

Steel

Technical Data Sheet

Hot rolled, cold drawn, alloy carbon steel and tool steel.



Table of Contents

Hot Rolled Steel	5
Cold Drawn and Cold Rolled Steel	6
Alloy Carbon Steel	7
Tool Steel	8
Conversion Table	9–11

Table of Contents (continued)

	Angles	12–13
	Square and Rectangular HSS Tubes	14–17
	Round HSS Tubes	18–19
	Pipes	20–27
	Round Bars	28–30
	Flat Bars	31–36
	Square Bars	37
	Hexagonal Bars	38
	I-Beams	39
	H-Beams	40–43
	U-Channels	44–47
	Plates	48–49
	Sheets	50
	Rebars	51

Table of Contents (continued)



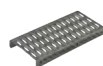
Wire Mesh

52



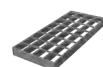
Expanded Metals

53–54



Security Mesh

55–56



Gratings

57–58

Other Available Products: Mechanical tubing, spring steel, and threaded rods are also offered. For complete weights, dimensions, and specifications, please contact your representative.

Hot Rolled Steel

Hot rolled steel is a strong, economical, and versatile material. It is produced at high temperature, which gives it good formability and excellent weldability.

Recommended for

- **Construction:** beams, angles, frameworks
- **General machining:** mechanical parts, tooling
- **Metal structures:** reinforcements, frames, welding



Mechanical Properties

Grade 44W / A36

Grade 50W

Tensile Strength

~44,000 to 50,000 psi

~50,000 to 60,000 psi

Yield Strength

~44,000 psi

~50,000 psi

Brinell Hardness

~120 HB

~130 HB

Elongation (2 in)

~20%

~18%

Reduction of Area

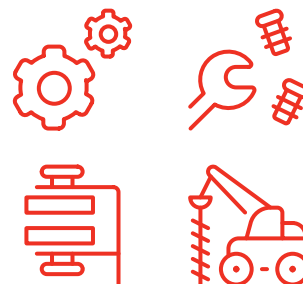
~30%

Cold Drawn or Rolled Steel

Cold drawn (or rolled) steel is known for its dimensional accuracy, smooth surface, and stability. It is ideal for fine finishes and tight tolerances, without requiring additional heat treatment.

Recommended for

- **Precision machining:** shafts, axles, gears
- Turned or milled **mechanical parts**
- **Industrial assemblies** requiring a smooth finish and tight tolerances
- Machinery and equipment **manufacturing**



Mechanical Properties

C1018 (Cold Drawn)

*C12L14 (Cold Drawn
+ Free-Machining)*

Tensile Strength

~64,000 psi

~78,000 psi

Yield Strength

~54,000 psi

~60,000 psi

Brinell Hardness

B-85

B-90 to B-95

Elongation (2 in)

~15%

~10%

Reduction of Area

~25%

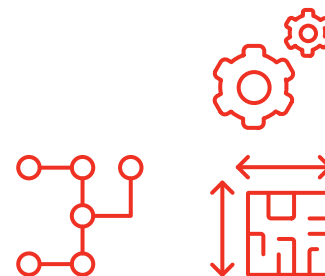
~20%

Alloy Carbon Steel

Alloy carbon steel is known for its superior mechanical strength, toughness, and ability to withstand heat treatments.

Recommended for

- **Mechanical transmission:** shafts, gears, axles
- **Structural construction:** pivots, rolling pins, fasteners
- **Critical machined parts:** components subject to repeated stresses



Mechanical Properties

Grade 4140

Grade 4340

Tensile Strength

~95,000 psi

~125,000 psi

Yield Strength

~75,000 psi

~105,000 psi

Brinell Hardness

~200 HB

~270 HB

Elongation (2 in)

~20%

~16%

Reduction of Area

~30%

~25%

Tool Steel

Tool steel is characterized by its high hardness, wear resistance, and dimensional stability, even at elevated temperatures.

Recommended for

- **Die manufacturing:** cutting, stamping, punching tools
- **Industrial moulds:** extrusion, die casting
- **Cutting parts:** blades, shears, forming tools



Mechanical Properties

Grade O1 (oil-hardening) *Grade H13 (hot-work)*

Hardness

~60 HRC

~45-50 HRC

Wear Resistance

Good

Moderate

Impact Resistance

Medium

Very high

Operating Temperature

Low to medium

High

Heat Treatment

Yes

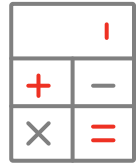
Yes

Conversion Table



Fractions	Decimals	Millimetres
1/64	0.156	0.3969
1/32	0.313	0.7938
	0.394	1
3/63	0.469	1.1906
1/16	0.625	1.5875
5/64	0.781	1.9844
	0.787	2
3/32	0.938	2.3812
7/64	0.1094	2.7781
	0.1181	3
1/8	0.125	3.175
9/64	0.1406	3.5719
5/32	0.1563	3.9688
	0.1575	4
11/64	0.1719	4.3656
3/16	0.1875	4.7625
	0.1969	5
13/64	0.2031	5.1594
7/32	0.2188	0.5563
15/64	0.2344	5.9531
	0.2362	6
1/4	0.25	6.35
17/64	0.2656	6.7469
	0.2756	7
9/32	0.2813	7.1438
19/64	0.2969	7.5406
5/16	0.3125	7.9375
	0.315	8
21/64	0.3281	8.3344
11/32	0.3438	8.7313
	0.3543	9
23/64	0.3594	9.1281
3/8	0.3750	9.525
25/64	0.3906	9.9219
	0.3937	10
13/32	0.4063	10.3188

Conversion Table (continued)



Fractions	Decimals	Millimetres
27/64	0.4219	10.7156
	0.4331	11
7/16	0.4375	11.1125
29/64	0.4531	11.5094
15/32	0.4688	11.9063
	0.4724	12
31/64	0.4844	12.3031
1/2	0.5	12.7
	0.5118	13
33/64	0.5156	13.0969
17/32	0.5313	13.4938
35/64	0.5469	13.8906
	0.5512	14
9/16	0.5625	14.2875
37/64	0.5781	14.6844
	0.5906	15
19/32	0.5938	15.0813
39/64	0.6094	15.4781
5/8	0.6250	15.875
	0.6299	16
41/64	0.6406	16.2719
21/32	0.6563	16.6688
	0.6693	17
43/64	0.6719	17.0656
11/16	0.6875	17.4625
45/64	0.7031	17.8594
	0.7087	18
23/32	0.7188	18.2563
47/64	0.7344	18.6531
	0.7480	19
3/4	0.75	19.05
49/64	0.7656	19.4469
25/32	0.7813	19.8438
	0.7874	20
51/64	0.7969	20.2406
13/16	0.8125	20.6375
	0.8268	21

Conversion Table (continued)



Fractions	Decimals	Millimetres
53/64	0.8281	21.0344
27/32	0.8438	21.4313
55/64	0.8594	21.8281
	0.8661	22
7/8	0.875	22.225
57/64	0.8906	22.6219
	0.9055	23
29/32	0.9032	23.0188
59/64	0.9219	23.4156
15/16	0.9375	23.8125
	0.9449	24
61/64	0.9531	24.2094
31/32	0.9688	24.6063
	0.9843	25
63/64	0.9844	25.0031
1	1	25.4

Angles



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
1/2 x 1/2	12.7 x 12.7	1/8	3.18	0.38
3/4 x 3/4	19.05 x 19.05	1/8	3.18	0.59
1 x 1	25.4 x 25.4	1/8	3.18	0.8
		3/16	4.76	1.16
		1/4	6.35	1.49
1 1/4 x 1 1/4	31.75 x 31.75	1/8	3.18	1.01
		3/16	4.76	1.48
		1/4	6.35	1.92
1 1/2 x 1 1/2	38.1 x 38.1	1/8	3.18	1.23
		3/16	4.76	1.8
		1/4	6.35	2.34
1 3/4 x 1 3/4	44.45 x 44.45	1/8	3.18	1.44
		3/16	4.76	2.12
		1/4	6.35	2.77
2 x 1 1/2	50.8 x 38.1	1/8	3.18	1.44
		3/16	4.76	2.12
		1/4	6.35	2.77
2 x 2	50.8 x 50.8	1/8	3.18	1.65
		3/16	4.76	2.44
		1/4	6.35	3.19
		5/16	7.94	3.92
		3/8	9.53	4.7
2 1/2 x 1 1/2	63.5 x 38.1	3/16	4.76	2.44
		1/4	6.35	3.19
2 1/2 x 2	63.5 x 50.8	3/16	4.76	2.75
		1/4	6.35	3.62
		5/16	7.94	4.5
		3/8	9.53	5.3
2 1/2 x 2 1/2	63.5 x 63.5	1/8	3.18	2.08
		3/16	4.76	3.07
		1/4	6.35	4.1
		5/16	7.94	5
		3/8	9.53	5.9
3 x 3	76.2 x 76.2	1/2	12.7	7.7
		3/16	4.76	3.71
		1/4	6.35	4.9
		5/16	7.94	6.1
		3/8	9.53	7.2
		1/2	12.7	8.5

Angles (continued)



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
3 1/2 x 2 1/2	88.9 x 63.5	1/4	6.35	4.9
		5/16	7.94	6.1
		3/8	9.53	7.2
		1/2	12.7	9.4
3 1/2 x 3	88.9 x 76.2	1/4	6.35	5.4
		5/16	7.94	6.6
		3/8	9.53	7.9
		1/2	12.7	10.2
3 1/2 x 3 1/2	88.9 x 88.9	1/4	6.35	5.8
		5/16	7.94	7.2
		3/8	9.53	8.5
		1/2	12.7	11.1
4 x 3	101.6 x 76.2	1/4	6.35	5.8
		5/16	7.94	7.2
		3/8	9.53	8.5
		1/2	12.7	11.1
4 x 4	101.6 x 101.6	1/4	6.35	6.7
		5/16	7.94	8.2
		3/8	9.53	9.6
		1/2	12.7	12.5
		5/8	15.88	15.2
5 x 3 1/2	127 x 88.9	3/8	9.53	11.1
5 x 5	127 x 127	1/4	6.35	8.4
		5/16	7.94	10.3
		3/8	9.53	12.2
		1/2	12.7	15.9
		5/8	15.88	19.4
6 x 6	152.4 x 152.4	3/8	9.53	14.8
		1/2	12.7	19.3
		5/8	15.88	23.8
		3/4	19.05	28.2
8 x 8	203.2 x 203.2	1/2	12.7	26.1
		5/8	15.88	32.3
		3/4	19.05	38.3

Square and Rectangular HSS Tubes



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
3/4 x 3/4	19.05 x 19.05	0.065	1.65	0.61
		0.083	2.11	0.75
1 x 1	25.4 x 25.4	0.065	1.65	0.83
		0.083	2.11	1.04
		0.1	2.54	1.14
		0.125	3.18	1.35
1 1/4 x 1 1/4	31.75 x 31.75	0.1	2.54	1.48
		0.125	3.18	1.78
1 1/2 x 1	38.1 x 25.4	0.125	3.18	1.78
1 1/2 x 1 1/2	38.1 x 38.1	0.065	1.65	1.27
		0.083	2.11	1.6
		0.1	2.54	1.82
		0.125	3.18	2.21
		0.188	4.78	3.35
1 3/4 x 1 3/4	44.45 x 44.45	0.1	2.54	2.16
		0.125	3.18	2.64
2 x 1	50.8 x 25.4	0.065	1.65	1.27
		0.083	2.11	1.6
		0.1	2.54	1.82
		0.125	3.18	2.21
		0.188	4.78	3.35
2 x 1 1/2	50.8 x 38.1	0.125	3.18	2.76
2 x 2	50.8 x 50.8	0.065	1.65	1.71
		0.083	2.11	2.16
		0.1	2.54	2.5
		0.125	3.18	3.06
		0.188	4.78	4.33
		0.25	6.35	5.41
3 x 3	76.2 x 76.2	0.125	3.18	4.76
		0.188	4.78	6.89
		0.25	6.35	8.81
		0.313	7.95	10.59
		0.375	9.53	12.71
3 1/2 x 2 1/2	88.9 x 63.5	0.188	4.78	6.89
		0.25	6.35	8.81
3 1/2 x 3 1/2	88.9 x 88.9	0.125	3.18	5.61
		0.188	4.78	8.17
		0.25	6.35	10.51
		0.375	9.53	14.71

Square and Rectangular HSS Tubes (continued)



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
4 x 2	101.6 x 50.8	0.125	3.18	4.76
		0.188	4.78	6.89
		0.25	6.35	8.81
		0.313	7.95	10.59
		0.375	9.53	12.16
4 x 3	101.6 x 76.2	0.125	3.18	5.61
		0.188	4.78	8.17
		0.25	6.35	10.51
		0.313	7.95	12.7
		0.375	9.53	14.71
4 x 4	101.6 x 101.6	0.125	3.18	6.46
		0.188	4.78	9.45
		0.25	6.35	12.21
		0.313	7.95	14.84
		0.375	9.53	17.27
5 x 2	127 x 50.8	0.125	3.18	5.61
		0.188	4.78	8.17
		0.25	6.35	10.51
		0.375	9.53	14.71
		0.5	12.7	21.63
5 x 2 1/2	127 x 63.5	0.188	4.78	8.8
5 x 3	127 x 76.2	0.125	3.18	6.46
		0.188	4.78	9.45
		0.25	6.35	12.21
		0.313	7.95	14.84
		0.375	9.53	17.27
5 x 5	127 x 127	0.125	3.18	8.16
		0.188	4.78	12
		0.25	6.35	15.62
		0.313	7.95	19.08
6 x 2	152.4 x 50.8	0.375	9.53	22.37
		0.5	12.7	28.43
6 x 3	152.4 x 76.2	0.125	3.18	7.31
		0.188	4.78	10.7
		0.25	6.35	13.91
		0.313	7.95	16.96
		0.375	9.53	19.82

Square and Rectangular HSS Tubes (continued)



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
6 x 4	152.4 x 101.6	0.188	4.78	12
		0.25	6.35	15.62
		0.313	7.95	19.08
		0.375	9.53	22.37
		0.5	12.7	28.43
7 x 3	177.8 x 76.2	0.188	4.78	12
		0.25	6.35	15.62
7 x 4	177.8 x 101.6	0.188	4.78	13.28
		0.25	6.35	17.32
7 x 5	177.8 x 127	0.188	4.78	14.56
		0.25	6.35	19.02
7 x 7	177.8 x 177.8	0.188	4.78	17.13
		0.25	6.35	22.42
		0.375	9.53	32.58
		0.5	12.7	42.05
8 x 2	203.2 x 50.8	0.188	4.78	12
		0.25	6.35	15.62
8 x 3	203.2 x 76.2	0.188	4.78	13.28
		0.25	6.35	17.32
		0.375	9.53	24.92
8 x 4	203.2 x 101.6	0.188	4.78	14.56
		0.25	6.35	19.02
		0.375	9.53	27.48
		0.5	12.7	35.24
8 x 6	203.2 x 152.4	0.188	4.78	17.13
		0.25	6.35	22.42
8 x 8	203.2 x 203.2	0.188	4.78	19.66
		0.25	6.35	25.82
		0.313	7.95	31.86
		0.375	9.53	37.69
		0.5	12.7	42.05
10 x 2	254 x 50.8	0.188	4.78	14.56
		0.25	6.35	19.02
10 x 4	254 x 101.6	0.188	4.78	17.13
		0.25	6.35	22.42
		0.375	9.53	32.58
		0.5	12.7	42.05

Square and Rectangular HSS Tubes (continued)



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
10 x 6	254 x 152.4	0.188	4.78	19.66
		0.25	6.35	25.82
		0.375	9.53	37.69
		0.5	12.7	48.85
10 x 10	254 x 254	0.25	6.35	32.63
		0.375	9.53	47.9
		0.5	12.7	62.46
12 x 4	304.8 x 101.6	0.188	4.78	19.66
		0.25	6.35	25.82
		0.375	9.53	37.69
		0.5	12.7	48.85
12 x 6	304.8 x 152.4	0.25	6.35	29.23
		0.375	9.53	42.79
		0.5	12.7	55.66
12 x 8	304.8 x 203.2	0.25	6.35	32.63
		0.375	9.53	47.9
		0.5	12.7	62.5
12 x 12	304.8 x 304.8	0.25	6.35	39.43
		0.375	9.53	58.1
		0.5	12.7	76.07

Round HSS Tubes



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
0.840	21.3	0.109	2.77	0.85
1.050	26.7	0.1	2.54	1.02
		0.113	2.87	1.13
		0.125	3.18	1.24
1.250	31.8	0.1	2.54	1.23
		0.125	3.18	1.51
1.315	33.4	0.1	2.54	1.3
		0.125	3.18	1.59
		0.133	3.4	1.67
1.660	42.2	0.1	2.54	1.67
		0.125	3.18	2.05
		0.14	3.56	2.27
1.900	48.3	0.1	2.54	1.92
		0.125	3.18	2.38
		0.145	3.69	2.71
		0.188	4.78	3.44
2.375	60.3	0.1	2.54	2.43
		0.125	3.18	3.01
		0.154	3.91	3.65
		0.188	4.78	4.4
2.500	63.5	0.125	3.18	3.17
		0.188	4.78	4.65
		0.25	6.35	6.02
2.875	73.0	0.125	3.18	3.67
		0.203	5.16	5.79
		0.25	6.35	7.01
3.000	76.2	0.125	3.18	3.84
		0.188	4.78	5.66
		0.25	6.35	7.35
3.500	88.9	0.125	3.18	4.51
		0.188	4.78	6.66
		0.216	5.49	7.57
		0.25	6.35	8.69
4.000	101.6	0.125	3.18	5.17
		0.188	4.78	7.67
		0.226	5.74	9.1
		0.25	6.35	10.02
		0.375	9.53	14.52

Round HSS Tubes (continued)



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
4.500	114.3	0.125	3.18	5.85
		0.188	4.78	8.68
		0.237	6.02	10.79
		0.25	6.35	11.63
		0.375	9.53	16.54
5.000	127.0	0.125	3.18	6.84
		0.188	4.78	9.67
		0.25	6.35	12.69
		0.375	9.53	18.54
5.563	141.3	0.188	4.78	10.8
		0.258	6.55	14.61
		0.375	9.53	20.8
6.000	152.4	0.125	3.18	7.84
		0.188	4.78	11.68
		0.25	6.35	15.37
		0.375	9.53	22.55
6.625	168.3	0.188	4.78	13
		0.25	6.35	17.02
		0.28	7.11	18.97
		0.375	9.53	25.1
7.000	177.8	0.188	4.78	13.68
		0.25	6.35	18.04
		0.375	9.53	26.56
7.500	190.5	0.188	4.78	14.7
		0.25	6.35	19.4
		0.375	9.53	28.5
8.625	219.1	0.188	4.78	16.94
		0.25	6.35	22.36
		0.322	8.18	28.55
		0.375	9.53	33.04
		0.5	12.7	43.39
10.750	273.1	0.25	6.35	28
		0.365	9.27	40.48
		0.375	9.53	41.6
		0.593	15.06	64.33
12.750	323.9	0.25	6.35	33.4
		0.375	2.77	49.6
		0.406	10.31	53.53
		0.5	12.7	65.4
		0.687	17.45	88.51

Pipes



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
1/8	0.405	5	0.035	0.1383
		10	0.049	0.1863
		40	0.068	0.2447
		STD	0.068	0.2447
		80	0.095	0.3145
		XH	0.095	0.3145
1/4	0.54	5	0.049	0.257
		10	0.065	0.3297
		40	0.088	0.4248
		STD	0.088	0.4248
		80	0.119	0.5351
		XH	0.119	0.5351
3/8	0.675	5	0.049	0.3276
		10	0.065	0.4325
		40	0.091	0.576
		STD	0.091	0.576
		80	0.126	0.7388
		XH	0.126	0.7388
1/2	0.84	5	0.065	0.5383
		10	0.083	0.671
		40	0.109	0.851
		STD	0.109	0.851
		80	0.147	1.088
		XH	0.147	1.088
		160	0.187	1.304
		XXH	0.294	1.714
3/4	1.05	5	0.065	0.6838
		10	0.083	0.8572
		40	0.113	1.131
		STD	0.113	1.131
		80	0.154	1.474
		XH	0.154	1.474
		160	0.218	1.937
		XXH	0.308	2.441

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
1	1.315	5	0.065	0.8678
		10	0.109	1.404
		40	0.133	1.679
		STD	0.133	1.679
		80	0.179	2.172
		XH	0.179	2.172
		160	0.25	2.844
		XXH	0.358	3.659
1 1/4	1.66	5	0.065	1.107
		10	0.109	1.806
		40	0.14	2.273
		STD	0.14	2.273
		80	0.191	2.997
		XH	0.191	2.997
		160	0.25	3.765
		XXH	0.382	5.214
1 1/2	1.9	5	0.065	1.274
		10	0.109	2.085
		40	0.145	2.718
		STD	0.145	2.718
		80	0.2	3.631
		XH	0.2	3.631
		160	0.281	4.859
		XXH	0.4	6.408
2	2.375	5	0.065	1.604
		10	0.109	2.638
		40	0.154	3.653
		STD	0.154	3.653
		80	0.218	5.022
		XH	0.218	5.022
		160	0.343	7.444
		XXH	0.436	9.029
2 1/2	2.875	5	0.083	2.475
		10	0.12	3.531
		40	0.203	5.793
		STD	0.203	5.793
		80	0.276	7.661
		XH	0.276	7.661
		160	0.375	10.01
		XXH	0.552	13.7

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
3	3.5	5	0.083	3.029
		10	0.12	4.332
		40	0.216	7.576
		STD	0.216	7.576
		80	0.3	10.25
		XH	0.3	10.25
		160	0.437	14.32
		XXH	0.6	18.58
3 1/2	4	5	0.083	3.472
		10	0.12	4.973
		40	0.226	9.109
		STD	0.226	9.109
		80	0.318	12.51
		XH	0.318	12.51
		XXH	0.636	22.85
4	4.5	5	0.083	3.915
		10	0.12	5.613
		40	0.237	10.79
		STD	0.237	10.79
		60	0.281	12.66
		80	0.337	14.98
		XH	0.337	14.98
		120	0.437	19.01
		160	0.531	22.51
		XXH	0.674	27.54
4 1/2	5	STD	0.247	12.53
		XH	0.355	17.61
		XXH	0.71	32.53
5	5.563	5	0.109	6.349
		10	0.134	7.77
		40	0.258	14.62
		STD	0.258	14.62
		80	0.375	20.78
		XH	0.375	20.78
		120	0.5	27.04
		160	0.625	32.96
		XXH	0.75	38.55

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
6	6.625	5	0.109	7.585
		10	0.134	9.289
		40	0.28	18.97
		STD	0.28	18.97
		80	0.432	28.57
		XH	0.432	28.57
		120	0.562	36.39
		160	0.718	45.3
		XXH	0.864	53.16
7	7.625	STD	0.301	23.57
		XH	0.5	38.05
		XXH	0.875	63.08
8	8.625	5	0.109	9.914
		10	0.148	13.4
		20	0.25	22.36
		30	0.277	24.7
		40	0.322	28.55
		STD	0.322	28.55
		60	0.406	35.64
		80	0.5	43.39
		XH	0.5	43.39
		100	0.593	50.87
		120	0.718	60.63
		140	0.812	67.76
		160	0.906	74.69
		XXH	0.875	72.42
9	9.625	STD	0.342	33.9
		XH	0.5	48.72

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
10	10.75	5	0.134	15.19
		10	0.165	18.7
		20	0.25	28.04
		30	0.307	34.24
		40	0.365	40.48
		STD	0.365	40.48
		60	0.5	54.74
		80	0.593	64.33
		XH	0.5	54.74
		100	0.718	76.93
		120	0.843	89.2
		140	1	104.1
		160	1.125	115.7
11	11.75	STD	0.375	45.55
		XH	0.5	60.07
12	12.75	5	0.165	22.18
		10	0.18	24.2
		20	0.25	33.38
		30	0.33	43.77
		40	0.406	53.53
		STD	0.375	49.56
		60	0.562	73.16
		80	0.687	88.51
		XH	0.5	65.42
		100	0.843	107.2
		120	1	125.5
		140	1.125	139.7
		160	1.312	160.3
14	14	10	0.25	36.71
		20	0.312	45.68
		30	0.375	54.57
		40	0.437	63.37
		STD	0.375	54.57
		60	0.593	84.91
		80	0.75	106.1
		XH	0.5	72.09
		100	0.937	130.7
		120	1.093	150.7
		140	1.25	170.2
		160	1.406	189.1

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
16	16	10	0.25	42.05
		20	0.312	52.36
		30	0.375	62.58
		40	0.5	82.77
		STD	0.375	62.58
		60	0.656	107.5
		80	0.843	136.5
		XH	0.5	82.77
		100	1.031	164.8
		120	1.218	192.3
		140	1.437	223.5
		160	1.593	245.1
18	18	10	0.25	47.39
		20	0.312	59.03
		30	0.437	82.06
		40	0.562	104.8
		STD	0.375	70.59
		60	0.75	138.2
		80	0.937	170.8
		XH	0.5	93.45
		100	1.156	208
		120	1.375	244.1
		140	1.562	274.2
		160	1.781	308.5
20	20	10	0.25	52.73
		20	0.375	78.6
		30	0.5	104.1
		40	0.593	122.9
		STD	0.375	78.6
		60	0.812	166.4
		80	1.031	208.9
		XH	0.5	104.1
		100	1.28	256.1
		120	1.5	296.4
		140	1.75	341.1
		160	1.968	379

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
22	22	10	0.25	58.07
		20	0.375	86.61
		30	0.5	114.8
		STD	0.375	86.61
		60	0.875	197.4
		80	1.125	250.8
		XH	0.5	114.8
		100	1.375	277
		120	1.625	353.6
		140	1.875	403
		160	2.125	451.1
24	24	10	0.25	63.41
		20	0.375	94.62
		30	0.562	140.8
		40	0.687	171.2
		STD	0.375	94.62
		60	0.968	238.1
		80	1.218	296.4
		XH	0.5	125.5
		100	1.531	367.4
		120	1.812	429.4
		140	2.062	483.1
		160	2.343	541.9
26	26	10	0.312	85.6
		20	0.5	136.2
		STD	0.375	102.6
		XH	0.5	136.2
28	28	10	0.312	92.26
		20	0.5	146.8
		30	0.625	182.7
		STD	0.375	110.6
		XH	0.5	146.8
30	30	10	0.312	98.93
		20	0.5	157.5
		30	0.625	196.1
		STD	0.375	118.6
		XH	0.5	157.5

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
32	32	10	0.312	105.6
		20	0.5	168.2
		30	0.625	209.4
		40	0.688	230.1
		STD	0.375	126.7
		XH	0.5	168.2
34	34	10	0.344	123.7
		20	0.5	178.9
		30	0.625	222.8
		40	0.688	244.8
		STD	0.375	134.7
		XH	0.5	178.9
36	36	10	0.312	118.9
		20	0.5	189.6
		30	0.625	236.1
		40	0.75	282.3
		STD	0.375	142.7
		XH	0.5	189.6
42	42	STD	0.375	166.7
		XH	0.5	221.6
48	48	STD	0.375	190.7
		XH	0.5	253.6

Round Bars



Dimension (in)	Dimension (mm)	Weight (lb/ft)
1/8	3.2	0.042
3/16	4.8	0.094
1/4	6.4	0.167
5/16	7.9	0.261
3/8	9.5	0.376
7/16	11.1	0.511
1/2	12.7	0.668
9/16	14.3	0.845
5/8	15.9	1.04
11/16	17.5	1.26
3/4	19.1	1.5
13/16	20.6	1.76
7/8	22.2	2.04
15/16	23.8	2.35
1	25.4	2.67
1 1/16	27	3.01
1 1/8	28.6	3.38
1 3/16	30.2	3.77
1 1/4	31.8	4.17
1 5/16	33.3	4.6
1 3/8	34.9	5.05
1 7/16	36.5	5.52
1 1/2	38.1	6.01
1 9/16	39.7	6.52
1 5/8	41.3	7.05
1 11/16	42.9	7.6
1 3/4	44.5	8.18
1 13/16	46	8.77
1 7/8	47.6	9.39
1 15/16	49.2	10.02

Round Bars (continued)



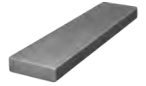
Dimension (in)	Dimension (mm)	Weight (lb/ft)
2	50.8	10.68
2 1/16	52.4	11.36
2 1/8	54	12.06
2 3/16	55.6	12.78
2 1/4	57.2	13.52
2 3/8	60.3	15.06
2 7/16	61.9	15.86
2 1/2	63.5	16.69
2 9/16	65.1	17.53
2 5/8	66.7	18.4
2 11/16	68.3	19.29
2 3/4	69.9	20.19
2 13/16	71.4	21.12
2 7/8	73	22.07
2 15/16	74.6	23.04
3	76.2	24.03
3 1/16	77.8	25.06
3 1/8	79.4	26.08
3 3/16	81	27.13
3 1/4	82.6	28.2
3 5/16	84.1	29.3
3 3/8	85.7	30.42
3 7/16	87.3	31.55
3 1/2	88.9	32.71
3 9/16	90.5	33.89
3 5/8	92.1	35.09
3 11/16	93.7	36.31
3 3/4	95.3	37.55
3 13/16	96.8	38.81
3 7/8	98.4	40.13
3 15/16	100	41.4

Round Bars (continued)



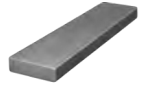
Dimension (in)	Dimension (mm)	Weight (lb/ft)
4	101.6	42.72
4 1/8	104.8	45.4
4 1/4	108	48.23
4 3/8	111.1	51.11
4 1/2	114.3	54.07
4 5/8	117.5	57.12
4 3/4	120.6	60.25
4 7/8	123.8	63.46
5	127	66.75
5 1/4	133.4	73.6
5 1/2	139.7	80.78
5 3/4	146	88.29
6	152.4	96.13
6 1/4	158.8	104.31
6 1/2	165.1	112.82
6 3/4	171.4	121.67
7	177.8	134.3
7 1/4	184.2	140.4
7 1/2	190.5	150.2
7 3/4	196.8	160.39
8	203.2	174.9
9	228.6	216.3
10	254	267.04
11	279.4	323.1
12	304.8	392.6

Flat Bars



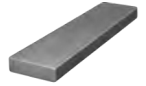
Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
1/8	3.18	1/4	6.35	0.107
		3/8	9.53	0.159
		1/2	12.7	0.213
		5/8	15.9	0.266
		3/4	19	0.319
		7/8	22.2	0.372
		1	25.4	0.425
		1 1/4	31.8	0.531
		1 1/2	38.1	0.638
		1 3/4	44.4	0.744
		2	50.8	0.85
		2 1/2	63.5	1.063
		3	76.2	1.28
		3 1/2	88.9	1.49
		4	101.6	1.7
		5	127	2.13
		6	152.4	2.55
		8	203.2	3.4
		10	254	4.25
		12	304.8	5.1
3/16	4.76	1/4	6.3	0.16
		3/8	9.5	0.239
		1/2	12.7	0.319
		5/8	15.9	0.398
		3/4	19	0.478
		1	25.4	0.638
		1 1/4	31.8	0.797
		1 1/2	38.1	0.956
		1 3/4	44.4	1.12
		2	50.8	1.28
		2 1/2	63.5	1.59
		3	76.2	1.91
		3 1/2	88.9	2.23
		4	101.6	2.55
		5	127	3.19
		6	152.4	3.83
		8	203.2	5.1
		10	254	6.38
		12	304.8	7.65

Flat Bars (continued)



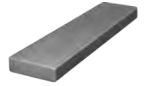
Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
1/4	6.35	3/8	9.5	0.319
		1/2	12.7	0.425
		5/8	15.9	0.531
		3/4	19	0.638
		7/8	22.2	0.744
		1	25.4	0.85
		1 1/4	31.8	1.06
		1 1/2	38.1	1.28
		1 3/4	44.4	1.49
		2	50.8	1.7
		2 1/4	57.2	1.91
		2 1/2	63.5	2.13
		2 3/4	69.8	2.34
		3	76.2	2.55
		3 1/2	88.9	2.98
		4	101.6	3.4
		4 1/2	114.3	3.83
		5	127	4.25
		6	152.4	5.1
		7	177.8	5.95
		8	203.2	6.8
		10	254	8.5
		12	304.8	10.2
5/16	7.94	1/2	12.7	0.531
		3/4	19	0.797
		1	25.4	1.06
		1 1/4	31.8	1.33
		1 1/2	38.1	1.59
		2	50.8	2.13
		2 1/2	63.5	2.66
		3	76.2	3.19
		3 1/2	88.9	3.72
		4	101.6	4.25

Flat Bars (continued)



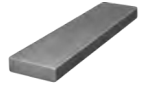
Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
3/8	9.53	1/2	12.7	0.638
		5/8	15.9	0.797
		3/4	19	0.956
		7/8	22.2	1.116
		1	25.4	1.28
		1 1/4	31.8	1.59
		1 1/2	38.1	1.91
		1 3/4	44.4	2.23
		2	50.8	2.55
		2 1/4	57.2	2.87
		2 1/2	63.5	3.19
		2 3/4	69.8	3.51
		3	76.2	3.83
		3 1/2	88.9	4.46
		4	101.6	5.1
		4 1/2	114.3	5.74
		5	127	6.38
		5 1/2	139.7	7.01
		6	152.4	7.65
		7	177.8	8.93
		8	203.2	10.2
		10	254	12.75
		12	304.8	15.3

Flat Bars (continued)



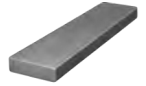
Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
1/2	12.7	5/8	15.9	1.063
		3/4	19	1.28
		7/8	22.2	1.488
		1	25.4	1.7
		1 1/4	31.8	2.13
		1 1/2	38.1	2.55
		1 3/4	44.4	2.98
		2	50.8	3.4
		2 1/4	57.2	3.825
		2 1/2	63.5	4.25
		3	76.2	5.1
		3 1/2	88.9	5.95
		4	101.6	6.8
		4 1/2	114.3	7.65
		5	127	8.5
		5 1/2	139.7	9.35
		6	152.4	10.2
		7	177.8	11.9
		8	203.2	13.6
		10	254	17
		12	304.8	20.4
5/8	15.9	3/4	19	1.594
		7/8	22.2	1.859
		1	25.4	2.13
		1 1/4	31.8	2.66
		1 1/2	38.1	3.19
		1 3/4	44.4	3.719
		2	50.8	4.25
		2 1/2	63.5	5.31
		3	76.2	6.38
		4	101.6	8.5
		5	127	10.63
		6	152.4	12.75
		7	177.8	14.87
		8	203.2	17
		10	254	21.25
		12	304.8	25.5

Flat Bars (continued)



Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
3/4	19.05	1	25.4	2.55
		1 1/4	31.8	3.19
		1 1/2	38.1	3.83
		1 3/4	44.4	4.463
		2	50.8	5.1
		2 1/2	63.5	6.38
		3	76.2	7.65
		3 1/2	88.9	8.93
		4	101.6	10.2
		4 1/2	114.3	11.48
		5	127	12.75
		6	152.4	15.3
		7	177.8	17.85
		8	203.2	20.4
		10	254	25.5
		12	304.8	30.6
7/8	22.2	2	50.8	5.95
1	25.4	1 1/4	31.8	4.25
		1 1/2	38.1	5.1
		1 3/4	44.4	5.95
		2	50.8	6.8
		2 1/4	57.2	7.65
		2 1/2	63.5	8.5
		3	76.2	10.2
		3 1/2	88.9	11.9
		4	101.6	13.6
		4 1/2	114.3	15.3
		5	127	17
		6	152.4	20.4
		7	177.8	23.8
		8	203.2	27.2
		10	254	34
		12	304.8	40.8

Flat Bars (continued)



Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
1 1/4	31.8	1 1/2	38.1	6.375
		1 3/4	44.4	7.438
		2	50.8	8.5
		2 1/2	63.5	10.625
		3	76.2	12.75
		3 1/2	88.9	12.75
		4	101.6	17
		5	127	21.5
1 1/2	38.1	6	152.4	25.5
		2	50.8	10.2
		2 1/2	63.5	12.75
		3	76.2	15.3
		4	101.6	20.4
		5	127	25.5
		6	152.4	30.6
		8	203.2	40.8
1 3/4	44.4	2	50.8	11.9
2	50.8	2	50.8	13.6
		2 1/2	63.5	17
		3	76.2	20.4
		4	101.6	27.2
		5	127	34
		6	152.4	40.8
		8	203.2	54.4
2 1/2	63.5	3	76.2	25.5
		3 1/2	88.9	29.75
		4	101.6	34
3	76.2	4	101.6	40.8
		5	127	51

Square Bars



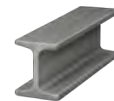
Dimension (in)	Dimension (mm)	Weight (lb/ft)
1/8	3.18	0.05
3/16	4.76	0.12
1/4	6.35	0.21
5/16	7.94	0.33
3/8	9.53	0.48
7/16	11.1	0.65
1/2	12.7	0.85
9/16	14.3	1.08
5/8	15.9	1.33
11/16	17.5	1.61
3/4	19	1.91
13/16	20.6	2.25
7/8	22.2	2.6
15/16	23.8	2.99
1	25.4	3.4
1 1/16	27	3.84
1 1/8	28.6	4.3
1 3/16	30.2	4.8
1 1/4	31.8	5.31
1 5/16	33.3	5.86
1 3/8	34.9	6.43
1 7/16	36.5	7.03
1 1/2	38.1	7.65
1 5/8	41.3	8.98
1 3/4	44.4	10.41
1 7/8	47.6	11.95
2	50.8	13.6
2 1/8	54	15.35
2 1/4	57.2	17.21
2 3/8	60.3	19.18
2 1/2	63.2	21.25
2 5/8	66.7	23.43
2 3/4	69.8	25.71
2 7/8	73	28.1
3	76.2	30.6
3 1/4	82.6	35.91
3 1/2	88.9	41.65
3 3/4	95.2	47.81
4	101.6	54.4
5	127	85

Hexagonal Bars

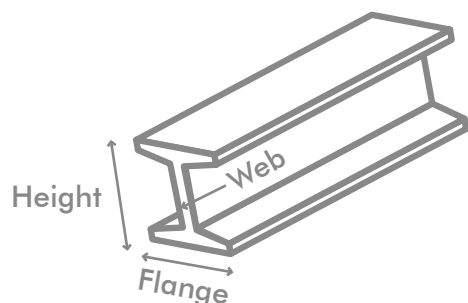


Dimension (in)	Dimension (mm)	Weight (lb/ft)
3/16	4.76	0.1
1/4	6.35	0.18
5/16	7.94	0.29
3/8	9.53	0.43
7/16	11.1	0.56
1/2	12.70	0.73
9/16	14.3	0.93
5/8	15.9	1.15
11/16	17.5	1.4
3/4	19	1.66
13/16	20.6	1.91
7/8	22.2	2.25
15/16	23.8	2.58
1	25.4	2.94
1 1/16	27	3.02
1 1/8	28.6	3.73
1 3/16	30.2	4.15
1 1/4	31.8	4.6
1 5/16	33.3	5.07
1 3/8	34.9	5.57
1 7/16	36.5	6.07
1 1/2	38.1	6.62
1 5/8	41.3	7.76
1 3/4	44.4	9
1 7/8	47.6	10.32
2	50.8	11.78
2 1/8	54	13.3
2 1/4	57.2	14.91
2 3/8	60.3	16.61
2 1/2	63.2	18.4
2 3/4	69.8	22.27
2 7/8	73	24.34
3	76.2	30.6

I-Beams



Dimension (in)	Dimension (mm)	Weight (lb/ft)	Weight (kg/m)	Height (in)	Flange Width (in)	Flange Thickness (in)	Web Thickness (in)	Section Modulus (mm ³)
S3	75	5.7	8	3	2.33	0.26	0.17	1.68
		7.5	11	3	2.51	0.26	0.349	1.95
S4	100	7.7	11	4	2.66	0.293	0.193	3.04
		9.5	14.1	4	2.8	0.293	0.326	3.4
S5	130	10	15	5	3	0.326	0.214	4.92
		14.8	22	5	3.28	0.326	0.494	6.08
S6	150	12.5	19	6	3.33	0.359	0.232	7.37
		17.3	26	6	3.57	0.359	0.465	8.77
S7	180	15.3	22.8	7	3.66	0.392	0.252	10.5
		20	30	7	3.86	0.392	0.45	12.1
S8	200	18.4	27	8	4	0.425	0.271	14.4
		23	34	8	4.17	0.425	0.441	16.2
S10	250	25.4	38	10	4.66	0.491	0.311	24.8
		35	52	10	4.94	0.491	0.594	29.4
S12	310	31.8	47	12	5	0.544	0.35	36.3
		35	52	12	5.08	0.544	0.428	28.2
S15	380	42.9	64	15	5.5	0.622	0.411	59.6
		50	74	15	5.64	0.622	0.55	64.8
S18	460	54.7	81.4	18	6	0.691	0.46	89.3
		70	104	18	6.25	0.691	0.711	103
S20	510	65.4	97.3	20	6.26	0.795	0.505	119
		75	112	20	6.38	0.795	0.635	128
		85	127	20	7.06	0.92	0.66	155
		95	141	20	7.2	0.92	0.8	165
S24	610	79.9	118.9	24	7	0.87	0.5	175
		90	134	24	7.12	0.87	0.625	187
		100	149	24	7.24	0.87	0.745	199
		105.9	157.6	24.5	7.87	1.09	0.62	240
		120	179	24.5	8.05	1.09	0.8	258

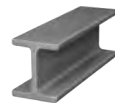


Height **Total vertical distance** between the two flanges of a beam.

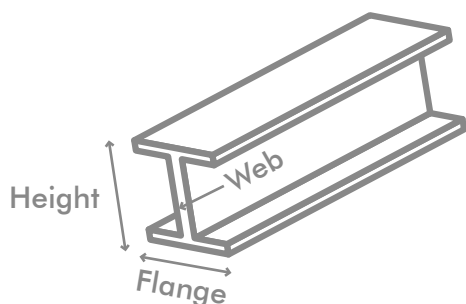
Flange **Horizontal part** of the beam at the top and bottom, which distributes the loads.

Web **Central vertical wall** connecting the two flanges, supporting shear forces.

H-Beams



Dimension (in)	Dimension (mm)	Weight (lb/ft)	Weight (kg/m)	Height (in)	Flange Width (in)	Flange Thickness (in)	Web Thickness (in)	Section Modulus (mm ³)
W4 X 4	100	13	19	4.16	4.06	0.345	0.28	5.5
W5 X 5	130	16	24	5.01	5	0.36	0.24	8.6
		19	28	5.15	5.03	0.43	0.27	10.2
W6 X 4	150	9	14	5.9	3.94	0.215	0.17	5.6
		12	18	6.03	4	0.28	0.23	7.3
		16	24	6.28	4.03	0.405	0.26	10.2
W6 X 6	150	15	22	5.99	5.99	0.26	0.23	9.7
		20	30	6.2	6.02	0.365	0.26	13.4
		25	37	6.38	6.08	0.455	0.32	16.7
W8 X 4	200	10	15	7.89	3.94	0.205	0.17	7.8
		13	19	7.99	4	0.255	0.23	9.9
		15	22	8.11	4.02	0.315	0.245	11.8
W8 X 5 1/4	200	14	21	7.98	5.21	0.25	0.195	11.8
		18	27	8.14	5.25	0.33	0.23	15.2
		21	31	8.28	5.27	0.4	0.25	18.2
W8 X 6 1/2	200	24	36	7.93	6.5	0.4	0.245	20.9
		28	42	8.06	6.54	0.465	0.285	24.3
W8 X 8	200	31	46	8	8	0.435	0.285	27.5
		35	52	8.12	8.02	0.495	0.31	31.2
		40	59	8.25	8.07	0.56	0.36	35.5
		48	71	8.5	8.11	0.685	0.4	43.3
		58	86	8.75	8.22	0.81	0.51	52
		67	100	9	8.28	0.935	0.57	60.4
W10 X 4	250	12	18	9.87	3.96	0.21	0.19	10.9
		15	22	9.99	4	0.27	0.23	13.8
		17	25	10.11	4.01	0.33	0.24	16.2
		19	28	10.24	4.02	0.395	0.25	18.8
W10 X 5 3/4	250	16	24	9.95	5.71	0.25	0.195	
		22	33	10.17	5.75	0.36	0.24	23.2
		26	39	10.33	5.77	0.44	0.26	27.9
		30	45	10.47	5.81	0.51	0.3	32.4

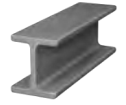


Height **Total vertical distance** between the two flanges of a beam.

Flange **Horizontal part** of the beam at the top and bottom, which distributes the loads.

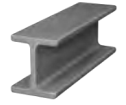
Web **Central vertical wall** connecting the two flanges, which carries shear forces.

H-Beams (continued)



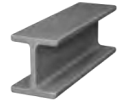
Dimension (in)	Dimension (mm)	Weight (lb/ft)	Weight (kg/m)	Height (in)	Flange Width (in)	Flange Thickness (in)	Web Thickness (in)	Section Modulus (mm ³)
W10 X 8	250	33	49	9.73	7.96	0.435	0.29	35
		39	58	9.92	7.98	0.53	0.315	42.1
		45	67	10.1	8.02	0.62	0.35	49.1
W10 X 10	250	49	73	9.98	10	0.56	0.34	54.6
		54	80	10.09	10.03	0.615	0.37	60
		60	89	10.22	10.08	0.68	0.42	66.7
		68	101	10.4	10.13	0.77	0.47	75.7
		77	115	10.6	10.19	0.87	0.53	85.9
		88	131	10.84	10.26	0.99	0.605	98.5
		100	149	11.1	10.34	1.12	0.68	112
		112	167	11.36	10.42	1.25	0.755	126
W12 X 4	310	14	21	11.91	3.97	0.225	0.2	14.9
		16	24	11.99	3.99	0.265	0.22	17.1
		19	28	12.16	4	0.35	0.235	21.3
		22	33	12.31	4.03	0.425	0.26	25.4
W12 X 6 1/2	310	21	31	12.04	6.45	0.29	0.195	–
		26	39	12.22	6.49	0.38	0.23	33.4
		30	45	12.34	6.52	0.44	0.26	38.6
		35	52	12.5	6.56	0.52	0.3	45.6
W12 X 8	310	40	60	11.94	8	0.515	0.295	51.9
		45	67	12.06	8.04	0.575	0.335	58.1
		50	74	12.19	8.08	0.64	0.37	64.7
W12 X 10	310	53	79	12.06	10	0.575	0.345	70.6
		58	86	12.19	10.01	0.64	0.36	78
		65	97	12.12	12	0.605	0.39	87.9
W12 X 12	310	72	107	12.25	12.04	0.67	0.43	87.4
		79	118	12.38	12.08	0.735	0.47	107
		87	129	12.53	12.12	0.81	0.515	118
		96	143	12.71	12.16	0.9	0.55	131
		106	158	12.89	12.22	0.99	0.61	145
		120	179	13.12	12.32	1.1	0.71	163
		136	202	13.41	12.4	1.25	0.79	186
		152	226	13.71	12.48	1.4	0.87	209
		170	253	14.03	12.57	1.56	0.96	235
		190	283	14.38	12.67	1.74	1.06	263
W14 X 5	360	22	33	13.74	5	0.335	0.23	29
		26	39	13.91	5.02	0.42	0.255	35.3

H-Beams (continued)



Dimension (in)	Dimension (mm)	Weight (lb/ft)	Weight (kg/m)	Height (in)	Flange Width (in)	Flange Thickness (in)	Web Thickness (in)	Section Modulus (mm ³)
W14 X 6 3/4	360	30	45	13.84	6.73	0.385	0.27	42
		34	51	13.98	6.74	0.455	0.285	48.6
		38	57	14.1	6.77	0.515	0.31	54.6
W14 X 8	360	43	64	13.66	8	0.53	0.305	62.3
		48	72	13.79	8.03	0.595	0.34	70.3
		53	79	13.92	8.06	0.66	0.37	77.8
W14 X 10	360	61	91	13.89	10	0.645	0.375	92.2
		68	101	14.04	10.04	0.72	0.415	103
		74	110	14.17	10.07	0.785	0.45	112
		82	122	14.31	10.13	0.855	0.51	123
W14 X 14 1/2	360	90	134	14.02	14.52	0.71	0.44	143
		99	147	14.16	14.56	0.78	0.485	157
		109	162	14.32	14.6	0.86	0.525	173
		120	179	14.48	14.67	0.94	0.59	190
		132	196	14.66	14.72	1.03	0.645	209
W16 X 5 1/2	410	26	39	15.69	5.5	0.345	0.25	38.4
		31	46	15.88	5.52	0.44	0.275	47.2
W16 X 7	410	36	X 54	15.86	5.52	0.43	0.295	56.5
		40	X 60	16.01	7	0.505	0.305	64.7
		45	X 67	16.13	7.04	0.565	0.345	72.7
		50	X 74	16.26	7.07	0.63	0.38	81
		57	X 85	16.43	7.12	0.715	0.43	92.2
W16 X 10	410	67	100	16.33	10.24	0.665	0.395	117
		77	X 114	16.52	10.3	0.76	0.455	134
		89	X 132	16.75	10.36	0.875	0.525	155
		100	X 149	16.97	10.42	0.985	0.585	175
W18 X 6	460	35	52	17.7	6	0.425	0.3	57.6
		40	X 60	17.9	6.02	0.525	0.515	68.4
W18 X 7 1/2	460	41	61	17.7	7.45	0.425	0.32	70.3
		45	X 67	17.86	7.48	0.499	0.335	80.5
		50	X 74	17.99	7.5	0.57	0.355	88.9
		55	X 82	18.11	7.53	0.63	0.39	98.3
		60	X 89	18.24	7.56	0.695	0.415	108
		65	X 97	18.35	7.59	0.75	0.45	117
		71	X 106	18.47	7.64	0.81	0.495	127

H-Beams (continued)

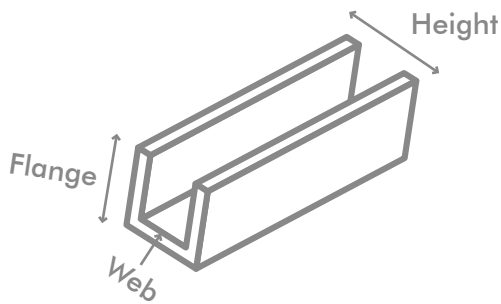


Dimension (in)	Dimension (mm)	Weight (lb/ft)	Weight (kg/m)	Height (in)	Flange Width (in)	Flange Thickness (in)	Web Thickness (in)	Section Modulus (mm ³)
W18 X 11	460	76	113	18.21	11.04	0.68	0.425	146
		86	X 128	18.39	11.09	0.77	0.48	166
		97	X 144	18.59	11.14	0.87	0.535	188
		106	X 158	18.73	11.2	0.94	0.59	204
		119	X 177	18.97	11.26	1.06	0.655	231
W21 X 6 1/2	530	44	66	20.66	6.5	0.45	0.35	81.6
		50	74	20.83	6.53	0.535	0.38	94.5
		57	85	21.06	6.56	0.65	0.405	111
W21 X 8	530	48	72	20.62	8.14	0.43	0.35	–
		55	82	20.8	8.22	0.522	0.375	110
		62	92	20.99	8.24	0.615	0.4	127
		68	101	21.13	8.27	0.685	0.43	140
		73	109	21.24	8.3	0.74	0.455	151
		83	123	21.43	8.36	0.835	0.515	171
		93	138	21.62	8.42	0.93	0.58	192
W21 X 12	530	101	150	21.36	12.29	0.8	0.5	227
		111	165	21.51	12.34	0.875	0.55	249
		122	182	21.68	12.39	0.96	0.6	273
		132	196	21.83	12.44	1.04	0.65	295
		147	219	22.06	12.51	1.15	0.72	329
W24 X 7	610	55	82	23.57	7	0.505	0.395	114
		62	92	23.74	7.04	0.59	0.43	131
W24 X 9	610	56	84	23.48	8.9	0.46	0.355	–
		61	91	23.56	8.93	0.5	0.38	–
		68	101	23.73	8.96	0.585	0.415	154
		76	113	23.92	8.99	0.68	0.44	176
		84	125	24.1	9.02	0.77	0.47	196
		94	140	24.31	9.06	0.875	0.515	222
W24 X 13	610	104	155	24.06	12.75	0.75	0.5	258
		117	174	24.26	12.8	0.85	0.55	291
		131	195	24.48	12.86	0.96	0.605	329
		146	217	24.74	12.9	1.09	0.65	371
		162	241	25	12.96	1.22	0.705	414
W27 X 10	690	84	125	26.71	9.96	0.64	0.46	213
		94	140	26.92	9.99	0.745	0.49	243
		102	152	27.09	10.02	0.83	0.515	267
		114	170	27.29	10.07	0.93	0.57	299
W27 X 14	690	146	217	27.38	13.96	0.975	0.605	411
		161	240	27.59	14.02	1.08	0.66	455
		178	265	27.81	14.08	1.19	0.725	502

U-Channels



Dimension (in)			Dimension (mm)			Weight (lb/ft)	Section Modulus (mm ³)
Height	Flange	Web	Height	Flange	Web		
1	1/2	1/8	25.4	12.7	3.2	0.83	0.06
1 1/4	1/2	1/8	31.8	12.7	3.2	1	0.09
1 1/2	1/2	1/8	38.1	12.7	3.2	1.12	0.13
2	1/2	1/8	50.8	12.7	3.2	1.47	0.2
2	1	1/8	50.8	25.4	3.2	1.78	0.28
2	1	3/16	50.8	25.4	4.8	2.57	0.38



- Height** **Total vertical distance** of the profile, measured between the outer edges of the flanges.
- Flange** **Vertical side portion** of the profile, parallel to the web. It gives the channel its lateral rigidity.
- Web** **Central horizontal wall** connecting the two flanges. It forms the base of the channel.

U-Channels (continued)



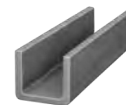
Dimension (in)	Dimension (mm)	Weight (lb/ft)	Weight (kg/m)	Height (in)	Flange Width (in)	Flange Thickness (in)	Web Thickness (in)	Section Modulus (mm ³)
C3	75	4.1	7	3	1.41	0.273	0.17	1.11
		5	7	3	1.5	0.273	0.258	1.23
		6	9	3	1.6	0.273	0.356	1.38
C4	100	5.4	8	4	1.58	0.296	0.184	1.93
		6.25	9	4	1.65	0.296	0.247	2.1
		7.25	11	4	1.72	0.296	0.321	2.3
C5	130	6.7	10	5	1.75	0.32	0.19	3
		9	13	5	1.88	0.32	0.325	3.56
		11.5	17	5	2.03	0.32	0.472	4.1
C6	150	8.2	12	6	1.92	0.343	0.2	4.37
		10.5	16	6	2.03	0.343	0.314	5.07
		13	19	6	2.16	0.343	0.437	5.8
C7	180	9.8	15	7	2.09	0.366	0.21	6.09
		12.25	18	7	2.19	0.366	0.314	6.91
		14.75	22	7	2.3	0.366	0.419	7.77
C8	200	11.5	17	8	2.26	0.39	0.22	8.15
		13.75	21	8	2.34	0.39	0.303	9.03
		18.75	28	8	2.53	0.39	0.487	11
C9	230	13.4	20	9	2.43	0.413	0.233	10.6
		15	22	9	2.48	0.413	0.285	11.3
		20	30	9	2.65	0.413	0.448	13.5
C10	250	15.3	23	10	2.6	0.436	0.24	13.5
		20	30	10	2.74	0.436	0.379	15.8
		25	37	10	2.89	0.436	0.526	18.2
		30	45	10	3.03	0.436	0.673	20.6
C12	310	20.7	31	12	2.94	0.501	0.282	21.5
		25	37	12	3.05	0.501	0.387	24
		30	45	12	3.17	0.501	0.51	27
C15	380	33.9	50	15	3.4	0.65	0.4	42
		40	60	15	3.52	0.65	0.52	46.5
		40	74	15	3.72	0.65	0.716	53.9

U-Channels (continued)



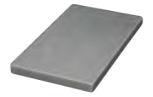
Dimension (in)	Dimension (mm)	Weight (lb/ft)	Weight (kg/m)	Height (in)	Flange Width (in)	Flange Thickness (in)	Web Thickness (in)	Section Modulus (mm ³)
MC3	75	7.1	10.6	3	1.94	0.651	0.312	1.82
		9	13.4	3	2.12	0.351	0.497	2.1
MC6	150	12	17.9	6	2.5	0.375	0.31	6.23
		15.1	22.5	6	2.94	0.475	0.316	8.33
		15.3	22.8	6	3.5	0.385	0.34	8.47
		16.3	24.3	6	3	0.475	0.375	8.67
		18	26.8	6	3.5	0.475	0.379	9.9
MC7	180	17.6	26.2	7	3	0.475	0.375	10.7
		19.1	28.4	7	3.45	0.5	0.35	12.3
		22.7	33.8	7	3.6	0.5	0.503	13.6
MC8	200	8.5	12.6	8	1.87	0.311	0.179	5.83
		18.7	27.8	8	2.98	0.5	0.353	13.1
		20	29.8	8	3.02	0.5	0.4	13.6
		21.4	31.8	8	3.45	0.525	0.375	15.4
		22.8	33.9	8	3.5	0.525	0.427	16
MC9	230	23.9	35.6	9	3.45	0.55	0.4	18.9
		25.4	37.8	9	3.5	0.55	0.45	19.6
MC10	250	6.5	9.7	10	1.13	0.202	0.152	4.42
		8.4	12.5	10	1.5	0.28	0.17	6.4
		21.9	32.6	10	3.45	0.5	0.325	19.7
		24.9	37.1	10	3.4	0.575	0.377	22
		25.3	37.7	10	3.55	0.5	0.425	21.4
		28.3	42.1	10	3.5	0.575	0.477	23.6
		28.5	42.4	10	3.95	0.575	0.424	25.4
		33.6	50	10	4.1	0.575	0.575	27.8
		41.1	61.2	10	4.32	0.575	0.796	31.6
MC12	310	10.6	15.8	12	1.5	0.309	0.19	9.23
		30.9	46	12	3.45	0.6	0.45	30.5
		32.9	49	12	3.5	0.6	0.5	31.8
		35	52	12	3.77	0.7	0.467	36
		37	55	12	3.6	0.6	0.6	34.2
		40	60	12	3.89	0.7	0.59	39
		45	67	12	4.01	0.7	0.712	42
		50	74	12	4.14	0.7	0.835	44.8
MC13	330	31.8	47.3	13	4	0.61	0.375	36.8
		35	52	13	4.07	0.61	0.447	38.8
		40	60	13	4.18	0.61	0.56	42
		50	74	13	4.41	0.61	0.787	48.3

U-Channels (continued)



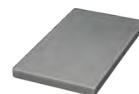
Dimension (po)	Dimension (mm)	Weight (lb/ft)	Weight (kg/m)	Height (in)	Flange Width (in)	Flange Thickness (in)	Web Thickness (in)	Section Modulus (mm ³)
MC18	460	42.7	63.5	18	3.95	0.625	0.45	61.6
		45.8	68.2	18	4	0.625	0.5	64.2
		51.9	77.2	18	4.1	0.625	0.6	69.7
		58	86	18	4.2	0.625	0.7	75.1

Plates



Steel		
Thickness (in)	Thickness (mm)	Weight (lb/ft²)
1/8	3.18	5.1
3/16	4.76	7.65
1/4	6.35	10.2
5/16	7.94	12.75
3/8	9.53	15.3
7/16	11.11	17.85
1/2	12.7	20.4
9/16	14.29	22.97
5/8	15.88	25.5
11/16	17.46	28.05
3/4	19.05	30.6
13/16	20.64	33.15
7/8	22.23	35.7
15/16	23.81	38.25
1	25.4	40.8
1 1/8	28.58	45.9
1 1/4	31.75	51
1 3/8	34.93	56.1
1 1/2	38.1	61.2
1 5/8	41.28	66.3
1 3/4	44.45	71.4
1 7/8	47.63	76.57
2	50.8	81.6
2 1/8	53.98	86.7
2 1/4	57.15	91.8
2 3/8	60.33	96.9
2 1/2	63.5	102
2 5/8	66.68	107
2 3/4	69.85	112.31
3	76.2	122.52
3 1/4	82.55	132.72
3 1/2	88.9	142.93
4	101.6	163.35
4 1/2	114.3	183.75
5	127	204.19
6	152.4	245.03
6 1/2	165.1	265.43

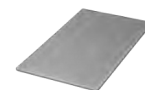
Plates (continued)



Steel — Flooring

Thickness (in)	Thickness (mm)	Weight (lb/ft²)
14G	1.9	3.75
12G	2.6	5.25
1/8	3.2	6.15
3/16	4.8	8.7
1/4	6.4	11.25
5/16	7.9	13.8
3/8	9.5	16.3
1/2	12.7	21.45

Sheets



Steel			
Gauges	Thickness (in)	Thickness (mm)	Weight (lb/ft ²)
4	0.2242	5.695	9.375
5	0.2092	5.314	8.75
6	0.1943	4.935	8.125
7	0.1793	4.554	7.5
8	0.1644	4.176	6.875
9	0.1495	3.797	6.25
10	0.1344	3.414	5.625
11	0.1196	3.038	5
12	0.1046	2.657	4.375
14	0.0747	1.897	3.125
16	0.0598	1.519	2.5
18	0.0478	1.214	2
20	0.0359	0.912	1.5
22	0.0299	0.759	1.25
24	0.0239	0.607	1.01
26	0.1790	4.547	0.75

Galvanized and Satin Steel

Gauges	Thickness (in)	Thickness (mm)	Weight (lb/ft ²)
10	0.1382	3.51	5.781
11	0.1233	3.132	5.156
12	0.1084	2.753	4.531
14	0.0785	1.994	3.281
16	0.0635	1.613	2.656
18	0.0516	1.311	2.156
20	0.0396	1.006	1.656
22	0.0336	0.853	1.406
24	0.0276	0.701	1.156
26	0.0217	0.551	0.906
28	0.0187	0.475	0.781
30	0.015	0.381	0.656

Rebars



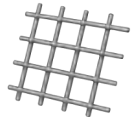
Steel

Dimension (mm)	Dimension (in)	Weight (lb/ft)
10M	0.445	0.527
15M	0.63	1.056
20M	0.77	1.582
25M	0.99	2.637
30M	1.18	3.693
35M	1.405	5.276
45M	1.72	7.912

Galvanized Steel

Dimension (mm)	Dimension (in)	Weight (lb/ft)
10M	0.445	0.567
15M	0.63	1.135
20M	0.77	1.701
25M	0.99	2.835
30M	1.18	3.97
35M	1.405	5.672
45M	1.72	8.505

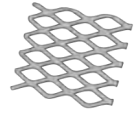
Wire Mesh



Woven Steel

Dimension (in)	Dimension (mm)	Wire Diameter (in)	Wire Diameter (mm)	Weight (lb/ft²)
1 X 1	25 X 25	0.063	1.6	0.39
		0.08	2.03	0.55
		0.105	2.67	0.71
2 X 2	51 X 51	0.08	2.03	0.54
		0.105	2.67	0.77
		0.12	3.05	0.9
3 X 3	76 X 76	0.063	1.6	0.4
		0.08	2.03	0.55
		0.105	2.67	0.7
4 X 4	102 X 102	0.08	2.03	0.53
		0.105	2.67	0.7
		0.12	3.05	0.84
6 X 6	152 X 152	0.08	2.03	0.75
		0.105	2.67	1
		0.12	3.05	1.15
8 X 8	203 X 203	0.08	2.03	0.96
		0.105	2.67	1.22
		0.12	3.05	1.38
12 X 12	305 X 305	0.08	2.03	1.42
		0.105	2.67	1.7
		0.12	3.05	1.85

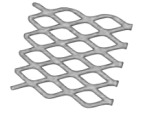
Expanded Metals



Flattened Steel

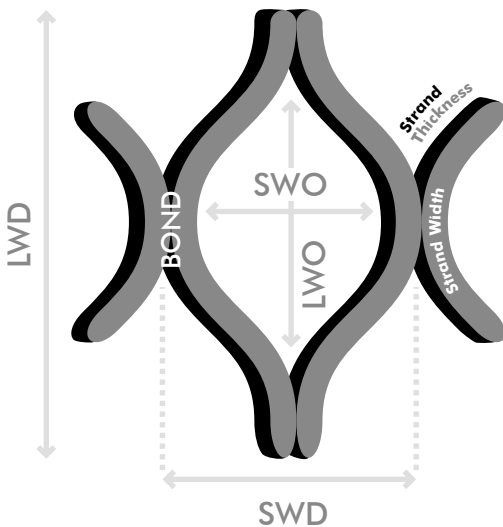
Patterns		Dimension		Thickness	Weight (lb/ft²)
		SWD	LWD		
3/16	22F	0.226	0.5	0.027	0.64
	20F	0.226	0.5	0.032	0.83
1/4	20F	0.28	1	0.035	0.85
	18F	0.28	1	0.045	1.15
5/16	20F	0.387	1	0.035	0.58
	18F	0.387	1	0.045	0.102
1/2	20F	0.6	1.2	0.03	0.4
	18F	0.6	1.2	0.045	0.64
	16F	0.6	1.2	0.055	0.8
	13F	0.6	1.2	0.07	1.11
	13 (0.188)F	0.55	1.2	0.07	2.15
3/4	16F	1.1	2	0.05	0.51
	13F	1.09	2	0.07	0.62
	10 (13)F	1.1	2	0.07	0.92
	9 (11)F	1.06	2	0.115	1.47
	11HF	0.875	2	0.115	2.58
1	16F	1.175	2.375	0.05	0.41
	14F	1.225	2.375	0.07	0.65
	12F	1.2	2.375	0.085	0.98
	10F	1.19	2.375	0.115	1.33
1 1/2	16F	1.51	3	0.055	0.4
	13F	1.55	3	0.07	0.48
	12F	1.51	3	0.085	0.58
	9 (10)F	1.5	3	0.115	1.05
	10F	1.5	3	0.115	1.25

Expanded Metals (continued)



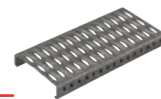
Regular Steel

Patterns		Dimension		Thickness	Weight (lb/ft ²)
		SWD	LWD		
3/32	24L	0.128	0.25	0.024	0.47
	24H	0.128	0.25	0.024	0.71
3/16	22	0.206	0.5	0.03	0.56
	20	0.206	0.5	0.036	0.9
1/4	20	0.25	1	0.036	0.86
	18	0.25	1	0.048	1.14
5/16	20	0.333	1	0.036	0.52
	18	0.333	1	0.048	1.13



- LWD** Length of the mesh in the **longest direction** (stretched mesh).
- SWD** Width of the mesh in the **shortest direction**.
- LWO** Length **between the internal tips** of the mesh (excluding strands).
- SWO** Width **between the internal strands** of the mesh.
- BOND** **Uncut metal area** linking the mesh openings together.

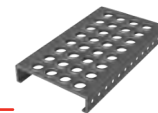
Security Mesh



Diamond Grip Safety Grating

Width (in)	Gauges	Height (in)	Weight (lb/ft)
4 ¾ (2 diamonds)	12	1 1/2	3
		2	3.3
	14	1 1/2	2.3
		2	2.5
7 (3 diamonds)	12	1 1/2	3.9
		2	4.4
		3	5.1
	14	1 1/2	2.9
2		3.2	
9 ½ (4 diamonds)	12	1 1/2	4.8
		2	5.1
		3	5.8
	14	2 1/2	3.5
2		3.7	
11 ¾ (5 diamonds)	12	1 1/2	5.7
		2	6.1
		3	6.7
	14	1 1/2	4.1
2		4.5	
18 ¾ (8 diamonds)	12	1 1/2	8.2
		2	8.5
		3	9.3
	14	1 1/2	5.9
2		6.1	
24 (10 diamonds)	12	1 1/2	10.1
		2	10.8
		3	11.3
	14	1 1/2	7.3
2		7.6	

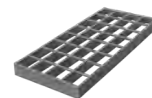
Security Mesh (continued)



Embossed Pattern Safety Grating

Width (in)	Gauges	Height (in)	Weight (lb/ft)
5 (2 holes)	13	1 1/2	2.6
		2	2.8
7 (3 holes)	11	1 1/2	4.2
		2	4.5
		3	4.8
	13	1 1/2	3
		2	3.3
10 (5 holes)	11	1 1/2	4.5
		2	4.8
		3	5.1
	13	2 1/2	3.5
		2	3.9
12 (6 holes)	11	1 1/2	5.3
		2	5.5
		3	6.2
	13	1 1/2	4.3
		2	4.6
18 (10 holes)	11	1 1/2	6.8
		2	7.1
		3	7.9
	13	1 1/2	5.7
		2	6
24 (13 holes)	11	2	8.9
		3	9.8
30 (16 holes)	11	2	11.8
		3	12.7
		4	13.5

Gratings



Welded Steel Gratings (19W)

Side Height (in)	Thickness (in)	19W4 Weight (lb/ft²)	19W2 Weight (lb/ft²)	Type
3/4	1/8	3.9		Plain
	3/16	5.6		Plain
1	1/8	5	5.5	Plain or Serrated
	3/16	7.2	7.8	Plain or Serrated
1 1/4	1/8	6.1	6.6	Plain or Serrated
	3/16	8.9	9.5	Plain or Serrated
1 1/2	1/8	7.2	7.7	Plain or Serrated
	3/16	10.5	11.2	Plain or Serrated
1 3/4	3/16	12.2	12.8	Plain or Serrated
2	3/16	13.9	14.5	Plain or Serrated
2 1/4	3/16	15.5	16.1	Plain or Serrated
2 1/2	3/16	17.2	17.8	Plain or Serrated

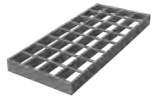
*Available painted or unpainted.

Pressed Steel Gratings (19P)

Side Height (in)	Thickness (in)	19P4 Weight (lb/ft²)	19P2 Weight (lb/ft²)	Type
3/4	1/8	4.3	5.2	Plain
	3/16	6.4	7.8	Plain
1	1/8	5.4	6.3	Plain or Serrated
	3/16	8.1	9.5	Plain or Serrated
1 1/4	1/8	6.8	8.1	Plain or Serrated
	3/16	10.2	12.1	Plain or Serrated
1 1/2	1/8	7.9	9.2	Plain or Serrated
	3/16	11.8	13.8	Plain or Serrated
1 3/4	3/16	13.5	15.4	Plain or Serrated
2	3/16	15.2	17.1	Plain or Serrated
2 1/4	3/16	16.8	18.7	Plain or Serrated
2 1/2	3/16	18.5	20.4	Plain or Serrated

*Available painted or unpainted.

Gratings (continued)



Welded Steel Gratings (15W)

Side Height (in)	Thickness (in)	15W4 Weight (lb/ft²)	15W2 Weight (lb/ft²)	Type
3/4	1/8	4.7		Plain
	3/16	6.9		Plain
1	1/8	6.1	6.7	Plain or Serrated
	3/16	8.9	9.6	Plain or Serrated
1 1/4	1/8	7.5	8.1	Plain or Serrated
	3/16	11	11.6	Plain or Serrated
1 1/2	1/8	8.9	9.4	Plain or Serrated
	3/16	13.1	13.7	Plain or Serrated
1 3/4	3/16	15.2	15.8	Plain or Serrated
2	3/16	17.3	17.9	Plain or Serrated
2 1/4	3/16	19.4	20	Plain or Serrated
2 1/2	3/16	21.4	22	Plain or Serrated

*Available painted or unpainted.

Pressed Steel Gratings (15P)

Side Height (in)	Thickness (in)	15P4 Weight (lb/ft²)	15P2 Weight (lb/ft²)	Type
3/4	1/8	5.1	6.1	Plain
	3/16	7.7	9.1	Plain
1	1/8	6.5	7.5	Plain or Serrated
	3/16	9.8	11.2	Plain or Serrated
1 1/4	1/8	8.2	9.5	Plain or Serrated
	3/16	12.3	14.2	Plain or Serrated
1 1/2	1/8	9.6	10.9	Plain or Serrated
	3/16	14.4	16.3	Plain or Serrated
1 3/4	3/16	16.5	18.4	Plain or Serrated
2	3/16	18.6	20.5	Plain or Serrated
2 1/4	3/16	20.7	22.6	Plain or Serrated
2 1/2	3/16	22.7	24.7	Plain or Serrated

*Available painted or unpainted.