9 QQ-A-200/16

Equal Leg, Stock Lengths 25 Ft.

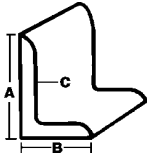


Size in Inches A	B	C	Available in 6063	Est. Lbs. Per Ft.	Est. Lbs. Per 25'
3/4	x 3/4	x 1/8	X	.201	5.03
1	x 1	x 1/8	X	.275	6.88
		x 3/16	X	.400	10.00
		x 1/4	..	.514	12.85
1 1/4	x 1 1/4	x 1/8	X	.343	8.58
		x 3/16	X	.510	12.75
		x 1/4	..	.656	16.40
1 1/2	x 1 1/2	x 1/8	X	.423	10.58
		x 3/16	X	.619	15.48
		x 1/4	..	.809	20.23
		x 3/8	..	1.176	29.40
1 3/4	x 1 3/4	x 1/8	X	.497	12.43
		x 3/16	..	.731	18.28
		x 1/4	..	.956	23.90
		x 5/16	..	1.171	29.28
2	x 2	x 3/8	..	1.378	34.45
		x 1/8	X	.577	14.43
		x 3/16	X	.850	21.25
		x 1/4	X	1.110	27.75
		x 5/16	..	1.364	34.10
		x 3/8	..	1.606	40.15
2 1/2	x 2 1/2	x 1/8	X	.724	18.10
		x 3/16	..	1.070	26.75
		x 1/4	..	1.404	35.10
		x 5/16	..	1.729	43.23
		x 3/8	..	2.047	51.18
3	x 3	x 3/16	X	1.275	31.88
		x 1/4	X	1.684	42.10
		x 5/16	..	2.082	52.05
		x 3/8	..	2.474	61.85
		x 1/2	..	3.227	80.68
3 1/2	x 3 1/2	x 1/4	..	1.989	49.73
		x 5/16	..	2.461	61.53
		x 3/8	..	2.926	73.15
		x 1/2	..	3.826	95.65
4	x 4	x 1/4	..	2.283	57.08
		x 5/16	..	2.829	70.73
		x 3/8	..	3.366	84.15
		x 1/2	..	4.414	110.35
		x 5/8	..	5.425	135.63
5	x 5	x 3/8	..	4.237	105.93
		x 1/2	..	5.578	139.45

ALUMINUM

Aluminum Angles (con't)

Size in Inches			Est. Lbs.	Est. Lbs.
A	B	C	Per Ft.	Per 25'
6	x 6	x 3/8	5.119	127.98
		x 1/2	6.754	168.85
		x 5/8	8.352	208.80
8	x 8	x 1/2	9.141	228.53
		x 3/4	13.478	336.95



Aluminum Angles

6063 Square Edge, 6061-T6 Structural
Federal Specification QQ-A-200/16
Unequal Leg, Stock Lengths 25 Ft.

Size in Inches			Available	Est. Lbs.	Est. Lbs.
A	B	C	in 6063	Per Ft.	Per 25'
1	x 3/4	x 1/8	X	.238	5.95
1 1/4	x 3/4	x 1/8	..	.272	6.80
1 1/4	x 1	x 1/8	..	.314	7.85
1 1/2	x 3/4	x 1/8	X	.314	7.85
		x 3/16	..	.454	11.35
1 1/2	x 1	x 1/8	X	.347	8.68
		x 1/4	..	.662	16.55
1 1/2	x 1 1/4	x 1/8	..	.387	9.68
		x 3/16	..	.566	14.15
		x 1/4	..	.734	18.35
1 3/4	x 1 1/4	x 1/8	..	.421	10.53
		x 3/16	..	.621	15.53
		x 1/4	..	.809	20.23
2	x 1	x 1/8	X	.431	10.78
2	x 1 1/2	x 1/8	..	.496	12.40
		x 3/16	X	.731	18.28
		x 1/4	..	.956	23.90
		x 3/8	..	1.378	34.45
2 1/2	x 1 1/4	x 3/16	..	.797	19.93
2 1/2	x 1 1/2	x 1/8	X	.577	14.43
		x 3/16	..	.850	21.25
2 1/2	x 2	x 1/4	..	1.110	27.75
		x 1/8	..	.652	16.30
		x 3/16	..	.961	24.03
		x 1/4	..	1.257	31.43
3	x 2	x 3/8	..	1.828	45.70
		x 3/16	..	1.071	26.78
		x 1/4	..	1.403	35.08
3	x 2 1/2	x 3/8	..	2.046	51.15
		x 1/4	..	1.537	38.43
		x 3/8	..	2.253	56.33

ALUMINUM

Aluminum Angles (con't)

Size in Inches			Est. Lbs.	Est. Lbs.
A	B	C	Per Ft.	Per 25'
3 1/2	x 2 1/2	x 1/4	1.684	42.10
		x 3/8	2.474	61.85
		x 1/2	3.227	80.68
3 1/2	x 3	x 1/4	1.842	46.05
		x 3/8	2.705	67.63
		x 1/2	3.532	88.30
4	x 2 1/2	x 1/4	1.856	46.40
4		x 1/4	1.988	49.70
	x 3	x 3/8	2.926	73.15
		x 1/2	3.826	95.65
4	x 3 1/2	x 3/8	3.128	78.20
		x 1/2	4.102	102.55
5	x 3	x 3/8	3.349	83.73
		x 1/2	4.396	109.90
5	x 3 1/2	x 3/8	3.582	89.55
		x 1/2	4.704	117.60
6	x 3 1/2	x 5/16	3.385	84.63
		x 3/8	4.037	100.93
	x 4	x 1/2	5.306	132.65
6		x 3/8	4.237	105.93
		x 1/2	5.578	139.45
8	x 6	x 1/2	7.952	198.80
		x 3/4	11.679	291.98

ALUMINUM



Aluminum Structural Channels

6061-T6

Federal Specification QQ-A-200/16

American Standard,

Stock Lengths 25 Ft.

Size in Inches			Est. Lbs.	Est. Lbs.
A	B	C	Per Ft.	Per 25'
3	x 1.410	x .170	1.417	35.43
3	x 1.498	x .258	1.729	43.23
3	x 1.596	x .356	2.074	51.85
4	x 1.580	x .180	1.846	46.15
4	x 1.647	x .247	2.161	54.03
4	x 1.720	x .320	2.504	62.60
5	x 1.750	x .190	2.316	57.90
5	x 1.885	x .325	3.108	77.70
5	x 2.032	x .472	3.975	99.38
6	x 1.920	x .200	2.826	70.65
6	x 1.945	x .225	3.002	75.05
6	x 2.034	x .314	3.631	90.78
6	x 2.157	x .437	4.498	112.45
7	x 2.110	x .230	3.541	88.53
7	x 2.194	x .314	4.232	105.80
8	x 2.290	x .250	4.252	106.30
8	x 2.343	x .303	4.751	118.78
8	x 2.435	x .395	5.617	140.43
8	x 2.527	x .487	6.484	162.10
9	x 2.430	x .230	4.604	115.10
9	x 2.648	x .448	6.911	172.78
10	x 2.600	x .240	5.278	131.95
10	x 2.739	x .379	6.915	172.88
10	x 2.886	x .526	8.641	216.03
12	x 2.960	x .300	7.411	185.28
12	x 3.047	x .387	8.639	215.98
12	x 3.170	x .510	10.374	259.35
15	x 3.400	x .400	11.708	292.70
15	x 3.716	x .716	17.282	432.05

ALUMINUM CHANNELS

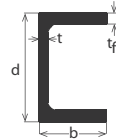
ALUMINUM ASSOCIATION

6061-T6 (Extruded)

AMS-QQ-A-200/8 (Except for Marking)

ASTM B 221 ASTM B 308

Stock Lengths 25 Ft.



Flange					Flange				
Depth	Flange	Web	Thickness	Lbs.	Depth	Flange	Web	Thickness	Lbs.
d In.	b In.	t In.	tf In.	per Ft.	d In.	b In.	t In.	tf In.	per Ft.
2	1.00	.13	.13	.5774	6	3.25	.21	.35	4.030
2	1.25	.17	.26	1.071	7	3.50	.21	.38	4.715
3	1.50	.13	.20	1.135	8	3.00	.19	.35	4.147
3	1.75	.17	.26	1.597	8	3.75	.25	.41	5.789
4	2.00	.15	.23	1.738	9	3.25	.23	.35	4.982
4	2.25	.19	.29	2.331	10	3.50	.25	.41	6.138
5	2.25	.15	.26	2.212	10	4.25	.31	.50	8.359
5	2.75	.19	.32	3.089	12	4.00	.29	.47	8.274
6	2.50	.17	.29	2.834					

ALUMINUM



Aluminum Rectangular Bars

6061-T6, 6063, 2024

Federal Specification QQ-A-200/8

Extruded, Stock Lengths 12 Ft.

Size in Inches		Est. Lbs. Per Ft.	Est. Lbs. Per 12'
1/8	x 1/2	.074	0.89
	x 5/8	.092	1.10
	x 3/4	.110	1.32
	x 1	.147	1.76
	x 1 1/4	.184	2.21
	x 1 1/2	.221	2.65
	x 1 3/4	.257	3.08
	x 2	.294	3.53
	x 2 1/2	.368	4.42
	x 3	.441	5.29
	x 4	.588	7.06
	x 6	.882	10.58
3/16	x 3/4	.165	1.98
	x 1	.221	2.65
	x 1 1/4	.276	3.31
	x 1 1/2	.331	3.97
	x 2	.441	5.29
	x 3	.662	7.94
1/4	x 1/2	.147	1.76
	x 3/4	.221	2.65
	x 1	.294	3.53
	x 1 1/4	.368	4.42
	x 1 1/2	.441	5.29
	x 1 3/4	.515	6.18
	x 2	.588	7.06
	x 2 1/2	.735	8.82
	x 3	.882	10.50
	x 3 1/2	1.029	12.35
	x 4	1.176	14.11
	x 5	1.470	17.64
	x 6	1.764	21.17
5/16	x 3/4	.276	3.31
	x 1	.368	4.42
	x 1 1/4	.459	5.51
	x 1 1/2	.551	6.61
	x 2	.713	8.56
3/8	x 1/2	.221	2.65
	x 3/4	.331	3.97
	x 1	.441	5.29
	x 1 1/4	.551	6.61
	x 1 1/2	.661	7.93
	x 2	.882	10.58
	x 2 1/2	1.103	13.24
	x 3	1.323	15.88

ALUMINUM

Aluminum Rectangular Bars (con't)

Size in Inches			Est. Lbs. Per Ft.	Est. Lbs. Per 12'
3/8	x	4	1.764	21.17
	x	6	2.646	31.75
1/2	x	3/4	.441	5.29
	x	1	.588	7.06
	x	1 1/4	.735	8.82
	x	1 1/2	.882	10.58
	x	1 3/4	1.029	12.35
	x	2	1.176	14.11
	x	2 1/2	1.470	17.64
	x	3	1.764	21.17
	x	4	2.352	28.22
	x	5	2.940	35.28
	x	6	3.528	42.34
5/8	x	3/4	.551	6.61
	x	1	.735	8.82
	x	1 1/4	.919	11.03
	x	1 1/2	1.103	13.24
	x	2	1.470	17.64
	x	3	2.205	26.46
3/4	x	1	.882	10.58
	x	1 1/4	1.103	13.24
	x	1 1/2	1.323	15.88
	x	2	1.764	21.17
	x	2 1/2	2.205	26.46
	x	3	2.646	31.75
	x	3 1/2	3.087	37.04
	x	4	3.528	42.34
	x	5	4.410	52.92
	x	6	5.292	63.50
1	x	1 1/4	1.470	17.64
	x	1 1/2	1.764	21.17
	x	2	2.352	28.22
	x	2 1/2	2.940	35.28
	x	3	3.528	42.34
	x	4	4.704	56.45
	x	6	7.056	84.67
1 1/4	x	1 1/2	2.205	26.46
	x	2	2.940	35.28
	x	2 1/2	3.675	44.10
	x	3	4.410	52.92
	x	4	5.880	70.56
1 1/2	x	2	3.528	42.34
	x	2 1/2	4.410	52.92
	x	3	5.292	63.50
	x	4	7.056	84.67
	x	6	10.584	127.01

ALUMINUM

Aluminum Rectangular Bars (con't)

Size in Inches		Est. Lbs. Per Ft.	Est. Lbs. Per 12'
2	x 2 1/2	5.880	70.56
	x 3	7.056	84.67
	x 4	9.408	112.90
3	x 4	14.112	169.34
	x 5	17.640	211.68



Aluminum Rounds

6061-T6, Federal Specification QQ-A-225/8,
Cold Finished
Federal Specification QQ-A-200/8
Extruded, Stock Lengths 12 Ft.

Size in Inches	Est. Lbs. Per Ft.	Est. Lbs. Per 12'
1/8	.014	.17
3/16	.033	.39
1/4	.058	.70
5/16	.090	1.08
3/8	.130	1.56
7/16	.177	2.12
1/2	.231	2.77
9/16	.292	3.50
5/8	.361	4.33
3/4	.520	6.24
7/8	.707	8.48
1	.924	11.09
1 1/8	1.169	14.03
1 1/4	1.443	17.32
1 5/16	1.591	19.09
1 3/8	1.746	20.95
1 7/16	1.909	22.91
1 1/2	2.078	24.94
1 5/8	2.439	29.27
1 3/4	2.829	33.95
1 13/16	3.034	36.41
1 7/8	3.247	38.96
2	3.695	44.34
2 1/8	4.171	50.05
2 1/4	4.676	56.11
2 1/2	5.773	69.28
2 5/8	6.364	76.37
2 3/4	6.985	83.82
3	8.313	99.76
3 1/4	9.776	117.31
3 1/2	11.315	135.78

ALUMINUM

Aluminum Rounds (con't)

Size in Inches	Est. Lbs. Per Ft.	Est. Lbs. Per 12'
3 5/8	12.152	145.82
3 3/4	12.989	155.87
4	14.778	177.34
4 1/4	16.683	200.20
4 1/2	18.704	244.45
5	23.070	276.84
5 1/2	27.940	335.28
6	33.251	399.01
6 1/2	39.023	468.28
7	45.258	543.10
7 1/2	51.954	623.45
8	59.112	709.34
9	74.814	897.77
10	92.363	1,108.36

ALUMINUM SQUARES

6061-T6511 (Extruded)



AMS-QQ-A-200/8 ASTM B 221

Identified Stock Lengths 12 Ft.

Size in Inches	Lbs. per Ft.	Est. Lbs. 12' Bar
1/2	.2940	3.528
5/8	.4600	5.508
3/4	.6615	7.938
7/8	.9010	10.81
1	1.176	14.11
1 1/4	1.838	22.06
1 1/2	2.646	31.75
1 5/8	3.108	37.30
1 3/4	3.600	43.20
2	4.704	56.45

Aluminum Square Tubing

6063-T52 Extruded

Stock lengths: 21' 1" and 24'

Size in Inches	Average Wall in Inches	Lbs. per Foot
3/4	.125	0.368
1	.062	0.280
1	.125	0.516
1-1/4	.125	0.676
1-1/2	.063	0.430
1-1/2	.125	0.810
2	.094	0.851
2	.125	1.103
3	.125	1.691
3	.188	2.540
4	.188	3.440

ALUMINUM

Aluminum Rectangular Tubing

6063-T52 Extruded
Stock lengths: 21' 1" and 24'

Size in Inches		Average Wall in Inches	Lbs. per Foot
2	x 1	.125	0.809
2	x 1-1/2	.125	0.956
3	x 1-1/2	.125	1.237
4	x 2	.125	1.724

Aluminum Pipe

6063-T52 & 6061-T6
Stock lengths: 20

Nom. Pipe size in Inches	O.D. in Inches	I.D. in Inches	Avg. Wall Thickness	Lbs. per Foot	6063-T52	6061-T6
--------------------------------	-------------------	-------------------	------------------------	------------------	----------	---------

SCHEDULE 40

3/4	1.050	.824	.113	0.391	X	
1	1.315	1.049	.133	1.315	X	X
1-1/4	1.660	1.380	.140	0.786	X	X
1-1/2	1.900	1.610	.145	0.940	X	X
2	2.375	2.067	.154	1.264	X	X
2-1/2	2.875	2.469	.203	2.004	X	
6	6.625	6.065	.280	6.654		X

SCHEDULE 80

1-1/2	1.900	1.500	.200	1.256	X	
2-1/2	2.875	2.323	.276	2.650		X

SECTION 10

Weights, Data & Processing

SECTION 10: Weights, Data & Processing.....	149
Typical Mechanical Properties of Standard Steels.....	150
Gage Decimals.....	151-152
Dimensions and Weights for Plain End Pipe.....	153
Formula for Weights & Measures.....	154
Metric System.....	155
Decimal Equivalent Sheet Metal Gauges.....	156
Fractional, Decimal and Metric.....	157
Metal Processing Services.....	158-161

Typical Mechanical Properties of Standard Steels

These properties are approximate and are listed here only as a guide to what may be expected from the grades given.

AISI or SAE No.	Condition	Tensile Strength KSI	Yield Strength KSI	Elong in 2" %	Reduction of Area %	Brinell
1008	HR	42/52	21/31	25/35	50/60	95/120
1018	CD	50/65	40/55	20/30	40/50	110/140
	HR	55/70	35/50	30/40	55/65	120/140
1020	CD	70/85	60/75	18/25	45/55	150/180
	HR	55/70	35/50	30/40	55/65	120/140
1045	HR	90/105	55/65	15/20	33/45	190/220
1095	CD	90/110	75/90	12/20	30/45	195/230
	HR	130/150	75/95	7/17	10/25	260/300
1117	HR	65/75	40/50	25/35	55/65	130/155
	CD	80/90	65/80	15/20	45/55	150/190

WEIGHTS & DATA

Gage Decimals

For accuracy, specify by decimal-not by gage

Non-Ferrous Brown & Sharp		Steel Sheets (Uncoated) Manufacturers Std.		GAGE NUMBER
WEIGHT Lbs. Per Sq. Ft. 1100 606 ALUMINUM	Gage Decimal	WEIGHT Lbs. Per Sq. Ft. Alloy 260 BRASS	Gage Decimal	
	.5800			000000
	.5165			00000
	.4600			0000
	.4096			000
	.3648			00
	.3249			0
	.2893			1
	.2576			2
	.2294		.2391 10.11	3
	.2043		.2242 9.375	4
	.1819		.2092 8.750	5
2.286	.1620 7.185		.1943 8.125	6
2.036	.1443 6.400		.1793 7.500	7
1.813	.1285 5.699		.1644 6.875	8
1.614	.1144 5.074		.1495 6.250	9
1.438	.1019 4.520		.1345 5.625	10
1.280	.0907 4.023		.1196 5.000	11
1.140	.0808 3.584		.1046 4.375	12
1.016	.0720 3.193		.0897 3.750	13
.905	.0641 2.843		.0747 3.125	14
.806	.0571 2.532		.0673 2.813	15
.717	.0508 2.253		.0598 2.500	16
.639	.0453 2.009		.0538 2.250	17
.569	.0403 1.787		.0478 2.000	18
.507	.0359 1.592		.0418 1.750	19
.452	.0320 1.419		.0359 1.500	20
.402	.0285 1.264		.0329 1.375	21
.357	.0253 1.122		.0299 1.250	22
.319	.0226 1.002		.0269 1.125	23
.284	.0201 .892		.0239 1.000	24
.253	.0179 .794		.0209 .875	25
.224	.0159 .705		.0179 .750	26
.200	.0142 .630		.0164 .688	27
.178	.0126 .559		.0149 .625	28
.160	.0113 .501		.0135 .563	29
.141	.0100 .444		.0120 .500	30
.126	.0089 .395		.0105 .438	31
.113	.0080 .355		.0097 .406	32
.100	.0071 .315		.0090 .375	33
.089	.0063 .279		.0082 .344	34
	.0056 .248		.0075 .131	35
	.0050 .222		.0067 .281	36
	.0045 .200		.0064 .266	37
	.0040 .177		.0060 .250	38

WEIGHTS & DATA

Gage Decimals(con't)

For accuracy, specify by decimal-not by gage

GAGE NUMBER	Strip & Tubing Birmingham or Stubs		Basic Steel Wire	
	Gage Decimal	WEIGHT Lbs. Per Sq. Ft. Steel STRIP	Gage Decimal	WEIGHT Lbs. Per Sq. Ft. Steel WIRE
000000			.4615	56.87
00000	.500	20.40	.4305	49.48
0000	.454	18.52	.3938	41.41
000	.425	17.34	.3625	35.09
00	.380	15.50	.3310	29.25
0	.340	13.87	.3065	25.08
1	.300	12.24	.2830	21.38
2	.284	11.59	.2625	18.40
3	.259	10.57	.2437	15.86
4	.238	9.710	.2253	13.55
5	.220	8.975	.2070	11.44
6	.203	8.281	.1920	9.84
7	.180	7.343	.1770	8.36
8	.165	6.731	.1620	7.01
9	.148	6.038	.1483	5.87
10	.134	5.467	.1350	4.87
11	.120	4.895	.1205	3.88
12	.109	4.447	.1055	2.97
13	.095	3.876	.0915	2.24
14	.083	3.386	.0800	1.71
15	.072	2.937	.0720	1.38
16	.065	2.652	.0625	1.04
17	.058	2.366	.0540	.78
18	.049	1.999	.0475	.60
19	.042	1.713	.0410	.45
20	.035	1.428	.0348	.32
21	.032	1.305	.0317	.27
22	.028	1.142	.0286	.22
23	.025	1.020	.0258	.18
24	.022	.898	.0230	.14
25	.020	.816	.0204	.11
26	.018	.734	.0181	.09
27	.016	.653	.0173	.08
28	.014	.571	.0162	.07
29	.013	.530	.0150	.06
30	.012	.490	.0140	.052
31	.010	.408	.0132	.047
32	.009	.367	.0128	.044
33	.008	.326	.0118	.037
34	.007	.286	.0104	.029
35	.005	.204	.0095	.024
36	.004	.163	.0090	.022
37			.0085	.019
38			.0080	.017

Pipe Size In	Weight Classification																										
	STD		X.S.		X.X.S.		10		20		30		40		60		80		100		120		140		160		
	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	Wall	Wt./Ft.	
	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	lb.	In.	
18 (0.405)	.088	24	.095	.31	..	..	..	..	..	..	..	.088	24	..	..	.095	.31	..	..	..	..	..	..	..	..	..	
14 (0.540)	.088	42	.119	.54	..	..	..	..	..	..	..	.088	42	..	..	.119	.54	..	..	..	..	..	..	..	..	..	
38 (0.675)	.091	57	.126	.74	..	..	..	..	..	..	..	.091	57	..	..	.126	.74	..	..	..	..	..	..	..	..	..	
12 (0.840)	.109	85	.147	1.09	.294	1.71	..	..	..	..	..	.109	85	..	..	.147	1.09	..	..	..	..	..	..	..	.188	1.31	
34 (1.050)	.113	1.13	.154	1.47	.308	2.44	..	..	..	..	..	.113	1.13	..	..	.154	1.47	..	..	..	..	..	..	..	.219	1.94	
11 (1.351)	.133	1.68	.179	2.17	.368	3.66	..	..	..	..	..	.133	1.68	..	..	.179	2.17	..	..	..	..	..	..	..	.250	2.84	
11 1/4 (1.680)	.140	2.27	.191	3.00	.382	5.21	..	..	..	..	..	.140	2.27	..	..	.191	3.00	..	..	..	..	..	..	..	.250	3.76	
11 1/2 (1.900)	.145	2.72	.200	3.63	.400	6.41	..	..	..	..	..	.145	2.72	..	..	.200	3.63	..	..	..	..	..	..	..	.281	4.86	
2 (2.375)	.154	3.65	.218	5.02	.436	9.03	..	..	..	..	..	.154	3.65	..	..	.218	5.02	..	..	..	..	..	..	..	.344	7.45	
2 1/2 (2.875)	.203	5.79	.276	7.66	.562	13.69	..	..	..	..	..	.203	5.79	..	..	.276	7.66	..	..	..	..	..	..	..	.375	10.41	
3 (3.500)	.216	7.58	.300	10.25	.600	18.58	..	..	..	..	..	.216	7.58	..	..	.300	10.25	..	..	..	..	..	..	..	.438	14.32	
3 1/2 (4.000)	.226	9.11	.318	12.50	..	..	..	..	..	..	..	.226	9.11	..	..	.318	12.50	..	..	..	..	..	..	..	..	..	
4 (4.500)	.237	10.79	.337	14.98	.674	27.54	..	..	..	..	..	.237	10.79	..	..	.337	14.98	..	..	.438	19.00	..	..	..	.531	22.51	
5 (5.635)	.258	14.62	.375	20.78	.750	38.55	..	..	..	..	..	.258	14.62	..	..	.375	20.78	..	..	.500	27.04	..	..	..	.625	32.96	
6 (6.625)	.280	18.97	.432	28.57	.864	53.16	..	..	..	..	..	.280	18.97	..	..	.432	28.57	..	..	.562	36.39	..	..	..	.719	45.35	
8 (8.625)	.322	28.55	.500	43.39	.875	72.42	..	..	..	.250	22.36	.277	24.70	.322	28.55	.406	35.64	.500	43.39	.594	50.95	.719	60.71	.812	67.76	.906	74.69
10 (10.750)	.365	40.48	.500	54.74	1.000	104.13	..	..	..	.250	28.04	.307	34.24	.365	40.48	.500	54.74	.594	64.43	.719	77.03	.844	89.29	1.000	104.13	1.251	115.64
12 (12.750)	.375	49.56	.500	65.42	1.000	125.49	..	..	..	.250	33.38	.330	43.77	.406	53.52	.562	73.15	.688	88.63	.944	107.32	1.000	125.49	1.250	139.67	1.312	160.27
14 (14.000)	.375	54.57	.500	72.09	..	..	..	..	..	.210	30.93	.312	45.61	..	..	.594	85.05	.750	106.13	.938	130.85	1.094	150.79	1.250	170.21	1.406	188.11
16 (16.000)	.375	62.58	.500	82.77	..	..	..	..	..	.250	42.05	.312	52.27	.375	62.58	.500	82.77	.656	107.50	.844	136.61	1.031	164.82	1.219	192.43	1.438	223.64
18 (18.000)	.375	70.59	.500	93.45	..	..	..	..	..	.250	47.39	.312	58.94	.438	82.15	.562	104.67	.750	138.17	.938	170.92	1.156	207.96	1.375	244.14	1.562	274.22
20 (20.000)	.375	78.60	.500	104.13	..	..	..	..	..	.250	52.73	.375	78.60	.500	104.13	.594	23.11	.875	166.40	1.031	208.87	1.281	256.10	1.500	296.37	1.750	341.09
22 (22.000)	.375	86.61	.500	114.81	..	..	..	..	..	.250	58.07	.375	86.61	.500	114.81	..	..	.875	197.41	1.125	250.81	1.375	302.88	1.625	353.61	1.875	403.00
24 (24.000)	.375	94.62	.500	125.49	..	..	..	..	..	.250	63.41	.375	94.62	.562	104.68	.688	171.29	.969	238.35	1.219	296.58	1.531	367.39	1.812	429.35	2.062	483.12

Formula for Weights and Measures

To find the circumference of a circle:

Multiply the radius by 6.2832, or

Multiply the diameter by 3.1416, or

Multiply the square root of the area by 3.5449

To find the radius of a circle:

Multiply the diameter by .500, or

Multiply the circumference by .15915, or

Multiply the square root of the area by .56419

To find the diameter of a circle:

Multiply the radius by 2.000, or

Multiply the circumference by .31831, or

Multiply the square root of the area by 1.1284

To find the area of a circle:

Multiply the square of the radius by 3.1416, or

Multiply the square of the diameter by .7854, or

Multiply the square of the circumference by .07958

To find the area of a hexagon:

Multiply the square of the distance across by .86603, or

Multiply the area of the inscribed circle by 1.1027

To find the area of an octagon:

Multiply the square of the distance across by .82843, or

Multiply the area of the inscribed circle by 1.0548

To find the area of a rectangle:

Multiply the length by the width

To find the area of a triangle:

Multiply the base by one-half the perpendicular height

WEIGHTS & DATA

Metric System Recommended Unit Prefixes

Multiples and Submultiples	Prefixes	Symbols
10^6	mega	m
10^3	kilo	k
10^2	hecto	h
10	deka	da
	meter/gram/liter	
10^{-1}	deci	d
10^{-2}	centi	c
10^{-3}	milli	m

length = meter(m) weight = gram(g) volume = liter(l)

Conversion Factors

Centimeter = 0.0328084 foot; 0.393701 inch

Foot = 0.3048 meter

Gallon = 0.1336816 cubic foot; 231 cubic inches;
0.0037854 cubic meter; 3.785306 liters

Gram = 0.00220462 pound

Inch = 2.54 centimeters

Kilogram = 2.204623 pounds

Kilometer = 0.621371 mile

Liter = 0.264179 gallon

Meter = 1.093613 yards; 3.280840 feet; 39.37008 inches

Mile = 1.609344 kilometers

Ounce = 28.349523 grams

Pound = 0.453592 kilogram

Square Centimeter = 0.155 square inch

Square Foot = 0.09290304 square meter

Square Inch = 645.16 square millimeters

Square Meter = 10.763910 square feet

Square Yard = 0.836127 square meter

Ton (Short) = 907.18474 kilograms

Yard = 0.9144 meter

Decimal Equivalent Sheet Metal Gauges

(Nominal Gauge)

Gauge	United States Standard (Revised)	United States Standard	Brown and Sharpe	
	Cold Rolled Hot Rolled Steel Sheet	Stainless Steel	Aluminum Brass Bronze	Thickness Equivalent Galv. Sheet
30	.0120	.0125	.0100	.0157
29	.0135	.0140	.0113	.0172
28	.0149	.0156	.0126	.0187
27	.0164	.0171	.0142	.0202
26	.0179	.0187	.0159	.0217
25	.0209	.0218	.0179	.0247
24	.0239	.0250	.0201	.0276
23	.0269	.0281	.0226	.0306
22	.0299	.0312	.0253	.0336
21	.0329	.0343	.0285	.0366
20	.0359	.0375	.0320	.0396
19	.0418	.0437	.0359	.0456
18	.0478	.0500	.0403	.0516
17	.0538	.0562	.0453	.0575
16	.0598	.0625	.0508	.0635
15	.0673	.0703	.0571	.0710
14	.0747	.0781	.0641	.0785
13	.0897	.0937	.0720	.0934
12	.1046	.1093	.0808	.1084
11	.1196	.1250	.0907	.1233
10	.1345	.1406	.1019	.1382
7	.1793	.1875	.1443	
3	.2391	.2500	.2294	

Fractional, Decimal and Metric

Parts of an Inch

Inches	Inches	Millimeters	Inches	Inches	Millimeters
1/64	=	0.015625	=	0.39687	
1/32	=	0.031250	=	0.70374	
3/64	=	0.046875	=	1.19061	
1/16	=	0.062500	=	1.58749	
5/64	=	0.078125	=	1.98436	
3/32	=	0.093750	=	2.38123	
7/64	=	0.109375	=	2.77810	
1/8	=	0.125000	=	3.17497	
9/64	=	0.140625	=	3.57184	
5/32	=	0.156250	=	3.96871	
11/64	=	0.171875	=	4.36559	
3/16	=	0.187500	=	4.76246	
13/64	=	0.203125	=	5.15933	
7/32	=	0.218750	=	5.55620	
15/64	=	0.234375	=	5.95307	
1/4	=	0.250000	=	6.34994	
17/64	=	0.265625	=	6.74681	
9/32	=	0.281250	=	7.14369	
19/64	=	0.296875	=	7.54056	
5/16	=	0.312500	=	7.93743	
21/64	=	0.328125	=	8.33430	
11/32	=	0.343750	=	8.73117	
23/64	=	0.359375	=	9.12804	
3/8	=	0.375000	=	9.52491	
25/64	=	0.390625	=	9.92179	
13/32	=	0.406250	=	10.31866	
27/64	=	0.421875	=	10.71553	
7/16	=	0.437500	=	11.11240	
29/64	=	0.453125	=	11.50927	
15/32	=	0.468750	=	11.90614	
31/64	=	0.484375	=	12.30301	
1/2	=	0.500000	=	12.69989	
33/64	=	0.515625	=	13.09676	
17/32	=	0.531250	=	13.49363	
35/64	=	0.546875	=	13.89050	
9/16	=	0.562500	=	14.28737	
37/64	=	0.578125	=	14.68424	
19/32	=	0.593750	=	15.08111	
39/64	=	0.609375	=	15.47798	
5/8	=	0.625000	=	15.87486	
41/64	=	0.640625	=	16.27173	
21/32	=	0.656250	=	16.66860	
43/64	=	0.671875	=	17.06547	
11/16	=	0.687500	=	17.46234	
45/64	=	0.703125	=	17.85921	
23/32	=	0.718750	=	18.25608	
47/64	=	0.734375	=	18.65296	
3/4	=	0.750000	=	19.04983	
49/64	=	0.765625	=	19.44670	
25/32	=	0.781250	=	19.84357	
51/64	=	0.796875	=	20.24044	
13/16	=	0.812500	=	20.63731	
53/64	=	0.828125	=	21.03418	
27/32	=	0.843750	=	21.43106	
55/64	=	0.859375	=	21.82793	
7/8	=	0.875000	=	22.22480	
57/64	=	0.890625	=	22.62167	
29/32	=	0.906250	=	23.01854	
59/64	=	0.921875	=	23.41541	
15/16	=	0.937500	=	23.81228	
61/64	=	0.953125	=	24.20916	
31/32	=	0.968750	=	24.60603	
63/64	=	0.984375	=	25.00290	
1	=	1.000000	=	25.39977	

Decimal Inch Equivalents of Millimeters

Milli-meters	Dec. of an Inch	Milli-meters	Dec. of an Inch	Milli-meters	Dec. of an Inch
1	0.03937	10	0.39370	19	0.74803
2	0.07874	11	0.43307	20	0.78740
3	0.11811	12	0.47244	21	0.82677
4	0.15748	13	0.51181	22	0.86614
5	0.19685	14	0.55118	23	0.90551
6	0.23622	15	0.59055	24	0.94488
7	0.27559	16	0.62992	25	0.98425
8	0.31496	17	0.66929	25.4	1.00000
9	0.35433	18	0.70866		

Metal Processing Services

Each Harbor Steel location has invested in cutting and metalworking equipment designed to furnish you with precision pieces and parts ready for your final assembly. Below are some of the processes we perform in-house. Additionally, we are able to contract with some of our metal working customers to furnish even more first and second stage processing.

PLATE CUTTING: Harbor Steel can produce virtually any shape from plate or sheet on our modern CNC equipment. Whether it's carbon, alloy, stainless steel or aluminum we can cut close tolerance parts for your application. If you have a special shape to cut, all we need is your sketch or blueprint with clearly marked dimensions and tolerances. For ordering common shapes over the phone you can refer to the examples on the next page. Pick your part and give our salesperson your dimensions and tolerances.

PLASMA CUTTING: Our modern Hi-Definition and conventional plasma cutting machines deliver precise parts. Send us your drawings or we can import your CAD files directly into our CAD/CAM system. We can Hi-Def plasma cut stainless and aluminum plate up to 1 1/4" thick and carbon plate up to 1 1/2".

BURNING: State of the art computer controlled oxyfuel multi-torch machines can provide close tolerance shapes to your specs. One piece or hundreds; Harbor Steel produces simple rings and discs or intricate shapes. We stock and cut plates up to 12" thick.

PLATE & SHEET

SAW CUTTING: We can cut to length everything we carry in stock - and more! Our various band saws are available to cut your requirements, whether simply cutting a piece in half for handling or producing hundreds or thousands of close tolerance parts on one of our automatic feed machines. We also have miter capabilities up to 45°. Our largest saw will handle rectangular loads up to 31.5" x 47.2" with 53' of powered conveyors to feed and discharge material. Send us your requirement; we'll be glad to quote.



SHEARING: Harbor Steel shears and ironworkers accurately cut everything from light gauge sheets to 1/2" plates, from narrow strips to 12' wide plates. We also shear flat bars, angles, rounds and rebar to close tolerance. If you don't need a saw or flame cut edge, consider the less expensive sheared edge.



SPLITTING: Generally, any beam or channel 4" or deeper can be split into tees or angles. We can split and straighten to your requirements.



PLATE & SHEET

LASER CUTTING: Harbor Steel's multiple lasers can cut carbon steel up to 3/4" thick, stainless steel up to 1/2" thick and aluminum up to 1/4" with our large tables we can laser cut sheets and plates up to 96" wide by 480" long. Please contact your Harbor Steel representative for a complete quote.



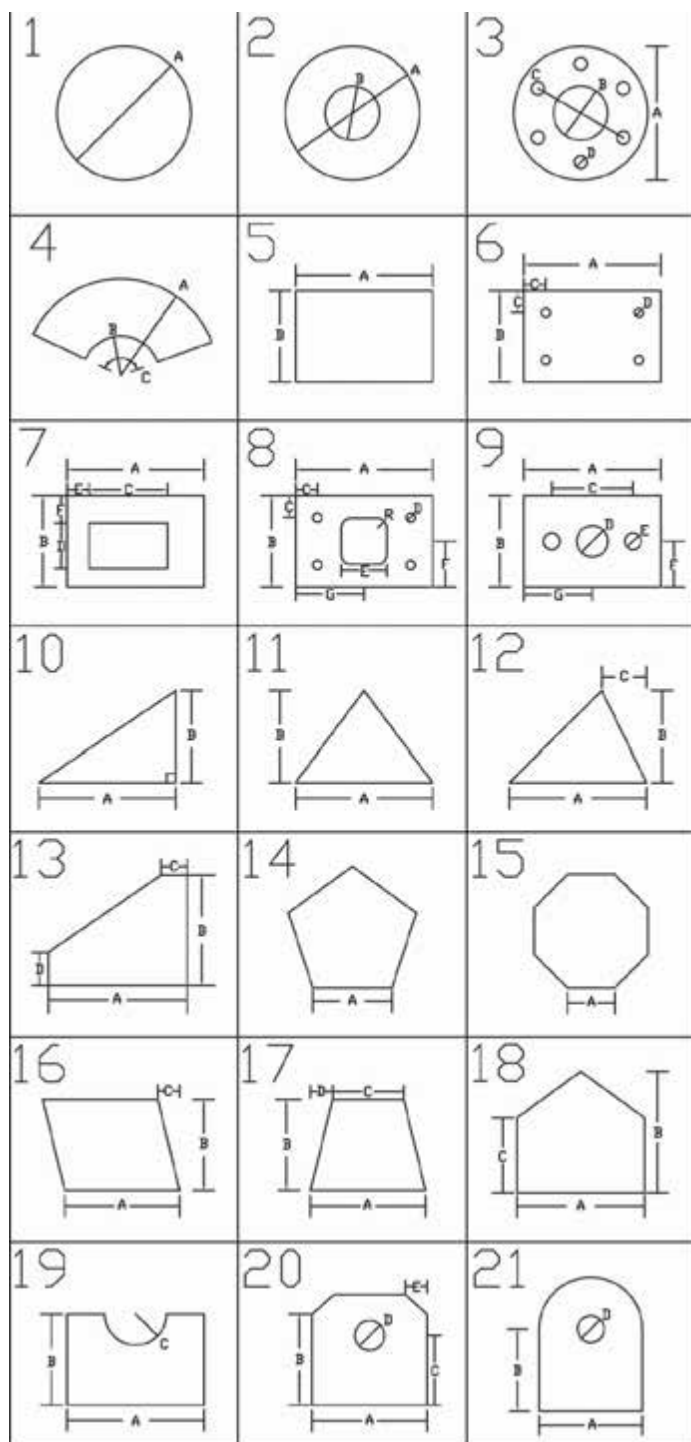
PRESS BREAK: In addition to our capability to shear, flame cut, plasma cut and laser cut, Harbor Steel can also form on our multiple press breaks material up to 1/2" thick x 12' long.



BLANCHARD GRINDING: With our two Blanchard/Rotary grinders we can produce high quality flat plates to our customers requirements. We have the capacity in house to grind up to a 96" swing x 36" height.



PLATE & SHEET



FOR ALL YOUR METAL NEEDS CALL

ISO-9000-2008:Registered

HARBOR STEEL & SUPPLY CORP.

CORPORATE HEADQUARTERS
1115 E. BROADWAY • MUSKEGON, MI
231-739-7152 • 1-800-858-4201
Fax: 231-733-0544

HOLLAND, MI
3522 128th AVE.
P: 616-786-0002
F: 616-786-0003
1-800-328-2240

MANISTEE, MI
321 WASHINGTON
P: 231-723-2597
F: 231-723-6696
1-800-986-8728

LEXINGTON, KY
2200 CAMRY CT.
P: 859-255-7884
F: 859-255-7996
1-800-776-4113

PRICHARD, WV
206 PRICHARD
P: 304-429-0040
F: 304-429-0045
1-888-356-8061