

BRUNSWICK STEEL

REFERENCE BOOK



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The only choice for quality service

THE BRUNSWICK GUARANTEE

When you place your order with us, you get:

1. The smoothest transactions!
2. Quality products delivered on time!

Experience
Processing

Stock Selection
Delivery

Services

- Dedicated fleet with next day delivery to most of MB & SK
- Brunswick Ordering System (BÔS)
"Our Inventory at Your Fingertips"
View stock & place orders online
- Brunswick Packaging System (BPS)
Pre-packaged cut parts ready to ship
- Same day pick-up and delivery available
- Only Steel Service Centre to offer
AIR MILES® Reward Miles™
- One Stop Shop
- Express Orders
Cut & bent parts under lead-time available



In-House Processing Capabilities

Laser Cutting
Hi-Def Plasma Cutting
Oxy-Fuel Cutting
Saw-Cutting

Precision Press Braking
Tube Laser
Drilling

Established Partnership Capabilities

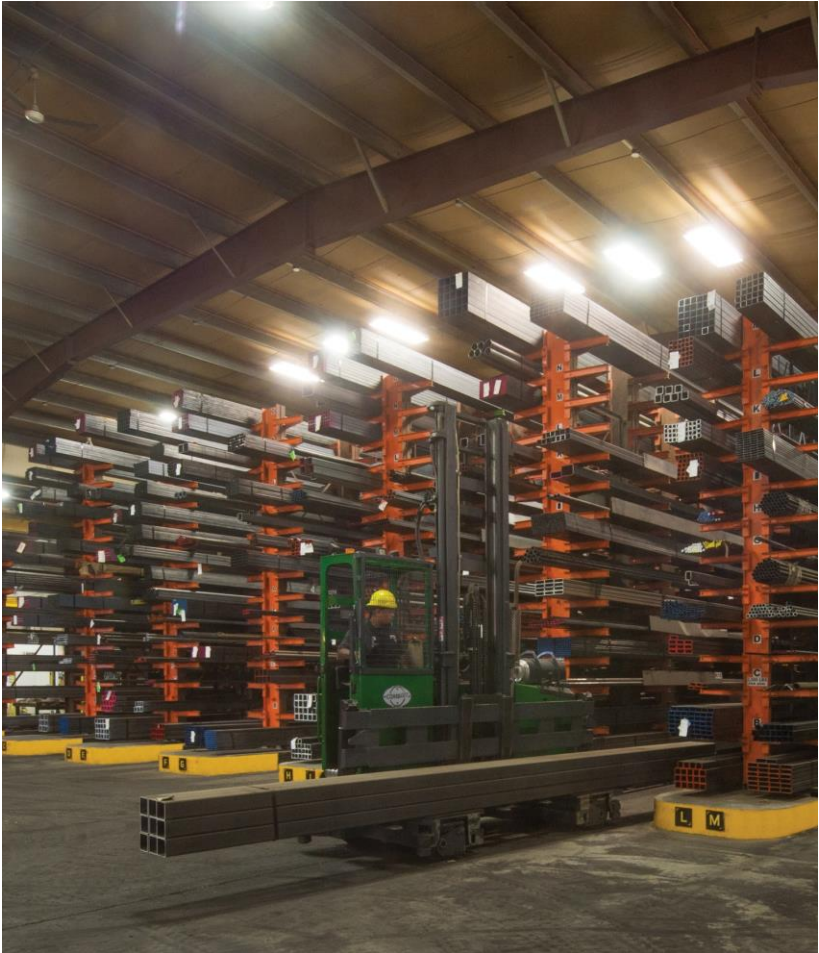
Coatings
Machining

Welding
Other

Stock Selection

Beams
Angles
Channels
Flats
Rounds
Squares
Pipe
HSS Tubing

ERW and DOM Tubing
Sheet and Plate
Checker Plate
Hardox Wear Plate
Strenx Structural Plate
Cold Finished Bars
Precision Ground Rounds
Stainless and Aluminum





BRUNSWICK STEEL

Why use the BÔS? (Brunswick Ordering System)

- Double Airmiles on purchases (for the first 6 months)
- Live real-time inventory/stock at your fingertips
- Personalized pricing is built into the system
- System available at any time (24/7)
- Add to cart and come back when it's more convenient for you
- Much like the Amazon platform, our system is easy to use
- No waiting for replies from emails on quote requests
- An order history built right into the system
- Re-ordering is quick and easy through the history page

**Our Inventory
At Your
Fingertips**



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PRODUCT LIABILITY

The data and information contained in this reference book is accurate and up to date to the best of our knowledge. Brunswick Steel takes no responsibility for its accuracy. Please see our Standard Terms and Conditions at brunswicksteel.com or contact our offices for more information.



GRADES

GRADES

ASTM A-53

Standard specification for pipe, steel, black and hot-dipped, zinc-coated, welded and seamless. This grade is suitable for forming, bending, and flanging. Grade B, the most common, has a minimum yield strength of 35,000 PSI.

ASTM A-500 GRADE C

The most common standard specification for cold-formed, welded carbon steel Hollow Structural Sections (HSS).

Yield Strength – 46,000 PSI minimum

Tensile Strength – 62,000 PSI minimum

ASTM A-572 GRADE 50

Structural quality, high strength, low alloy steel. Used for structural steel shapes in the construction of bridges and building construction. Weldable by all the standard methods.

Yield Strength – 50,000 PSI minimum

Tensile Strength – 70 – 95,000 PSI

ASTM A992 / A992M

This specification covers rolled steel structural shapes for use in building framing, bridges or for general structural purposes and replaces A36 and A572 grade 50. Weldable by all the standard methods.

Yield Strength – 50,000 PSI minimum

Tensile Strength – 65,000 PSI minimum

ASTM A-1011

Standard specification for hot rolled sheets, commercial quality. No minimum physical properties are specified. Suitable for moderate forming and bending.

Typical Yield Strength – 29,000 PSI

Typical Tensile Strength – 53,000 PSI

ASTM A-1008

Standard specification for cold rolled sheet, commercial quality. No minimum physical properties are specified. Good formability.

COMMERCIAL QUALITY

Commercial Quality (CQ) steel is ordinarily produced from killed or semi-killed steel and does not have a high degree of uniformity in chemical composition and mechanical properties. CQ steel is furnished when specific mechanical test values are not required and where surface imperfections are not objectionable.

Typical Yield Strength – 30,000 PSI

Typical Tensile Strength – 50,000 PSI

AISI-C1018

Standard “Garden Variety” cold finished bar grade intended for general use, such as shaping applications not requiring high strength. No minimum physical properties are specified. Generally available in rounds, squares, and flat bars.

Typical Yield Strength – 54,000 PSI

Typical Tensile Strength – 64,000 PSI

AISI-C1045

Widely stocked as precision ground shafting. Intended for applications requiring increased strength and improved dimensional tolerances.

Typical Yield Strength – 77,000 PSI

Typical Tensile Strength – 91,000 PSI

CSA G40.21-44W (300W)

The current Canadian standard for steel produced to meet minimum physical properties. Commonly available as hot rolled merchant bars, shapes, and plate steel. Designed to be used in typical welded applications.

Yield Strength – 44,000 PSI minimum

Tensile Strength – 65 – 90,000 PSI

STRENX 100 (700 MPa)

Structural plate manufactured by SSAB intended for applications where its high strength permits weight savings to be made. This replaces similar products produced by various mills under a variety of names including T-1 Construction Alloy, CHT-100, QT-100, A514.

Yield Strength – 100,000 PSI minimum

Tensile Strength – 115,000 PSI minimum

HARDOX 450

Wear plate manufactured by SSAB intended for applications requiring high abrasion resistance. Due to its high toughness, bending and welding properties, it can also be used as a load bearing plate. This replaces similar products produced by various mills under a variety of names including T-1 Abrasion Resistant, CHT-360/425, AR-360/425. Produced with a range of 425-475 Brinell Hardness.

Typical Yield Strength – 175,000 PSI

Typical Tensile Strength – 190,000 PSI

STAINLESS STEEL T304, T304L

A widely used general purpose stainless steel. It is excellent for forming, drawing and welding, and provides good corrosion resistance without post-weld annealing. The extra low carbon of T-304L permits the use of this steel in corrosive service in the as-welded condition.

Typical Yield Strength – 33,000 – 42,000 PSI

Typical Tensile Strength – 79,000 – 85,000 PSI

ASTM A-516

This specification covers carbon steel plates intended primarily for service in welded pressure vessels where improved notch toughness is important. The four grades offer excellent combinations of strength, weldability and toughness to permit designers flexibility in the design of pressure vessels coming under the jurisdiction of the ASME Pressure Vessel Code.

ASTM A-36

One of the most familiar grades of steel having minimum physical properties specified. Still the accepted standard in the U.S. it is similar in properties to the more common 44W but with lower yield and tensile strengths. This grade is widely available in the form of hot rolled merchant bars, shapes, and plate steel.

Yield Strength – 36,000 PSI minimum

Tensile Strength – 58 – 80,000 PSI

ASTM A-526/527

Standard specification for galvanized steel sheet commercial/lock forming quality. No minimum physical properties are specified. Good to excellent formability. Various coating weights (thicknesses of zinc) are produced.

ASTM A-242

High strength low alloy steel plate (comparable to CSA G40.21 - 50A). Intended for applications requiring improved strength levels and increased resistance to atmospheric corrosion. Commonly known by the trade name 'Corten'.

Yield Strength – 50,000 PSI minimum

Tensile Strength – 70,000 PSI minimum

ASTM A-606

Comparable in properties to the plate grade ASTM A-242, but produced in sheet thickness. Commonly known by the trade name 'Corten'.

AISI-C12L14

Cold finished bar with the addition of lead to produce much improved machinability. Available primarily as round and hex bars. No minimum physical properties are specified.

Typical Yield Strength – 60 – 75,000 PSI

Typical Tensile Strength – 70 – 85,000 PSI

AISI-C1144 STRESS RELIEVED

Cold finished bar intended for applications requiring increased strength values. The sulfur content enhances machinability and it has excellent induction hardening properties. It is generally available as round bars. Welding is not recommended.

Yield Strength – 100,000 PSI minimum

Tensile Strength – 125,000 PSI minimum

CSA G40.21-50W (350W)

Similar in properties to the more common 44W, but with higher yield strengths. Limited availability in structural shapes and plate material. Widely used in production of Hollow Structural Sections (HSS).

Yield Strength – 50,000 PSI minimum

Tensile Strength – 70 – 95,000 PSI

CSA G40.21-50A (350A)

Comparable in physical properties to the 50W grade, but with additions to improve the steel's atmospheric corrosion resistance while maintaining good weldability. Available primarily as plate. Commonly known by the trade name 'Corten'.

Yield Strength – 50,000 PSI minimum

Tensile Strength – 70 – 95,000 PSI

AR-200

Abrasion resistant steel intended for low impact abrasion applications. Brinell Hardness – 180 – 200 Brinell

STRENX 130 (900 MPa)

Structural plate manufactured by SSAB intended for applications where its high strength permits weight savings to be made. Similar to Strenx 700 but with higher minimum yield strength.

Yield Strength – 130,000 PSI minimum

HARDOX 500

Wear plate manufactured by SSAB intended for applications requiring superior abrasion resistance. This steel is a unique combination of toughness and hardness similar to Hardox 450 but produced with a Brinell Hardness range of 450-540.

Typical Yield Strength – 175,000 PSI Typical

Tensile Strength – 190,000 PSI

STAINLESS STEEL T316, T316L

Similar to T304 and T304L but with the addition of molybdenum which greatly increases its corrosion resistance and its mechanical properties at elevated temperatures. The combination of corrosion resistance and high tensile strength, plus good cold forming and drawing properties makes T-316 suitable for a very wide range of applications.

Typical Yield Strength – 30,000 – 42,000 PSI

Typical Tensile Strength – 75,000 – 84,000 PSI

ALUMINUM 5052-H32

This alloy has excellent corrosion resistance, particularly in marine atmospheres. The formability of the grade is excellent and it is often used in high strength sheet metal work and marine components.

Typical Yield Strength – 28,000 PSI

Typical Tensile Strength – 33,000 PSI

ALUMINUM 6061-T6

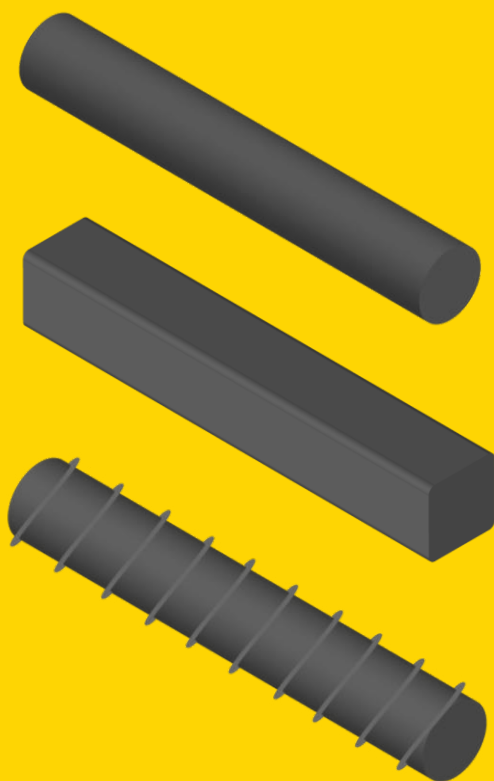
This is a heat-treatable grade widely used in light to medium strength structural applications. The alloy has good corrosion resistance and weldability and possesses good formability.

Typical Yield Strength – 41,000 PSI

Typical Tensile Strength – 44,000 PSI

NOTE: For all other materials not listed, please contact us for further details.

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BAR



BAR

Round Bar

Size	Lbs/ ft.	Size	Lbs/ ft.	Size	Lbs/ ft.
1/8	.042	1 5/16	4.60	2 1/2	16.69
3/16	.094	1 3/8	5.05	2 9/16	17.53
1/4	.167	1 7/16	5.52	2 5/8	18.40
5/16	.261	1 1/2	6.01	2 11/16	19.28
3/8	.376	1 9/16	6.52	2 3/4	20.19
7/16	.511	1 5/8	7.05	2 13/16	21.12
1/2	.668	1 11/16	7.60	2 7/8	22.07
9/16	.845	1 3/4	8.18	2 15/16	23.04
5/8	1.04	1 13/16	8.77	3	24.03
11/16	1.26	1 7/8	9.39	3 1/4	28.20
3/4	1.50	1 15/16	10.02	3 1/2	32.71
13/16	1.76	2	10.68	3 3/4	37.55
7/8	2.04	2 1/16	11.36	4	42.72
15/16	2.35	2 1/8	12.06	4 1/2	54.07
1	2.67	2 3/16	12.78	5	66.75
1 1/16	3.01	2 1/4	13.52	5 1/2	80.78
1 1/8	3.38	2 5/16	14.28	6	96.13
1 3/16	3.77	2 3/8	15.06	7	130.9
1 1/4	4.17	2 7/16	15.86	8	170.9

Square Bar

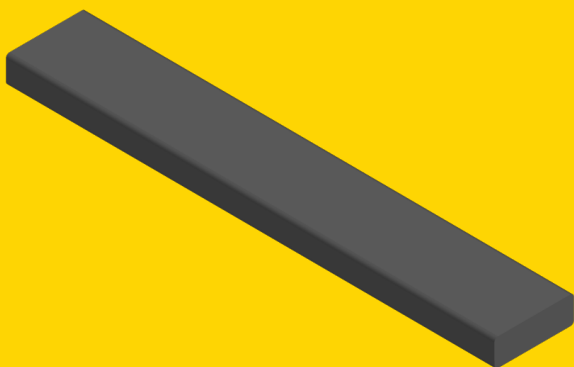
Size	Lbs/ ft.	Size	Lbs/ ft.	Size	Lbs/ ft.
1/8 sq.	.053	1	3.40	3 1/4	35.91
3/16	.120	1 1/8	4.30	3 1/2	41.65
1/4	.213	1 1/4	5.31	3 3/4	47.81
5/16	.332	1 3/8	6.43	4	54.40
3/8	.478	1 1/2	7.65		
7/16	.651	1 5/8	8.98		
1/2	.850	1 3/4	10.41		
9/16	1.08	1 7/8	11.95		
5/8	1.33	2	13.60		
11/16	1.61	2 1/4	17.21		
3/4	1.91	2 1/2	21.25		
7/8	2.60	2 3/4	25.71		
15/16	2.99	3	30.60		

Rebar

Metric	Imperial	Lbs./ ft.
10M	.394	.528
15M	.591	1.055
20M	.787	1.583
25M	.984	2.638



FLAT BAR



FLAT BAR

FLAT BAR

Flat Bar

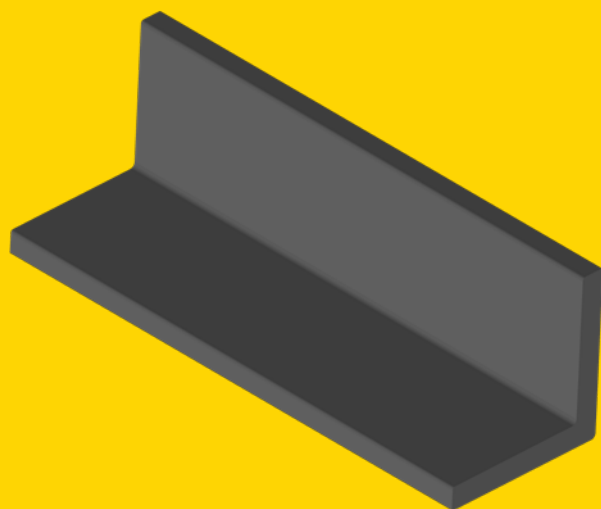
Size	Lbs./ft.	Size	Lbs./ft.	Size	Lbs./ft.
1/8 x		1 1/4	1.063	1	1.275
1/4	.106	1 1/2	1.275	1 1/4	1.594
1/2	.213	1 3/4	1.488	1 1/2	1.913
3/4	.319	2	1.700	1 3/4	2.231
1	.425	2 1/4	1.913	2	2.550
1 1/4	.531	2 1/2	2.125	2 1/4	2.869
1 1/2	.638	2 3/4	2.338	2 1/2	3.188
1 3/4	.744	3	2.550	3	3.825
2	.850	3 1/2	2.975	3 1/2	4.463
2 1/4	.956	4	3.400	4	5.100
2 1/2	1.063	4 1/2	3.825	4 1/2	5.738
3	1.275	5	4.250	5	6.375
3 1/2	1.488	6	5.100	6	7.650
4	1.700	8	6.800	8	10.20
5	2.125	10	8.500	10	12.75
6	2.550	12	10.20	12	15.30
3/16 x		5/16 x		1/2 x	
1/2	.319	1/2	.531	3/4	1.275
3/4	.478	3/4	.797	1	1.700
1	.638	1	1.063	1 1/4	2.125
1 1/4	.797	1 1/4	1.328	1 1/2	2.550
1 1/2	.956	1 1/2	1.594	1 3/4	2.975
1 3/4	1.116	1 3/4	1.859	2	3.400
2	1.275	2	2.125	2 1/4	3.825
2 1/4	1.434	2 1/4	2.390	2 1/2	4.250
2 1/2	1.594	2 1/2	2.656	3	5.100
3	1.913	3	3.188	3 1/2	5.950
3 1/2	2.230	3 1/2	3.719	4	6.800
4	2.550	4	4.250	4 1/2	7.650
5	3.188	5	5.313	5	8.500
6	3.825	6	6.375	6	10.20
1/4 x		8	8.500	8	13.60
1/2	.425	3/8 x		10	17.00
3/4	.638	1/2	.638	12	20.40
1	.850	3/4	.956		

Flat Bar

Size	Lbs./ft.	Size	Lbs./ft.	Size	Lbs./ft.
5/8 x		12	30.600	1 1/2 x	
1	2.125	1 x		3	15.30
1 1/4	2.656	1 1/2	5.100	3 1/2	17.85
1 1/2	3.188	1 3/4	5.950	4	20.40
1 3/4	3.719	2	6.800	5	25.50
2	4.250	2 1/4	7.650	6	30.60
2 1/4	4.781	2 1/2	8.500	8	40.80
2 1/2	5.313	3	10.20	10	51.00
3	6.375	3 1/2	11.90	12	61.20
3 1/2	7.438	4	13.60	2 x	
4	8.500	4 1/2	15.30	3	20.40
5	10.63	5	17.00	4	27.20
5 1/2	11.69	5 1/2	18.70	5	34.00
6	12.75	6	20.40	6	40.80
8	17.00	8	27.20	8	54.40
10	21.25	10	34.00	10	68.00
12	25.50	11	37.40	12	81.60
3/4 x		12	40.80		
1	2.550	1 1/4 x			
1 1/4	3.188	2	8.500		
1 1/2	3.825	2 1/2	10.63		
1 3/4	4.463	3	12.75		
2	5.100	3 1/2	14.88		
2 1/4	5.738	4	17.00		
2 1/2	6.375	5	21.25		
2 3/4	7.013	5 1/2	23.38		
3	7.650	6	25.50		
3 1/2	8.925	8	34.00		
4	10.20	10	42.50		
4 1/2	11.48				
5	12.75				
6	15.30				
6 1/2	16.58				
8	20.40				
10	25.50				



ANGLE



ANGLE

Equal Leg Angle

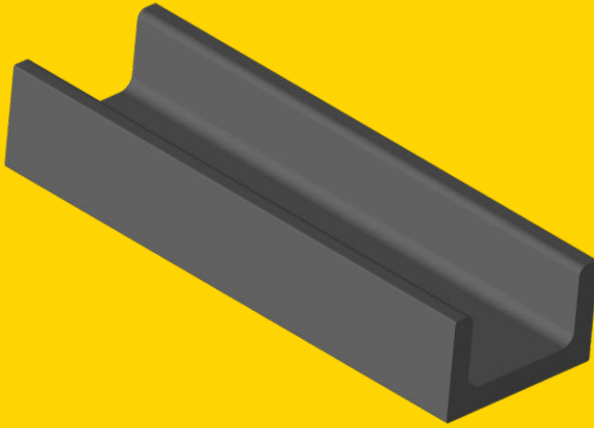
Size	Thick.	Lbs/ ft.	Size	Thick.	Lbs/ ft.
1/2 x 1/2	1/8	.38	3 1/2 x	1/4	5.8
3/4 x 3/4	1/8	.59	3 1/2	5/16	7.2
	3/16	.84		3/8	8.5
1 x 1	1/8	.80		1/2	11.1
	3/16	1.16	4 x 4	1/4	6.6
	1/4	1.49		5/16	8.2
1 1/4 x	1/8	1.01		3/8	9.8
1 1/4	3/16	1.48		1/2	12.8
	1/4	1.92		5/8	15.7
1 1/2 x	1/8	1.23		3/4	18.5
1 1/2	3/16	1.80	5 x 5	5/16	10.3
	1/4	2.34		3/8	12.3
	5/16	2.86		1/2	16.2
1 3/4 x	1/8	1.44		5/8	20.0
1 3/4	3/16	2.12		3/4	23.6
	1/4	2.77	6 x 6	5/16	12.4
	5/16	3.39		3/8	14.9
2 x 2	1/8	1.65		1/2	19.6
	3/16	2.44		5/8	24.2
	1/4	3.19		3/4	28.7
	5/16	3.92		1	37.4
	3/8	4.70	8 x 8	1/2	26.4
2 1/2 x	3/16	3.07		5/8	32.7
2 1/2	1/4	4.10		3/4	38.9
	5/16	5.00		1	51.0
	3/8	5.90			
	1/2	7.70			
3 x 3	3/16	3.7			
	1/4	4.9			
	5/16	6.1			
	3/8	7.2			
	1/2	9.4			

Unequal Leg Angle

Size	Thick.	Lbs/ ft.	Size	Thick.	Lbs/ ft.
2 x 1 1/2	1/8	1.44	5 x 3 1/2	3/8	9.8
	3/16	2.12		1/2	12.8
	1/4	2.77		1/4	7.0
	5/16	3.36		5/16	8.7
2 1/2 x 2	3/16	2.75	6 x 3 1/2	3/8	10.4
	1/4	3.62		1/2	13.6
	5/16	4.50		5/16	9.8
	3/8	5.30		3/8	11.7
3 x 2	3/16	3.07	6 x 4	1/2	15.3
	1/4	4.10		5/16	10.3
	5/16	5.00		3/8	12.3
	3/8	5.90		1/2	16.2
3 x 2 1/2	3/16	3.7	7 x 4	5/8	20.0
	1/4	4.5		3/4	23.6
	5/16	5.6		3/8	13.6
	3/8	6.6		1/2	17.9
	1/2	8.5	8 x 4	1/2	19.6
3 1/2 x 2 1/2	1/4	4.9		5/8	24.2
	5/16	6.1		3/4	28.7
	3/8	7.2	8 x 6	1	37.4
	1/2	9.4		1/2	23.0
3 1/2 x 3	1/4	5.4		5/8	28.5
	5/16	6.6		3/4	33.8
	3/8	7.9		1	44.2
	1/2	10.2			
4 x 3	1/4	5.8			
	5/16	7.2			
	3/8	8.5			
	1/2	11.1			
4 x 3 1/2	1/4	6.2			
	5/16	7.7			
	3/8	9.1			
	1/2	11.9			
5 x 3	1/4	6.6			
	5/16	8.2			

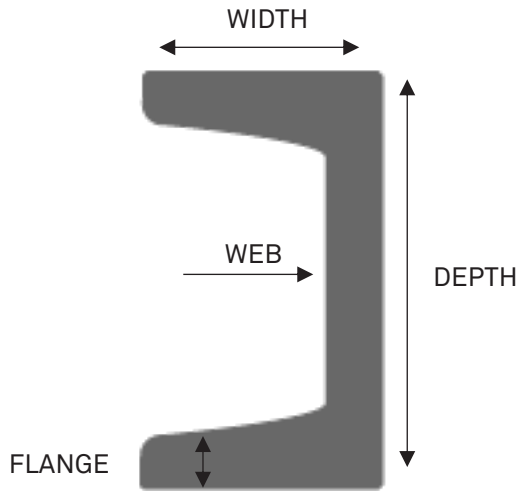


CHANNEL



Steel Channel

Size (in.)			Weight (lbs/ ft.)
1 x	1/2 x	1/8	.84
1 1/2 x	1/2 x	1/8	1.12
2 x	1 x	1/8	1.59
2 x	1 x	3/16	2.32



Standard Channel

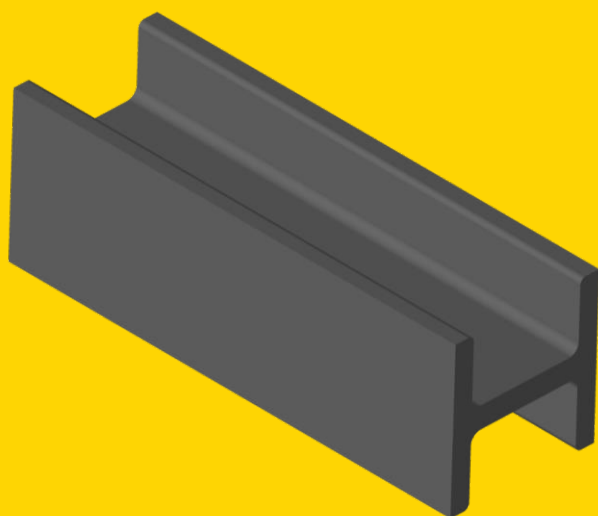
Imperial		Metric		Depth	Width	Flange	Web
C3	x 3.5	C75	x 5	3	1.36	.273	.125
	x 4.1		x 6		1.41	.273	.170
	x 5.0		x 7		1.50	.273	.258
	x 6.0		x 9		1.60	.273	.356
C4	x 4.5	C100	x 7	4	1.52	.296	.145
	x 5.4		x 8		1.58	.296	.184
	x 6.25		x 9		1.65	.296	.247
	x 7.25		x 11		1.72	.296	.321
C5	x 6.7	C130	x 10	5	1.75	.320	.190
	x 9.0		x 13		1.88	.320	.325
	x 11.5		x 17		2.03	.320	.472
C6	x 8.2	C150	x 12	6	1.92	.343	.200
	x 10.5		x 16		2.03	.343	.314
	x 13.0		x 19		2.16	.343	.437
C7	x 9.8	C180	x 15	7	2.09	.366	.210
	x 12.25		x 18		2.19	.366	.314
	x 14.75		x 22		2.30	.366	.419
C8	x 11.5	C200	x 17	8	2.26	.390	.220
	x 13.75		x 21		2.34	.390	.303
	x 18.75		x 28		2.53	.390	.487
C9	x 13.4	C230	x 20	9	2.43	.413	.233
	x 15.0		x 22		2.48	.413	.285
	x 20.0		x 30		2.65	.413	.448
C10	x 15.3	C250	x 23	10	2.60	.436	.240
	x 20.0		x 30		2.74	.436	.379
	x 25.0		x 37		2.89	.436	.526
	x 30.0		x 45		3.03	.436	.673
C12	x 20.7	C310	x 31	12	2.94	.501	.282
	x 25.0		x 37		3.05	.501	.387
	x 30.0		x 45		3.17	.501	.510
C15	x 33.9	C380	x 50	15	3.40	.650	.400
	x 40.0		x 60		3.52	.650	.520
	x 50.0		x 74		3.72	.650	.716

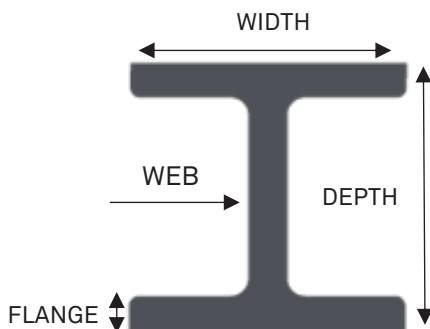
Miscellaneous Channel

Imperial		Metric		Depth	Width	Flange	Web
MC6	x 6.5	MC150	x 9.7	6	1.85	.290	.160
	x 7.0		x 10.4		1.88	.290	.180
	x 12.0		x 17.9		2.50	.380	.310
	x 15.1		x 22.5		2.94	.480	.320
	x 15.3		x 22.8		3.50	.390	.340
	x 16.3		x 24.3		3.00	.480	.380
	x 18.0		x 26.8		3.50	.480	.380
MC8	x 6.6	MC200	x 9.8	8	1.75	.260	.140
	x 8.5		x 12.7		1.87	.310	.180
	x 18.7		x 27.9		2.98	.500	.350
	x 20.0		x 29.8		3.03	.500	.400
	x 21.4		x 31.9		3.45	.530	.380
	x 22.8		x 34.0		3.50	.530	.430
MC10	x 6.5	MC250	x 9.7	10	1.13	.200	.150
	x 8.4		x 12.5		1.50	.280	.170
	x 22.0		x 33.0		3.32	.575	.290
	x 25.0		x 37.0		3.41	.575	.380
	x 28.5		x 42.4		4.32	.575	.425
	x 33.6		x 50.0		4.10	.575	.575
	x 41.1		x 61.2		3.95	.575	.796
MC12	x 10.6	MC310	x 15.8	12	1.50	.310	.190
	x 31.0		x 46.0		3.67	.700	.370
	x 35.0		x 52.0		3.77	.700	.465
	x 40.0		x 60.0		3.89	.700	.590
	x 45.0		x 67.0		4.01	.700	.710
	x 50.0		x 74.0		4.14	.700	.935
MC18	x 42.7	MC460	x 63.5	18	3.95	.625	.450
	x 45.8		x 68.2		4.00	.625	.500
	x 51.9		x 77.2		4.10	.625	.600
	x 58.0		x 86.0		4.20	.625	.700

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BEAM

BEAM





Wide Flange Beam

	Imperial		Metric	Depth	Width	Flange	Web
	W4	x 13	W100	x 19	4.16	4.06	.345
	W5	x 16	W130	x 24	5.01	5.00	.360
		x 19		x 28	5.15	2.03	.430
	W6	x 8.5	W150	x 13	5.83	3.94	.194
		x 9		x 14	5.90	3.94	.215
		x 12		x 18	6.03	4.00	.280
		x 16		x 54	6.28	4.03	.405
		x 15		x 22	5.99	5.99	.260
		x 20		x 30	6.20	6.02	.365
		x 25		x 37	6.38	6.08	.455
	W8	x 10	W200	x 15	7.89	3.94	.205
		x 13		x 19	7.99	4.00	.255
		x 15		x 22	8.11	4.02	.315
		x 14		x 21	7.98	5.21	.250
		x 18		x 27	8.14	5.25	.330
		x 21		x 31	8.28	5.27	.400
		x 24		x 36	7.93	6.50	.400
		x 28		x 42	8.06	6.54	.465
		x 31		x 46	8.00	8.00	.435
		x 35		x 52	8.12	8.02	.495
		x 40		x 59	8.25	8.07	.560
		x 48		x 71	8.50	8.11	.685
		x 58		x 86	8.75	8.22	.810
		x 67		x 100	9.00	8.28	.935

Wide Flange Beam

Imperial		Metric		Depth	Width	Flange	Web
W10	x 12	W250	x 18	9.87	3.96	.210	.190
	x 15		x 22	9.99	4.00	.270	.230
	x 17		x 25	10.11	4.01	.330	.240
	x 19		x 28	10.24	4.02	.395	.250
	x 16		x 24	9.95	5.71	.250	.195
	x 22		x 33	10.17	5.75	.360	.240
	x 26		x 39	10.33	5.77	.440	.260
	x 30		x 45	10.47	5.81	.510	.300
	x33		x 49	9.73	7.96	.435	.290
	x 39		x 58	9.92	7.98	.530	.315
	x 45		x 67	10.10	8.02	.620	.350
	x 49		x 73	9.98	10.00	.560	.340
	x 54		x 80	10.09	10.03	.615	.370
	x 60		x 89	10.22	10.08	.680	.420
	x 68		x 101	10.40	10.13	.770	.470
	x 77		x 115	10.60	10.19	.870	.530
	x 88		x 131	10.84	10.26	.990	.605
	x 100		x 149	11.10	10.34	1.12	.680
	x 112		x 167	11.36	10.42	1.25	.755
W12	x 14	W310	x 21	11.91	3.97	.225	.200
	x 16		x 24	11.99	3.99	.265	.220
	x 19		x 28	12.16	4.00	.350	.235
	x 22		x 33	12.31	4.03	.425	.260
	x 26		x 39	12.22	6.49	.380	.230
	x 30		x 45	12.34	6.52	.440	.260
	x 35		x 52	12.50	6.56	.520	.300
	x 40		x 60	11.94	8.00	.515	.295
	x 54		x 67	12.06	8.04	.575	.335
	x 50		x 74	12.19	8.08	.640	.370
	x 53		x 79	12.06	10.00	.575	.345
	x 58		x 86	12.19	10.01	.640	.360
	x 65		x 97	12.12	12.00	.605	.390
	x 72		x 107	12.25	12.04	.670	.430
	x 79		x 118	12.38	12.08	.735	.470

Wide Flange Beam

Imperial		Metric		Depth	Width	Flange	Web
W12	x 87	W310	x 129	12.53	12.12	.810	.515
	x 96		x 143	12.71	12.16	.900	.550
	x 106		x 158	12.89	12.22	.990	.610
	x 120		x 179	13.12	12.32	1.10	.710
	x 136		x 202	13.41	12.40	1.25	.790
	x 152		x 226	13.71	12.48	1.40	.870
	x 170		x 253	14.03	12.57	1.56	.960
	x 190		x 283	14.38	12.67	1.74	1.060
	x 210		x 313	14.71	12.79	1.90	1.180
	x 230		x 342	15.05	12.90	2.07	1.290
W14	x 22	W360	x 33	13.74	5.00	.335	.230
	x 26		x 39	13.91	5.02	.420	.255
	x 30		x 45	13.84	6.73	.385	.270
	x 34		x 51	13.98	6.74	.455	.285
	x 38		x 57	14.10	6.77	.515	.310
	x 43		x 64	13.66	8.00	.530	.305
	x 48		x 72	13.79	8.03	.595	.340
	x 53		x 79	13.92	8.06	.660	.370
	x 61		x 91	13.89	10.00	.645	.375
	x 68		x 101	14.04	10.04	.720	.415
	x 74		x 110	14.17	10.07	.785	.450
	x 82		x 122	14.31	10.13	.855	.510
	x 90		x 134	14.02	14.52	.710	.440
	x 99		x 147	14.16	14.56	.780	.485
	x 109		x 162	14.32	14.60	.860	.525
	x 120		x 179	14.48	14.67	.940	.590
	x 132		x 196	14.66	14.72	1.03	.645
	x 145		x 216	14.78	15.50	1.09	.680
	x 159		x 237	14.98	15.56	1.19	.745
	x 176		x 262	15.22	15.65	1.31	.830
	x 193		x 287	15.48	15.71	1.44	.890
	x 211		x 314	15.72	15.80	1.56	.980
	x 233		x 347	16.04	15.89	1.72	1.07
W16	x 26	W410	x 39	15.69	5.50	.345	.250
	x 31		x 46	15.88	5.52	.440	.275

Wide Flange Beam

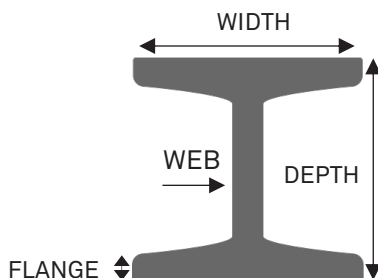
Imperial		Metric		Depth	Width	Flange	Web
W16	x 36	W410	x 54	15.86	6.98	.430	.295
	x 40		x 60	16.01	7.00	.505	.305
	x 45		x 67	16.13	7.04	.565	.345
	x 50		x 74	16.26	7.07	.630	.380
	x 57		x 85	16.43	7.12	.715	.430
	x 67		x 100	16.33	10.24	.665	.395
	x 77		x 114	16.52	10.30	.760	.455
	x 89		x 132	16.75	10.36	.875	.525
	x 100		x 149	16.97	10.42	.985	.585
W18	x 35	W460	x 52	17.70	6.00	.425	.300
	x 40		x 60	17.90	6.02	.525	.315
	x 46		x 68	18.06	6.06	.605	.360
	x 41		x 61	17.70	7.45	.425	.320
	x 45		x 67	17.86	7.48	.499	.335
	x 50		x 74	17.99	7.50	.570	.355
	x 55		x 82	18.11	7.53	.630	.390
	x 60		x 89	18.24	7.56	.695	.415
	x 65		x 97	18.35	7.59	.750	.450
	x 71		x 106	18.47	7.64	.810	.495
	x 76		x 113	18.21	11.04	.680	.425
	x 86		x 128	18.39	11.09	.770	.480
	x 97		x 144	18.59	11.14	.870	.535
	x 106		x 158	18.73	11.20	.940	.590
	x 119		x 177	18.97	11.26	1.06	.655
	x 130		x 193	19.25	11.16	1.20	.670
	x 143		x 213	19.49	11.22	1.32	.730
	x 158		x 235	19.72	11.30	1.44	.810
	x 175		x 260	20.04	11.38	1.59	.890
	x 192		x 286	20.35	11.46	1.75	.960
W21	x 44	W530	x 66	20.66	6.50	.450	.350
	x 50		x 74	20.83	6.53	.535	.380
	x 57		x 85	21.06	6.56	.650	.405
	x 48		x 72	20.62	8.14	.430	.350
	x 55		x 82	20.80	8.22	.522	.375
	x 62		x 92	20.99	8.24	.615	.400

Wide Flange Beam

Imperial		Metric		Depth	Width	Flange	Web
W21	x 68	W530	x 101	21.13	8.27	.685	.430
	x 73		x 109	21.24	8.30	.740	.455
	x 83		x 123	21.43	8.36	.835	.515
	x 93		x 138	21.62	8.42	.930	.580
	x 101		x 150	21.36	12.29	.800	.500
	x 111		x 165	21.51	12.34	.875	.550
	x 122		x 182	21.68	12.39	.960	.600
	x 132		x 196	21.83	12.44	1.04	.650
	x 147		x 219	22.06	12.51	1.15	.720
	x 166		x 248	22.48	12.42	1.36	.750
W24	x 55	W610	x 82	23.57	7.00	.505	.395
	x 62		x 92	23.74	7.04	.590	.430
	x 56		x 84	23.46	8.90	.461	.355
	x 61		x 91	23.54	8.94	.500	.380
	x 68		x 101	23.73	8.96	.585	.415
	x 76		x 113	23.92	8.99	.680	.440
	x 84		x 125	24.10	9.02	.770	.470
	x 94		x 140	24.31	9.06	.875	.515
	x 103		x 153	24.53	9.00	.980	.550
	x 104		x 155	24.06	12.75	.750	.500
	x 117		x 174	24.26	12.80	.850	.550
	x 131		x 195	24.48	12.86	.960	.605
	x 146		x 217	24.74	12.90	1.09	.650
	x 162		x 241	25.00	12.96	1.22	.705
	x 176		x 262	25.24	12.89	1.34	.750
W27	x 84	W690	x 125	26.71	9.96	.640	.460
	x 94		x 140	26.92	9.99	.745	.490
	x 102		x 152	27.09	10.02	.830	.515
	x 114		x 170	27.29	10.07	.930	.570
	x 129		x 192	27.63	10.01	1.10	.610
	x 146		x 217	27.38	13.96	.975	.605
	x 161		x 240	27.59	14.02	1.08	.660
	x 178		x 265	27.81	14.08	1.19	.725
	x 194		x 289	28.11	14.04	1.34	.750
W30	x 90	W760	x 134	29.53	10.40	.610	.470

Wide Flange Beam

Imperial		Metric		Depth	Width	Flange	Web
W30	x 99	W760	x 147	29.65	10.45	.670	.520
	x 108		x 161	29.83	10.48	.760	.545
	x 116		x 173	30.01	10.50	.850	.565
	x 124		x 185	30.17	10.52	.930	.585
	x 132		x 196	30.31	10.54	1.00	.615
	x 148		x 220	30.67	10.48	1.18	.650
	x 173		x 257	30.44	14.98	1.06	.655
	x 191		x 284	30.68	15.04	1.18	.710
	x 211		x 314	30.94	15.10	1.31	.775
	x 235		x 350	31.30	15.06	1.50	.830
W33	x 118	W840	x 176	32.86	11.48	.740	.550
	x 130		x 193	33.09	11.51	.855	.580
	x 141		x 210	33.30	11.54	.960	.605
	x 152		x 226	33.49	11.56	1.06	.635
	x 169		x 251	33.82	11.50	1.22	.670
	x 201		x 299	33.68	15.74	1.15	.715
	x 221		x 329	33.93	15.80	1.28	.775
	x 241		x 359	34.18	15.86	1.40	.830
W36	x 135	W920	x 201	35.55	11.95	.790	.600
	x 150		x 223	35.85	11.98	.940	.625
	x 160		x 238	36.01	12.00	1.02	.650
	x 170		x 253	36.17	12.03	1.10	.680
	x 182		x 271	36.33	12.08	1.18	.725
	x 194		x 289	36.49	12.12	1.26	.765
	x 210		x 313	36.69	12.18	1.36	.830



Standard I-Beam

Imperial	Metric	Depth	Width	Flange	Web
3" x 2.9	Superlight	3	2.25	.125	.125
4" x 3.2	Superlight	4	2.25	.125	.125
S3 x 5.7	S75 x 8	3	2.33	.260	.170
x 7.5	x 11	3	2.51	.260	.349
S4 x 7.7	S100 x 11	4	2.66	.293	.193
x 9.5	x 14.1	4	2.80	.293	.326
S5 x 10	S130 x 15	5	3.00	.326	.214
S6 x 12.5	S150 x 19	6	3.33	.359	.232
x 17.25	x 26	6	3.56	.359	.465
S8 x 18.4	S200 x 27	8	4.00	.425	.271
x 23	x 34	8	4.17	.425	.441
S10 x 25.4	S250 x 38	10	4.66	.491	.311
x 35	x 52	10	4.94	.491	.594
S12 x 31.8	S310 x 47	12	5.00	.544	.350
x 35	x 52	12	5.08	.544	.428
x 40.8	x 60.7	12	5.25	.659	.462
x 50	x 74	12	5.48	.659	.687
S15 x 42.9	S380 x 64	15	5.50	.622	.411
x 50	x 74	15	5.64	.622	.550
S18 x 54.7	S460 x 81.4	18	6.00	.691	.461
x 70	x 104	18	6.25	.691	.711

Standard I-Beam

Imperial	Metric	Depth	Width	Flange	Web
S20 x 66	S510 x 98	20	6.26	.795	.505
x 75	x 112	20	6.39	.795	.635
x 86	x 128	20.3	7.06	.920	.660
x 96	x 143	20.3	7.20	.920	.800
S24 x 80	S610 x 119	24	7.00	.870	.500
x 90	x 134	24	7.13	.870	.625
x 100	x 149	24	7.24	.870	.745
x 106	x 158	24.5	7.87	1.09	.620
x 121	x 180	24.5	8.05	1.09	.800

TUBE



TUBE

TUBE

HSS Square

Size	Wall	Lbs/ft.	Size	Wall	Lbs/ft.
1 x 1	.100	1.14	4 x 4	.125	6.46
	.125	1.35		.188	9.45
1 1/4 x	.100	1.48		.250	12.21
1 1/4	.125	1.78		.313	14.83
1 1/2 x	.100	1.82		.375	17.27
1 1/2	.125	2.21		.500	21.63
	.188	3.05	5 x 5	.125	7.80
1 3/4 x	.100	2.17		.188	12.00
1 3/4	.125	2.66		.250	15.62
2 x 2	.083	2.16		.313	19.08
	.100	2.58		.375	22.37
	.125	3.06		.500	28.43
	.188	4.33	6 x 6	.188	14.56
	.250	5.41		.250	19.02
2 1/4 x	.100	2.84		.313	23.33
2 1/4	.125	3.48		.375	27.48
	.188	4.96		.500	35.24
	.250	6.26	7 x 7	.188	17.13
2 1/2 x	.100	3.26		.250	22.42
2 1/2	.125	3.91		.313	27.63
	.188	5.61		.375	32.58
	.215 FR	6.28		.500	42.05
	.238 FR	6.83	8 x 8	.188	19.63
	.250	7.11		.250	25.82
3 x 3	.100	3.95		.313	31.84
	.125	4.76		.375	37.69
	.188	6.89		.500	48.85
	.250	8.81	10 x 10	.250	32.63
	.313	10.59		.313	40.35
	.375	12.17		.375	47.90
3 1/2 x	.125	5.61		.500	62.46
3 1/2	.188	8.17	12 x 12	.250	39.43
	.250	10.51		.313	48.86
	.313	12.70		.375	58.10
	.375	14.71		.500	76.07

HSS Rectangular

Size	Wall	Lbs/ft.	Size	Wall	Lbs/ft.
2 x 1	.100	1.82	5 x 3	.125	6.46
	.125	2.21		.188	9.45
	.188	3.04		.250	12.21
2 1/2 x 1 1/2	.100	2.58		.313	14.83
	.125	3.06		.375	17.27
	.188	4.33	5 x 4	.125	7.31
3 x 1	.100	2.58		.188	10.70
	.125	3.06		.250	13.91
	.188	4.33		.313	16.96
3 x 1 1/2	.100	2.92		.375	19.82
	.125	3.48	6 x 2	.125	6.46
	.188	4.96		.188	9.45
3 x 2	.100	3.26		.250	12.21
	.125	3.91		.313	14.83
	.188	5.61		.375	17.27
	.250	7.11	6 x 3	.125	7.31
	.313	8.60		.188	10.70
3 1/2 x 2 1/2	.125	4.76		.250	13.91
	.188	6.89		.313	16.96
	.250	8.81		.375	19.82
	.313	10.59	6 x 4	.188	12.00
4 x 2	.125	4.76		.250	15.62
	.188	6.89		.313	19.08
	.250	8.81		.375	22.37
	.313	10.59		.500	28.43
4 x 3	.125	5.61	7 x 3	.188	12.00
	.188	8.17		.250	15.62
	.250	10.51		.313	19.08
	.313	12.70		.375	22.37
	.375	14.71	7 x 4	.188	13.28
5 x 2	.125	5.61		.250	17.32
	.188	8.17		.313	21.18
	.250	10.51		.375	24.92
	.313	12.70			
	.375	14.71			

HSS Rectangular

Size	Wall	Lbs/ft.	Size	Wall	Lbs/ft.
7 x 5	.188	14.56	9 x 7	.188	19.63
	.250	19.02		.250	25.82
	.313	23.33		.313	31.84
	.375	27.48		.375	37.69
	.500	35.24		.500	48.85
8 x 2	.188	12.00	10 x 4	.188	17.13
	.250	15.62		.250	22.42
	.313	19.08		.313	27.63
	.375	22.37		.375	32.58
8 x 3	.188	13.28		.500	42.05
	.250	17.32	10 x 6	.188	19.63
	.313	21.18		.250	25.82
	.375	24.92		.313	31.84
8 x 4	.188	14.56		.375	37.69
	.250	19.02		.500	48.85
	.313	23.33	12 x 8	.250	32.63
	.375	27.48		.313	40.35
	.500	35.24		.375	47.90
8 x 6	.188	17.13		.500	62.46
	.250	22.42	14 x 6	.250	32.63
	.313	27.63		.313	40.35
	.375	32.58		.375	47.90
	.500	42.05		.500	62.46
9 x 5	.188	17.13	14 x 10	.250	39.43
	.250	22.42		.313	48.86
	.313	27.63		.375	58.10
	.375	32.58		.500	76.07
	.500	42.05			

HSS Round

O.D	Wall	Lbs/ft.	O.D	Wall	Lbs/ft.
1.05	.100	1.02	4.50	.125	5.85
	.125	1.24		.188	8.68
1.315	.100	1.30		.250	11.36
	.125	1.59		.313	14.01
1.66	.100	1.67	5.00	.375	16.54
	.125	2.05		.125	6.52
1.90	.100	1.92		.188	9.67
	.125	2.38		.250	12.69
	.188	3.45		.313	15.69
2.375	.100	2.43		.375	18.54
	.125	3.01	5.562	.188	10.80
	.188	4.40		.250	14.20
	.250	5.68		.313	17.60
2.875	.125	3.68	6.00	.125	7.54
	.188	5.40		.188	11.68
	.250	7.01		.250	15.37
3.00	.125	3.84		.313	19.03
	.188	5.66		.375	22.55
	.250	7.35	6.625	.188	13.00
3.50	.188	6.66		.250	17.00
	.250	8.69		.313	21.10
	.313	10.66		.375	25.10
4.00	.125	5.17	8.625	.188	17.00
	.188	7.67		.250	22.40
	.250	10.02		.313	27.80
	.313	12.34		.375	33.10
	.375	14.52		.438	38.40
				.500	43.40

HSS Round

ERW Square

O.D	Wall	Lbs/ft.	Size	Ga.	Wall	Lbs/ft.
10.75	.250	28.10	1/2 x 1/2	18	.049	.30
	.313	34.90		16	.065	.39
	.375	41.60	5/8 x 5/8	18	.049	.43
	.500	54.80		16	.065	.56
12.75	.250	33.40	3/4 x 3/4	14	.083	.70
	.313	41.60		18	.049	.50
	.375	49.60	1 x 1	16	.065	.65
	.500	65.50		18	.049	.63
14.00	.250	36.80	1 1/4 x 1 1/4	16	.065	.82
	.313	45.80		14	.083	1.03
	.375	54.70	1 1/2 x 1 1/2	18	.049	.82
	.500	72.20		16	.065	1.08
16.00	.250	42.10	1 3/4 x 1 3/4	14	.083	1.37
	.313	52.50		18	.049	.96
	.375	62.70	2 x 2	16	.065	1.26
	.500	82.90		14	.083	1.59

ERW Rectangular

Size	Ga.	Wall	Lbs/ft.
1/2 x 1	18	.049	.47
	16	.065	.61
	13	.095	2.06
1/2 x 1 1/2	18	.049	.63
	16	.065	.83
	14	.083	1.04
3/4 x 1 1/2	16	.065	.94
1 x 1 1/2	16	.065	1.05
	14	.083	1.32
1 x 2	18	.049	.97
	16	.065	1.27
	14	.083	1.60
	13	.095	1.74

ERW and DOM Round

O.D.	Wall	I.D.	Lbs./ft.	DOM	ERW
0.50	.049	.402	.236	X	X
	.065	.370	.302	X	X
	.083	.334	.37	X	
	.120	.260	.487	X	
0.625	.049	.527	.301	X	X
	.065	.495	.389	X	X
	.083	.459	.48	X	X
	.120	.385	.647	X	
0.75	.049	.652	.367	X	X
	.065	.620	.476	X	X
	.083	.584	.591	X	X
	.120	.510	.807	X	X
0.875	.049	.777	.432	X	X
	.065	.745	.562	X	X
	.083	.709	.702	X	X
	.120	.635	.968	X	
1.00	.049	.902	.498	X	X
	.065	.807	.649	X	X
	.083	.834	.813	X	X
	.120	.760	1.128	X	X
	.188	.624	1.630	X	
	.240	.520	1.948	X	
	.250	.500	2.003	X	
1.25	.065	1.120	.823	X	X
	.083	1.084	1.034	X	X
	.120	1.010	1.448	X	X
	.188	.874	2.132	X	
	.240	.770	2.590	X	
	.250	0.750	2.670	X	
1.50	.065	1.370	0.996	X	X
	.083	1.334	1.256	X	X
	.120	1.260	1.769	X	X
	.188	1.124	2.634	X	
	.240	1.020	3.230	X	
	.250	1.000	3.338	X	

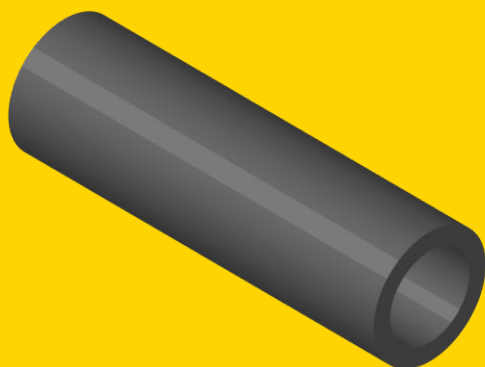
ERW and DOM Round

O.D.	Wall	I.D.	Lbs./ft.	DOM	ERW
1.75	.083	1.584	1.478	X	X
	.120	1.510	2.089	X	X
	.188	1.374	3.136	X	
	.240	1.270	3.871	X	
	.250	1.250	4.005	X	
2.00	.065	1.870	1.343	X	X
	.083	1.834	1.699	X	X
	.120	1.760	2.409	X	X
	.188	1.624	3.638	X	
	.240	1.520	4.510	X	
	.250	1.500	4.673	X	
2.50	.375	1.250	6.508	X	
	.065	2.370	1.690	X	X
	.083	2.334	2.143	X	X
	.120	2.260	3.050	X	X
	.188	2.124	4.642	X	
	.240	2.020	5.790	X	
3.00	.250	2.000	6.008	X	
	.375	1.750	8.511	X	
	.500	1.500	10.68	X	
	.065	2.870	2.037	X	X
	.083	2.834	2.586	X	X
	.120	2.760	3.691	X	X
3.50	.188	2.624	5.646	X	
	.250	2.500	7.343	X	
	.375	2.250	10.51	X	
	.500	2.000	13.35	X	
	.065	3.370	2.385	X	X
	.083	3.334	3.029	X	X
	.120	3.260	4.332	X	X
	.250	3.000	8.678	X	
	.375	2.750	12.55	X	
	.500	2.500	16.02	X	

ERW and DOM Round

O.D.	Wall	I.D.	Lbs./ft.	DOM	ERW
4.00	.065	3.870	2.732	X	X
	.083	3.834	3.472	X	X
	.120	3.760	4.973	X	X
	.250	3.500	10.01	X	
	.375	3.250	14.52	X	
	.500	3.000	18.69	X	
5.00	.065	4.870	3.426	X	X
	.083	4.834	4.359	X	X
	.120	4.760	6.254	X	X
	.250	4.500	12.68	X	
	.375	4.250	18.52	X	
	.500	4.000	24.03	X	
6.00	.065	5.870	4.120	X	X
	.083	5.834	5.245	X	X
	.120	5.760	7.536	X	X
	.134	5.732	8.395		X
	.250	5.500	15.35	X	
	.375	5.250	22.53	X	
	.500	5.000	29.37	X	
8.00	.065	7.870	5.508		X
	.083	7.834	7.018		X
	.109	7.782	9.186		X
	.120	7.760	10.10		X
	.134	7.732	11.26		X
10.00	.083	9.834	8.791		X
	.109	9.782	11.51		X
	.120	9.760	12.66		X
	.134	9.732	14.12		X
12.00	.109	11.782	13.84		X
	.120	11.760	15.23		X
	.134	11.732	16.98		X
12.75	.109	12.532	14.72		X
	.120	12.510	16.19		X
	.134	12.482	18.06		X

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PIPE



PIPE

Standard Pipe

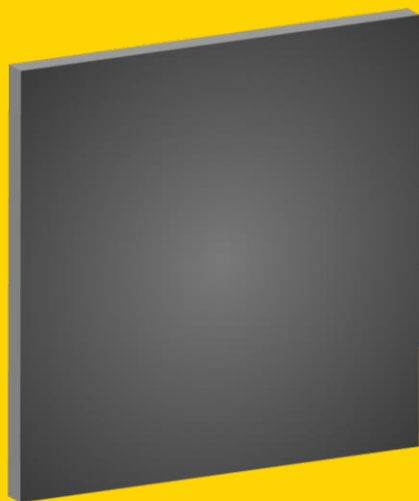
Size	O.D	Wall	Lbs/ft.
1/8	.405	.068	.2447
1/4	.540	.088	.4248
3/8	.675	.091	.5656
1/2	.840	.109	.8510
3/4	1.050	.113	1.131
1	1.315	.133	1.679
1 1/4	1.660	.140	2.273
1 1/2	1.900	.145	2.718
2	2.375	.154	3.653
2 1/2	2.875	.203	5.793
3	3.500	.216	7.576
3 1/2	4.000	.226	9.109
4	4.500	.237	10.79
5	5.563	.258	14.62
6	6.625	.280	18.97
8	8.625	.322	28.55
10	10.75	.365	40.48
12	12.75	.375	49.56
14	14.0	.375	54.57
16	16.0	.375	62.58
18	18.0	.375	70.59
20	20.0	.375	78.60
24	24.0	.375	94.62
30	30.0	.375	118.6
32	32.0	.375	126.7
36	36.0	.375	142.7
42	42.0	.375	166.7
48	48.0	.375	190.7

Extra Heavy Pipe

XH			
Size	O.D	Wall	Lbs/ft.
1/8	.405	.095	.315
1/4	.540	.119	.535
3/8	.675	.126	.739
1/2	.840	.147	1.088
3/4	1.050	.154	1.474
1	1.315	.179	2.172
1 1/4	1.660	.191	2.997
1 1/2	1.900	.200	3.631
2	2.375	.218	5.022
2 1/2	2.875	.276	7.662
3	3.500	.300	10.25
3 1/2	4.000	.318	12.51
4	4.500	.337	14.98
5	5.563	.375	20.78
6	6.625	.432	28.57
8	8.625	.500	43.39
10	10.75	.500	54.74
12	12.75	.500	65.42
14	14.0	.500	72.09
16	16.0	.500	82.77
18	18.0	.500	93.45
20	20.0	.500	104.1
24	24.0	.500	125.5
30	30.0	.500	157.5
32	32.0	.500	168.2
36	36.0	.500	189.6
42	42.0	.500	221.6
48	48.0	.500	253.5



SHEET AND PLATE



SHEET &
PLATE

SHEET AND PLATE

Sheet

Gauge	Decimal	Lbs./sq.ft.	A.I.S.I. Tol. (+/-)	
			H.R & H.R. P&O	C.R.
1/4	.250	10.21	.012	
3/16	.188	7.66	.009	
7	.179	7.50	.008	
8	.164	6.88	.008	
9	.149	6.25	.008	
10	.134	5.625	.008	.006
11	.119	5.00	.008	.006
12	.104	4.375	.008	.006
13	.089	3.75	.007	.005
14	.074	3.125	.007	.005
15	.067	2.81	.006	.005
16	.059	2.50	.006	.005
17	.053	2.25		.004
18	.048	2.00		.004
19	.041	1.75		.004
20	.036	1.50		.003
21	.033	1.38		.003
22	.030	1.25		.003
23	.027	1.13		.003
24	.024	1.00		.003
25	.021	.875		.003
26	.018	.750		.002
27	.016	.688		.002
28	.015	.625		.002
29	.014	.562		.002
30	.012	.500		.001

SHEET AND PLATE

Plate

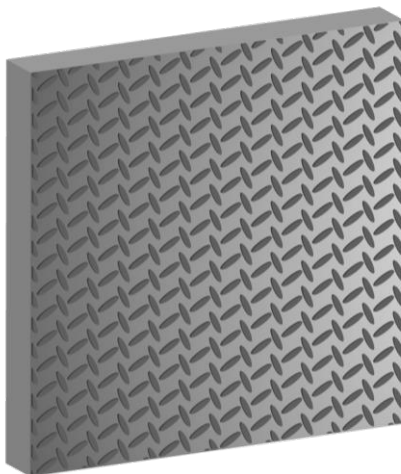
Size	Decimal	Lbs./sq.ft.	Size	Decimal	Lbs./sq.ft.
1/8	.125	5.11	3	3.00	122.52
4mm	.157	6.43	3 1/4	3.25	132.72
3/16	.188	7.66	3 1/2	3.50	142.93
1/4	.250	10.21	3 3/4	3.75	153.14
5/16	.313	12.76	4	4.00	163.35
3/8	.375	15.31	4 1/4	4.25	173.56
7/16	.438	17.87	4 1/2	4.50	183.77
1/2	.500	20.42	4 3/4	4.75	193.98
5/8	.625	25.52	5	5.00	204.19
3/4	.750	30.63	5 1/4	5.25	214.40
7/8	.875	35.73	5 1/2	5.50	224.61
1	1.00	40.84	5 3/4	5.75	234.82
1 1/8	1.125	45.94	6	6.00	245.03
1 1/4	1.25	51.05	6 1/4	6.25	255.24
1 3/8	1.375	56.15	6 1/2	6.50	265.45
1 1/2	1.50	61.26	6 3/4	6.75	275.66
1 5/8	1.625	66.36	7	7.00	285.87
1 3/4	1.75	71.47	8	8.00	326.71
2	2.00	81.68	9	9.00	367.55
2 1/4	2.25	91.89	10	10.00	408.38
2 1/2	2.50	102.10			
2 3/4	2.75	112.31			

SHEET AND PLATE

Checker Plate

Size	Lbs/sq.ft.	Size	Lbs/sq.ft.
14	3.75	5/16	13.81
12	5.25	3/8	16.37
1/8	6.16	1/2	21.47
3/16	8.71	5/8	26.58
1/4	11.26	3/4	31.68
		1	41.89

This tough, rolled steel floor plate with raised lug pattern provides plenty of traction for feet and wheels. The attractive design permits free drainage and easy maintenance since there are no pockets to collect dirt and grease and no pores to absorb liquids. Easy to fabricate and install.



SHEET AND PLATE

Galvanized Sheet

Gauge	Decimal	Lbs/sq.ft.	A.I.S.I. Tol. (+/-)
8	.168	7.031	.009
9	.153	6.406	.009
10	.138	5.781	.009
11	.123	5.156	.009
12	.108	4.531	.009
13	.093	3.906	.008
14	.078	3.281	.008
15	.071	2.969	.006
16	.063	2.656	.006
17	.057	2.406	.005
18	.051	2.156	.005
19	.045	1.906	.005
20	.039	1.656	.004
21	.036	1.531	.004
22	.033	1.406	.004
23	.030	1.281	.004
24	.027	1.156	.004
25	.024	1.031	.004
26	.021	.906	.003
27	.020	.844	.003
28	.018	.781	.003
29	.017	.719	.003
30	.015	.656	.003

SHEET AND PLATE

Stainless Sheet and Plate

Gauge/Size	Decimal	Lbs./sq.ft.	Range
26	.019	.763	.018 to .020
25	.022	.919	.020 to .023
24	.025	1.020	.024 to .026
23	.028	1.181	.027 to .029
22	.031	1.270	.030 to .032
21	.035	1.444	.033 to .035
20	.038	1.530	.036 to .040
19	.044	1.837	.041 to .046
18	.050	2.040	.047 to .052
17	.056	2.363	.053 to .058
16	.062	2.550	.059 to .065
15	.070	2.953	.066 to .072
14	.078	3.180	.073 to .083
13	.094	3.938	.084 to .098
12	.109	4.460	.099 to .114
11	.125	5.250	.115 to .130
10	.141	5.906	.131 to .145
9	.156	6.563	.146 to .160
8	.172	7.219	.161 to .176
3/16 (7)	.188	8.579	
1/4	.250	11.16	
5/16	.313	13.75	
3/8	.375	16.50	
7/16	.438	20.08	
1/2	.500	21.66	
5/8	.625	26.83	
3/4	.750	32.12	
7/8	.875	37.29	
1	1.00	42.67	
1 1/4	1.25	53.23	
1 1/2	1.50	63.87	
1 3/4	1.75	74.52	
2	2.00	85.16	
2 1/2	2.50	106.5	
3	3.00	127.7	

Aluminum Sheet and Plate

Thickness	Lbs./sq. ft.	Thickness	Lbs./sq. ft.
.016	0.224	.125	1.762
.020	0.282	.1875	2.641
.025	0.352	1/4	3.521
.032	0.454	5/16	4.409
.040	0.563	3/8	5.291
.051	0.718	1/2	7.048
.064	0.901	5/8	8.820
.081	1.141	3/4	10.58
.100	1.282	1	13.82

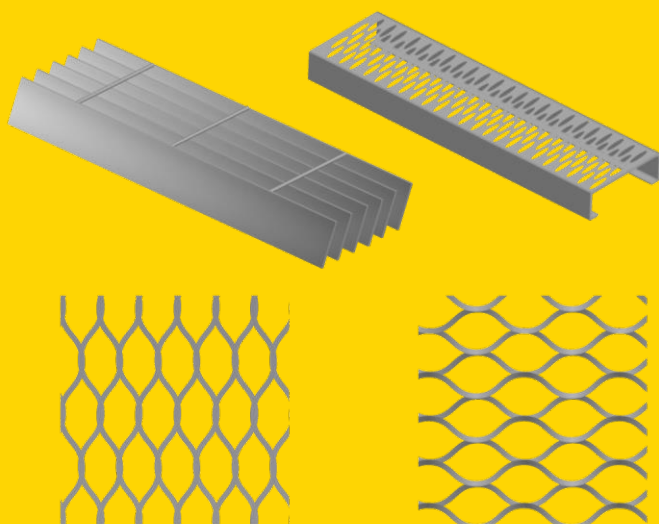
Aluminum Tread Plate

Raised four-way Diamond Pattern - has an approximate 1" centre
- opposite side is smooth.

Thickness	Lbs./sq. ft.	Thickness	Lbs./sq. ft.
1/16	1.20	1/4	3.70
1/8	1.90	3/8	5.50
3/16	2.80	1/2	7.30

Thickness is measured exclusive of projections.

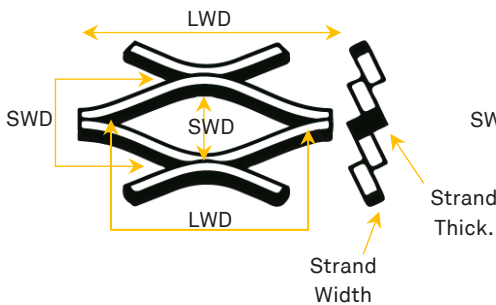
EXPANDED AND GRATING



EXPANDED, BAR GRATING AND SAFETY GRATING

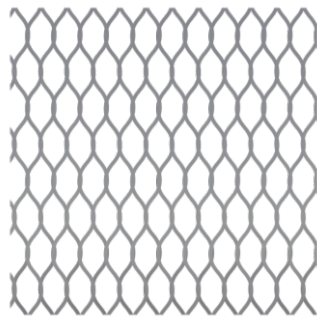
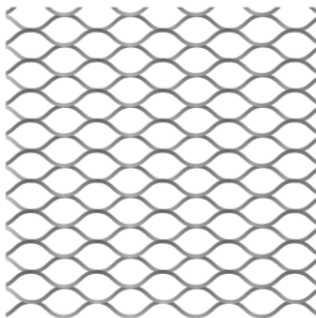
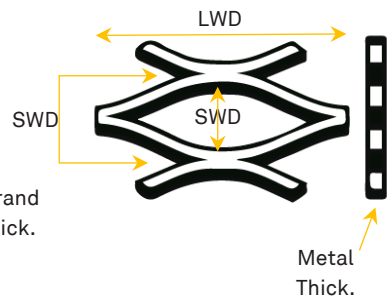
Standard Raised Expanded Metal

Is a finished steel product as it comes from the press after having been die cut and expanded. The illustration shows that the strands and bonds form a sharp angle to the original plane of the solid sheet.



Flattened Expanded Metal

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



EXPANDED, BAR GRATING AND SAFETY GRATING

Standard Raised Expanded

Style	Lbs. /sq. ft.	Centre to Centre of Bridges		Size of Openings		Strand	
		A SWD	B LWD	C SWD	D LWD	E Thick	F Width
3/16-22	.62	.20	.50	.166	.437	.030	.050
3/16-20	.75	.20	.50	.166	.437	.036	.050
1/4-20	.86	.26	1.00	.172	.719	.036	.073
1/4-18	1.14	.26	1.00	.172	.719	.048	.073
1/2-20	.43	.50	1.20	.438	.938	.036	.072
1/2-18	.70	.50	1.20	.438	.938	.048	.088
1/2-16	.86	.50	1.20	.375	.938	.060	.086
1/2-13	1.47	.50	1.20	.313	.938	.092	.096
1/2-13(188)	2.82	.50	1.20	.250	.800	.092	.188
3/4-16	.54	.92	2.00	.813	1.75	.060	.099
3/4-13	.80	.92	2.00	.750	1.69	.092	.096
3/4-10 (13 Ga.)	1.20	.92	2.00	.750	1.63	.092	.144
3/4-9 (10 Ga.)	1.80	.92	2.00	.688	1.56	.134	.148
1-16	.44	1.09	2.40	1.00	2.06	.060	.096
1-14	.76	1.09	2.40	.875	1.56	.075	.122
1-12	1.01	1.09	2.40	.907	1.56	.105	.109
1-10	1.70	1.09	2.40	.750	1.56	.135	.155
1-10H	2.00	1.09	2.40	.725	1.56	.135	.180
1-7	4.12	1.09	2.40	.576	1.56	.183	.275
1 1/2-18	.20	1.33	3.00	1.31	2.63	.048	.067
1 1/2-16	.40	1.33	3.00	1.25	2.63	.060	.107
1 1/2-14	.44	1.33	3.00	1.19	2.63	.075	.097
1 1/2-13	.60	1.33	3.00	1.19	2.50	.092	.104
1 1/2-12	.72	1.33	3.00	1.11	2.38	.105	.109
1 1/2-10L (13 Ga.)	.79	1.33	3.00	1.19	2.50	.092	.137
1 1/2-10	1.70	1.33	3.00	1.00	2.38	.135	.200
1 1/2-10H	2.00	1.33	3.00	.830	2.38	.135	.240
1 1/2-9 (10 Ga.)	1.20	1.33	3.00	1.13	2.38	.135	.142

EXPANDED, BAR GRATING AND SAFETY GRATING

Flattened Expanded

Style	Lbs. /sq. ft.	Centre to Centre of Bridges		Size of Openings		Strand	
		A SWD	B LWD	C SWD	D LWD	E Thick	F Width
3/16-22F	.60	.20	.52	.085	.459	.024	.057
3/16-20F	.72	.20	.52	.085	.459	.029	.057
1/4-20F	.83	.26	1.03	.094	.688	.030	.086
1/4-18F	1.11	.26	1.03	.094	.688	.040	.086
1/2-20F	.40	.50	1.26	.375	1.00	.029	.070
1/2-18F	.66	.50	1.26	.281	1.00	.039	.109
1/2-16F	.82	.50	1.26	.250	1.00	.050	.103
1/2-13F	1.40	.50	1.26	.250	1.00	.070	.122
3/4-16F	.51	.92	2.10	.750	1.75	.048	.115
3/4-14F	.63	.92	2.10	.688	1.81	.061	.119
3/4-13F	.75	.92	2.10	.688	1.78	.070	.119
3/4-10F (13 Ga.)	1.14	.92	2.10	.637	1.76	.070	.160
3/4-9F (10 Ga.)	1.71	.92	2.10	.563	1.69	.120	.164
1-16F	.41	1.09	2.56	.875	2.25	.048	.115
1-14F	.73	1.09	2.56	.790	2.00	.070	.125
1-12F	.96	1.09	2.56	.785	2.00	.085	.156
1-10F	1.65	1.09	2.56	.750	1.90	.110	.160
1 1/2-16F	.38	1.33	3.20	1.06	2.75	.048	.123
1 1/2-14F	.46	1.33	3.20	1.06	2.75	.060	.138
1 1/2-13F	.57	1.33	3.20	1.06	2.75	.070	.138
1 1/2-12F	.66	1.33	3.20	1.30	2.63	.085	.116
1 1/2-10F	1.65	1.33	3.20	.900	2.56	.110	.188
1 1/2-9F (10 Ga.)	1.11	1.33	3.20	1.00	2.56	.110	.175

EXPANDED, BAR GRATING AND SAFETY GRATING

Expanded Metal Grating

Style No. = Lbs./sq. ft.	Standard Sheet Size(ft.)		Centre to Centre (in.)		Actual Size of Opening		Strand Size(in.)		Overall Thick. (in.)
	SWD	LWD	SWD	LWD	SWD	LWD	Width	Thick.	
3	8	4	1.33	5.33	.940	3.44	.264	.183	.540
4	8	4	1.33	5.33	.940	3.44	.300	.215	.618
5	8	4	1.33	5.33	.813	3.38	.331	.250	.655
6.25	8	4	1.41	5.33	.813	3.38	.350	.312	.715

EXPANDED, BAR GRATING AND SAFETY GRATING

Bar Grating

Welded Steel Bar Grating

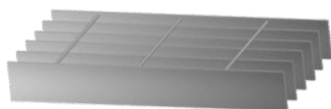
Is the most popular of all grating types due to its strength, cost-efficient production and ease of installation. Universally used in most general industrial plants as well as commercial buildings, it has wide applications as walkways, platforms, safety barriers, drainage covers and ventilation grates.

Welded: 1-3/16" Centre to Centre of Bearing Bars

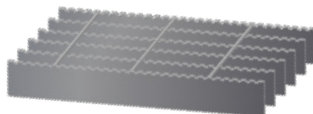
Material: ASTM A-1011

Finish: Most commonly available in painted black, it can also be supplied bare or galvanized.

Non-Serrated (Plain) 19-W-4
Cross Rods 4" C/C



Serrated 19-W-4
Cross Rods 4" C/C



Serrated Bars: For serrated grating, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.

Size	Lbs./sq. ft.
1/8" x 1"	5.0
3/16" x 1"	7.2
1/8" x 1 1/4"	6.1
3/16" x 1 1/4"	8.9
1/8" x 1 1/2"	7.2
3/16" x 1 1/2"	10.5
3/16" x 1 3/4"	12.2
3/16" x 2"	13.9

EXPANDED, BAR GRATING AND SAFETY GRATING

Safety Grating – Diamond Grip

PRODUCT DESCRIPTION

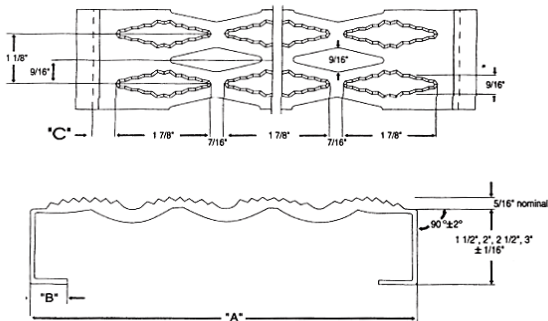
DIAMOND-GRIP® is a one-piece metal plank grating manufactured by a cold forming process in the shape of a channel. The web of the channel is the walking surface and has rough serrated edges around diamond shaped openings. Diamond openings are complete with radiused corners at the saddle and side channel locations.

MATERIAL SPECIFICATIONS

Grating shall be “DIAMOND GRIP® channel,” manufactured from Pre-Galvanized Steel and complete with a (1-1/2”, 2”, 2-1/2”, 3”) side channel.

Channel Width “A”	Return Flange “B”	Diamond to Outside “C”	Height (Varies) “D”	Gauge (Varies) “E”	Lbs./ ft.
4 3/4”	7/8”	5/16”	1 1/2”	14	2.4
7”	1”	1/4”	1 1/2”	12	4.2
9 1/2”	7/8”	1/4”	1 1/2”	12	5.1
11 3/4”	1”	3/16”	1 1/2”	12	6
18 3/4”	1”	3/16”	1 1/2”	12	8.5
24”	1 1/8”	7/16”	2”	12	10.4

* Most common shown, inquire for different sizes.



DATA

DATA

Imperial/Metric Conversion Chart

In. Fractions	In. Decimal	mm	In. Fractions	In. Decimal	mm
1/64	.016	.396	33/64	.516	13.096
1/32	.031	.793	17/32	.531	13.493
3/64	.047	1.191	35/64	.547	13.891
1/16	.063	1.588	9/16	.563	14.288
5/64	.078	1.984	37/64	.578	14.684
3/32	.094	2.380	19/32	.594	15.080
7/64	.109	2.776	39/64	.609	15.479
1/8	.125	3.175	5/8	.625	15.875
9/64	.141	3.571	41/64	.641	16.271
5/32	.156	3.968	21/32	.656	16.668
11/64	.172	4.366	43/64	.672	17.066
3/16	.188	4.763	11/16	.688	17.463
13/64	.203	5.159	45/64	.703	17.859
7/32	.219	5.555	23/32	.719	18.255
15/64	.234	5.954	47/64	.734	18.654
1/4	.250	6.350	3/4	.750	19.050
17/64	.266	6.746	49/64	.766	19.446
9/32	.281	7.143	25/32	.781	19.843
19/64	.297	7.541	51/64	.797	20.241
5/16	.313	7.938	13/16	.813	20.638
21/64	.328	8.334	53/64	.828	21.034
11/32	.344	8.760	27/32	.844	21.430
23/64	.359	9.129	55/64	.859	21.829
3/8	.375	9.525	7/8	.875	22.225
25/64	.391	9.921	57/64	.891	22.621
13/32	.406	10.317	29/32	.906	23.018
27/64	.422	10.717	59/64	.922	23.416
7/16	.438	11.113	15/16	.938	23.813
29/64	.453	11.509	61/64	.953	24.209
15/32	.469	11.905	31/32	.969	24.605
31/64	.484	12.304	63/64	.984	25.004
1/2	.500	12.700	1	1.000	25.400

Hardness Conversion Chart

HARDNESS CONVERSIONS

Approximate relations between Brinell, Rockwell and the tensile strengths of S.A.E. carbon and alloy construction steels.

C Scale 150 kg Braie Rockwell	BRINELL 3000kg/10mm Ball (Standard Ball)	~ Tensile Strength ksi
68		inexact
67		and
66		only for
65		steel
64		
63		
62		
61		
60		
59		351
58	615	338
57	595	325
56	577	313
55	560	301
54	543	292
53	525	283
52	512	273
51	496	264
50	481	255
49	469	246
48	451	238
47	442	229
46	432	221
45	421	215
44	409	208
42	390	194
40	371	182
38	353	171
36	336	161
34	319	152
32	301	146
30	286	138
28	271	131
26	258	125
24	247	119
22	237	115
20	226	110

Our Core Values

Bring it. Everyday.

We work hard and have a great attitude in everything we do. It's that simple.

We do what we say.

We keep our word. It's like a good old-fashioned handshake, and we stand by it.

Find a better way.

We are in pursuit of excellence as we continuously look for ways to improve our business.



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