

Aluminum

Technical Data Sheet

6061, 6063, 7075, 2011, 1100, 2024, 3003, 5052, 5000 and 7000 series



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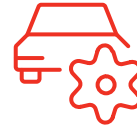
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Aluminum 6061-T6

Aluminum 6061-T6 is one of the most widely used alloys in structural applications. It is known for its excellent strength-to-weight ratio, good corrosion resistance, and weldability.

Recommended for

- **Structures:** frames, ramps, scaffolding
- **Transportation:** trailers, automotive parts
- **General machining:** lightweight components, fasteners



Mechanical Properties

Typical Value

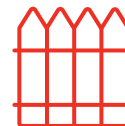
Tensile Strength	~45,000 psi
Yield Strength	~40,000 psi
Brinell Hardness	~95 HB
Elongation (2 in.)	~12%
Corrosion Resistance	Good
Weldability	Excellent
Heat Treatment	Yes (T6 treated)

Aluminum 6063-T5

Alloy 6063-T5 is often used for its aesthetic qualities and excellent extrudability. It is less strong than 6061, making it ideal for architectural and decorative applications.

Recommended for

- **Architecture:** window frames, balconies
- **Decorative finishes:** railings, moldings
- **Signage:** frames, signs, panels



Mechanical Properties

Typical Value

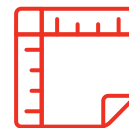
Tensile Strength	~35,000 psi
Yield Strength	~30,000 psi
Brinell Hardness	~80 HB
Elongation (2 in.)	~14%
Corrosion Resistance	Very good
Weldability	Excellent
Heat Treatment	Yes (air-cooled)

Aluminum 7075-T6

7075-T6 is a high-performance alloy offering maximum mechanical strength. It is less weldable and more expensive, but its strength-to-weight ratio is ideal for aerospace and elite sports applications.

Recommended for

- **Aerospace:** spars, fittings, structural fasteners
- **Sports:** bicycle frames, skis, racing equipment
- **Precision tools:** fastener heads, guides, plates



Mechanical Properties

Typical Value

Tensile Strength	~83,000 psi
Yield Strength	~73,000 psi
Brinell Hardness	~150 HB
Elongation (2 in.)	~10%
Corrosion Resistance	Medium
Weldability	Low
Heat Treatment	Yes (T6 treated)

Aluminum 2011-T3

Alloy 2011 is ideal for high-speed machining, producing short chips and a smooth surface. It has low corrosion resistance and is hard to weld, so it's for non-critical applications.

Recommended for

- **Precision machining:** turned parts, bolts, connectors
- **Mechanical industry:** fasteners, threaded shafts, fittings
- **Mass production:** screws, small components



Mechanical Properties

Typical Value

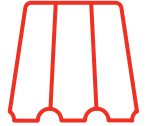
Tensile Strength	~55,000 psi
Yield Strength	~40,000 psi
Brinell Hardness	~100 HB
Elongation (2 in.)	~10%
Corrosion Resistance	Low to moderate
Weldability	Very low
Heat Treatment	Yes (T3 treated)

Aluminum 1100-H14

Aluminum 1100 is an almost pure alloy ($\geq 99\%$) with very good corrosion resistance. Ideal for decorative, forming, or welding applications, it has low mechanical strength.

Recommended for

- **Signage:** plates, panels, signs
- **Food equipment:** bins, lids, utensils
- **Cold forming:** ducts, shells, soft coverings



Mechanical Properties

Typical Value

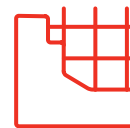
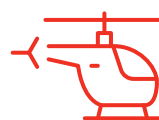
Tensile Strength	~18,000 psi
Yield Strength	~10,000 psi
Brinell Hardness	~35 HB
Elongation (2 in.)	~30%
Corrosion Resistance	Very good
Weldability	Excellent
Heat Treatment	No

Aluminum 2024-T3

2024-T3 is a high-strength alloy used in aerospace and transportation. It offers excellent fatigue resistance but lower weldability and corrosion resistance than other alloys.

Recommended for

- **Aerospace:** fuselage panels, wings, fittings
- **High-stress machining:** rigid plates, brackets, arms
- **Transportation:** structural components, supports



Mechanical Properties

Typical Value

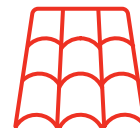
Tensile Strength	~70,000 psi
Yield Strength	~50,000 psi
Brinell Hardness	~120 HB
Elongation (2 in.)	~10%
Corrosion Resistance	Medium
Weldability	Low
Heat Treatment	Yes (T3)

Aluminum 3003-H14

3003-H14 is cold-formable, used in decorative or functional sheet metal applications. It combines good corrosion resistance with excellent bending and stamping capabilities.

Recommended for

- **General sheet metal:** ducts, panels, claddings
- **Kitchen equipment:** pots, drawer bottoms
- **Roofing and architecture:** embossed sheets, coverings



Mechanical Properties

Typical Value

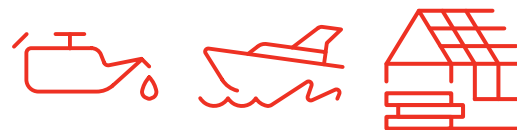
Tensile Strength	~21,000 psi
Yield Strength	~18,000 psi
Brinell Hardness	~40 HB
Elongation (2 in.)	~20%
Corrosion Resistance	Good
Weldability	Very good
Heat Treatment	No

Aluminum 5052-H32

5052-H32 is one of the best non-heat-treatable alloys for corrosion resistance, especially in marine environments. It has good mechanical strength, excellent weldability, and decent cold formability.

Recommended for

- **Tanks and trailers:** fuel, chemicals
- **Marine and transportation:** hulls, bins, welded panels
- **Industrial equipment:** hoods, bins, light structures



Mechanical Properties

Typical Value

Tensile Strength	~33,000 psi
Yield Strength	~28,000 psi
Brinell Hardness	~60 HB
Elongation (2 in.)	~12%
Corrosion Resistance	Excellente (marine)
Weldability	Very good
Heat Treatment	No

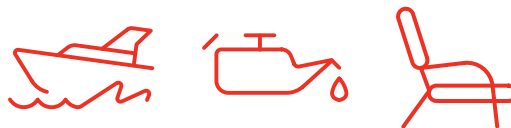
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5000 Series (magnesium)

5000 Series alloys are non-heat-treatable but offer good corrosion resistance, especially in salty environments. Magnesium gives them good strength and weldability.

Recommended for

- **Marine applications:** hulls, structures, ramps
- **Transportation:** tanks, trucks, vehicle bodies
- **Workshop welding:** industrial modules, urban furniture



Mechanical Properties

Typical Value

Tensile Strength	31,000 – 45,000 psi
Yield Strength	28,000 – 40,000 psi
Brinell Hardness	60 – 80 HB
Elongation (2 in.)	10 – 15 %
Corrosion Resistance	Excellent
Weldability	Excellent
Heat Treatment	No

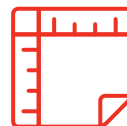
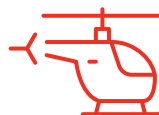
Aluminum

7000 Series (zinc)

7000 Series alloys are among the strongest. With added zinc and sometimes copper or magnesium, they offer good strength under load but lower weldability and corrosion resistance.

Recommended for

- **Aerospace:** frames, masts, structural linkages
- **Tools and jigs:** arms, dies, fixtures
- **Machinery:** mechanical arms, rigid surfaces



Mechanical Properties

Typical Value

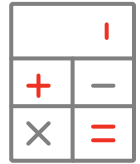
Tensile Strength	70 000 – 85 000 psi
Yield Strength	60 000 – 75 000 psi
Brinell Hardness	130 – 160 HB
Elongation (2 in.)	6 – 12 %
Corrosion Resistance	Medium
Weldability	Low to medium
Heat Treatment	Yes (T6, T73, etc.)

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



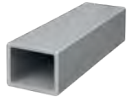
Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
1/2 x 1/2	12.7 x 12.7	1/8	3.18	0.127
3/4 x 3/4	19.05 x 19.05	1/16	1.59	0.107
		1/8	3.18	0.211
1 x 1/2	25.4 x 12.7	1/8	3.18	0.2
1 x 1	25.4 x 25.4	1/16	1.59	0.141
		1/8	3.18	0.281
		3/16	4.76	0.411
		1/4	6.35	0.53
1 1/4 x 1 1/4	31.75 x 31.75	1/8	3.18	0.356
		3/16	4.76	0.515
		1/4	6.35	0.681
1 1/2 x 1 1/2	38.1 x 38.1	1/16	1.59	0.218
		1/8	3.18	0.432
		3/16	4.76	0.634
		1/4	6.35	0.822
2 x 1	50.8 x 25.4	1/8	3.18	0.417
2 x 1 1/2	50.8 x 38.1	1/8	3.18	0.489
		3/16	4.76	0.731
		1/4	6.35	0.964
2 x 2	50.8 x 50.8	1/8	3.18	0.579
		3/16	4.76	0.85
		1/4	6.35	1.125
2 1/2 x 2	63.5 x 50.8	1/4	6.35	1.267
2 1/2 x 2 1/2	63.5 x 63.5	3/16	4.76	1.071
		1/4	6.35	1.441
3 x 2	76.2 x 50.8	3/16	4.76	1.064
		1/4	6.35	1.408
3 x 3	76.2 x 76.2	3/16	4.76	1.287
		1/4	6.35	1.726
		3/8	9.53	2.52
		1/2	12.7	3.3
3 1/2 x 2 1/2	88.9 x 63.5	1/4	6.35	1.704
3 1/2 x 3 1/2	88.9 x 88.9	5/16	7.94	2.48
4 x 3	101.6 x 76.2	1/4	6.35	1.996
4 x 4	101.6 x 101.6	1/4	6.35	2.375
		3/8	9.53	3.430
		1/2	12.7	4.488

Angles (continued)



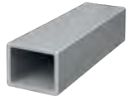
Dimension (po)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
5 x 3	127 x 76.2	1/4	6.35	2.292
6 x 6	152.4 x 152.4	3/8	9.53	5.16
		1/2	12.7	6.82
8 x 8	203.2 x 203.2	1/2	12.7	9.141

Square and Rectangular HSS Tubes



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
1/2 x 1/2	12.7 x 12.7	0.065	1.65	0.136
3/4 x 3/4	19.05 x 19.05	0.065	1.65	0.2
		0.12	3.05	0.363
1 x 1	25.4 x 25.4	0.065	1.65	0.292
		0.095	2.41	0.413
		0.12	3.05	0.483
1 1/4 x 1 1/4	31.75 x 31.75	0.095	2.41	0.527
		0.12	3.05	0.571
1 1/2 x 3/4	38.1 X 19.05	0.12	3.05	0.588
1 1/2 x 1	38.1 x 25.4	0.12	3.05	0.662
1 1/2 x 1 1/2	38.1 x 38.1	0.095	2.41	0.64
		0.12	3.05	0.75
		0.188	4.76	1.184
2 x 1	50.8 x 25.4	0.12	3.05	0.795
2 x 1 1/2	50.8 x 38.1	0.12	3.05	0.939
2 x 2	50.8 x 50.8	0.12	3.05	1.061
		0.188	4.76	1.635
		0.25	6.35	2.061
2 1/2 x 1 1/2	63.5 x 38.1	0.12	3.05	1.183
2 1/2 x 2 1/2	63.5 x 63.5	0.125	3.18	1.382
		0.188	4.76	2.041
		0.25	6.35	2.661
3 x 1	76.2 x 25.4	0.12	3.05	1.06
3 x 1 1/2	76.2 x 38.1	0.12	3.05	1.227
3 x 2	76.2 x 50.8	0.12	3.05	1.348
		0.25	6.35	2.655
3 x 3	76.2 x 76.2	0.12	3.05	1.631
		0.188	4.76	2.489
		0.25	6.35	3.3
		0.375	9.53	4.607
4 x 1	101.6 x 25.4	0.12	3.05	1.371
4 x 2	101.6 x 50.8	0.12	3.05	1.685
		0.188	4.76	2.525
		0.25	6.35	3.3
4 x 4	101.6 x 101.6	0.125	3.18	2.325
		0.188	4.76	3.423
		0.25	6.35	4.425
		0.5	12.7	8.26
4 1/2 x 1 3/4	114.3 X 44.45	0.125	3.18	1.8

Square and Rectangular HSS Tubes (continued)



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
6 x 2	152.4 x 50.8	0.12	3.05	2.19
		0.188	4.76	3.44
		0.25	6.35	4.425
6 x 4	152.4 x 101.6	0.25	6.35	5.605
6 x 6	152.4 x 152.4	0.25	6.35	6.9
		0.5	12.7	12.9
8 x 8	203.2 x 203.2	0.5	12.7	17.62

Round HSS Tubes



Dimension (in)	Dimension (mm)	Wall (in)	Wall (mm)	Weight (lb/ft)
0.625	15.9	0.065	1.65	0.13
0.75	19.1	0.065	1.65	0.16
		0.12	3.05	0.29
1	25.4	0.065	1.65	0.22
		0.12	3.05	0.39
		0.188	4.78	0.56
1.25	31.8	0.065	1.65	0.285
		0.12	3.05	0.5
1.5	38.1	0.065	1.65	0.34
		0.12	3.05	0.61
2	50.8	0.065	1.65	0.46
		0.12	3.05	0.83
2.5	63.5	0.065	1.65	0.585
		0.12	3.05	1.06
3	76.2	0.125	3.18	1.28
		0.25	6.35	2.54
4	101.6	0.125	3.18	1.85
		0.25	6.35	3.46
		0.5	9.53	6.47
5	127	0.25	6.35	4.39
		0.5	12.7	8.31
6	152.4	0.125	3.18	2.7
		0.25	6.35	5.31
		0.5	12.7	10.1
8	203.2	0.375	9.53	10.5
		0.5	12.7	13.8

Pipes



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
1/8	0.405	40	0.068	0.085
		80	0.095	0.109
1/4	0.54	40	0.088	0.147
		80	0.119	0.185
3/8	0.675	40	0.091	0.196
		80	0.126	0.256
1/2	0.84	5	0.065	0.5383
		10	0.083	0.671
		40	0.109	0.851
		80	0.109	0.851
		160	0.147	1.088
3/4	1.05	5	0.065	0.6838
		10	0.083	0.8572
		40	0.113	1.131
		80	0.113	1.131
		160	0.154	1.474
1	1.315	5	0.065	0.3
		10	0.109	0.486
		40	0.133	0.581
		80	0.179	0.751
		160	0.25	0.984
1 1/4	1.66	5	0.065	0.383
		10	0.109	0.625
		40	0.14	0.786
		80	0.191	1.037
		160	0.25	1.302
1 1/2	1.9	5	0.065	0.441
		10	0.109	0.721
		40	0.145	0.94
		80	0.2	1.256
		160	0.281	1.681
2	2.375	5	0.065	0.555
		10	0.109	0.913
		40	0.154	1.264
		80	0.218	1.737
		160	0.344	2.581

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
2 1/2	2.875	5	0.083	0.856
		10	0.12	1.221
		40	0.203	2.004
		80	0.276	2.65
		160	0.375	3.464
3	3.5	5	0.083	1.048
		10	0.12	1.498
		40	0.216	2.621
		80	0.3	3.547
		160	0.438	4.955
3 1/2	4	5	0.083	1.201
		10	0.12	1.72
		40	0.226	3.151
		80	0.318	4.326
4	4.5	5	0.083	1.354
		10	0.12	1.942
		40	0.237	3.733
		80	0.337	5.183
		120	0.438	6.573
		160	0.531	7.786
5	5.563	5	0.109	2.196
		10	0.134	2.688
		40	0.258	5.057
		80	0.375	7.188
		120	0.5	9.353
6	6.625	160	0.625	11.4
		5	0.109	2.624
		10	0.134	3.213
		40	0.28	6.564
		80	0.432	9.844
		120	0.562	12.95
		160	0.719	15.69

Pipes (continued)



Dimension (in)	Outside Diameter (in)	Schedule	Wall Thickness (in)	Weight (lb/ft)
8	8.625	5	0.109	3.429
		10	0.148	4.635
		20	0.25	7.735
		30	0.277	8.543
		40	0.322	9.878
		60	0.406	12.33
		80	0.5	15.01
		100	0.594	17.62
		120	0.719	21
		140	0.812	23.44
		160	0.906	25.84
10	10.75	5	0.134	5.256
		10	0.165	6.453
		20	0.25	9.698
		30	0.307	11.84
		40	0.365	14
		60	0.5	18.93
		80	0.594	22.29
		100	0.719	26.65
12	12.75	5	0.156	7.258
		10	0.18	8.359
		20	0.25	11.5
		30	0.33	15.14
		40	0.406	18.52
		60	0.562	25.31
		80	0.688	30.66

Round Bars



Dimension (in)	Dimension (mm)	Weight (lb/ft)
1/8	3.18	0.015
3/16	4.76	0.034
1/4	6.35	0.058
5/16	7.94	0.09
3/8	9.53	0.132
1/2	12.7	0.231
9/16	14.29	0.293
5/8	15.88	0.361
3/4	19.05	0.523
7/8	22.23	0.706
1	25.4	0.925
1 1/8	28.58	1.167
1 1/4	31.75	1.441
1 3/8	34.93	1.744
1 1/2	38.1	2.076
1 5/8	41.28	2.436
1 3/4	44.45	2.825
2	50.8	3.69
2 1/4	57.15	4.67
2 1/2	63.5	5.766
2 3/4	69.85	6.97
3	76.2	8.304
3 1/4	82.55	9.74
4	101.6	14.763
5	127	23.04
6	152.4	33.93
8	203.2	60.32

Flat Bars



Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
1/8	3.18	1/2	12.7	0.073
		3/4	19	0.112
		1	25.4	0.146
		1 1/4	31.8	0.184
		1 1/2	38.1	0.22
		2	50.8	0.294
		2 1/2	63.5	0.367
		3	76.2	0.44
		4	101.6	0.588
		5	127	0.734
3/16	4.76	1/2	12.7	0.11
		1	25.4	0.224
		1 1/4	31.8	0.275
		1 1/2	38.1	0.337
		2	50.8	0.441
		2 1/2	63.5	0.551
		3	76.2	0.661
		4	101.6	0.882
		8	203.2	1.8
1/4	6.35	1/2	12.7	0.147
		3/4	19	0.221
		1	25.4	0.31
		1 1/4	31.8	0.367
		1 1/2	38.1	0.45
		2	50.8	0.6
		2 1/2	63.5	0.734
		3	76.2	0.9
		3 1/2	88.9	1.028
		4	101.6	1.176
		5	127	1.47
		6	152.4	1.764
		8	203.2	2.352
		10	254	2.937

Flat Bars (continued)



Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
3/8	9.53	3/4	19	0.331
		1	25.4	0.45
		1 1/4	31.8	0.551
		1 1/2	38.1	0.671
		2	50.8	0.9
		2 1/2	63.5	1.101
		3	76.2	1.323
		4	101.6	1.8
		5	127	2.2
		6	152.4	2.646
		8	203.2	3.528
		10	254	4.41
		12	304.8	5.292
1/2	12.7	3/4	19	0.441
		1	25.4	0.59
		1 1/4	31.8	0.785
		1 1/2	38.1	0.9
		2	50.8	1.199
		2 1/2	63.5	1.469
		3	76.2	1.81
		3 1/2	88.9	2.056
		4	101.6	2.352
		5	127	2.941
		6	152.4	3.529
		8	203.2	4.704
		10	254	5.88
		12	304.8	7.058
5/8	15.88	1 1/2	38.1	1.103
		3	76.2	2.203
		4	101.6	2.95
3/4	19.05	1	25.4	0.881
		1 1/2	38.1	1.35
		2	50.8	1.818
		2 1/2	63.5	2.205
		3	76.2	2.65
		4	101.6	3.524
		5	127	4.391
		6	152.4	5.287
		8	203.2	7.08
		10	254	8.82
		12	304.8	10.57

Flat Bars (continued)



Thickness (in)	Thickness (mm)	Width (in)	Width (mm)	Weight (lb/ft)
1	25.4	1 1/2	38.1	1.762
		2	50.8	2.4
		2 1/2	63.5	2.937
		3	76.2	3.528
		4	101.6	4.8
		5	127	5.874
		6	152.4	7.049
		8	203.2	9.398
		10	254	11.76
		12	304.8	14.112
1 1/4	31.75	1 1/2	38.1	2.203
		2	50.8	2.94
		2 1/2	63.5	3.671
		3	76.2	4.406
		4	101.6	5.874
		8	203.2	11.8
1 1/2	38.1	2	50.8	3.528
		2 1/2	63.5	4.406
		3	76.2	5.292
		3 1/2	88.9	6.195
		4	101.6	7.049
		6	152.4	10.57
2	50.8	3	76.2	7.056
		4	101.6	9.398

Square Bars



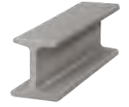
Dimension (in)	Dimension (mm)	Weight (lb/ft)
1/4	6.35	0.07
3/8	9.53	0.17
1/2	12.7	0.3
5/8	15.9	0.46
3/4	19	0.66
7/8	22.2	0.92
1	25.4	1.18
1 1/4	31.8	1.84
1 1/2	38.1	2.65
2	50.8	4.7
2 1/2	63.2	7.35
3	76.2	10.57
4	101.6	18.81

Hexagonal Bars

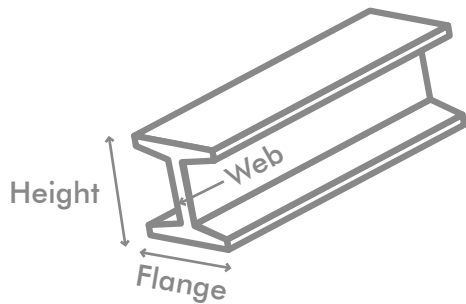


Dimension (in)	Dimension (mm)	Weight (lb/ft)
5/16	7.94	0.1
3/8	9.53	0.14
7/16	11.1	0.2
1/2	12.7	0.25
9/16	14.3	0.32
5/8	15.9	0.4
11/16	17.5	0.48
3/4	19	0.57
13/16	20.6	0.67
7/8	22.2	0.78
15/16	23.8	0.89
1	25.4	1.02
1 1/16	27	1.15
1 1/8	28.6	1.29
1 1/4	31.8	1.59
1 3/8	34.9	1.92
1 1/2	38.1	2.29
1 5/8	41.3	2.68

I-Beams



Height (in)	Flange Width (in)	Flange Thickness (in)	Weight (lb/ft)
3	2.5	0.188	2.16
4	3	0.188	2.67
5	3.5	0.25	4.04
6	3	0.25	3.92
	3.5	0.25	4.81
	4	0.281	5.47
8	5	0.313	8.73
9	4.5	0.313	8.53
10	6	0.375	11.35

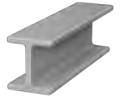


Height **Total vertical distance** between the two flanges of a beam.

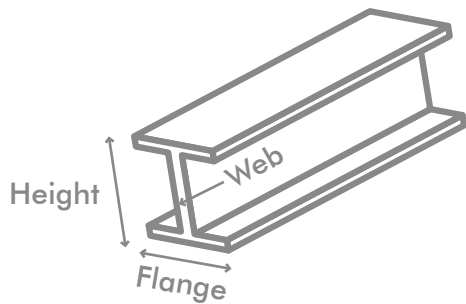
Flange **Horizontal part** of the beam at the top and bottom, which distributes the loads.

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

H-Beams



Height (in)	Flange Width (in)	Flange Thickness (in)	Weight (lb/ft)
3	3	0.25	2.641
4	4	0.25	4.12
5	5	0.313	6.279
6	6	0.25	5.339
		0.313	7.605
		0.375	9.64
8	8	0.375	13.04

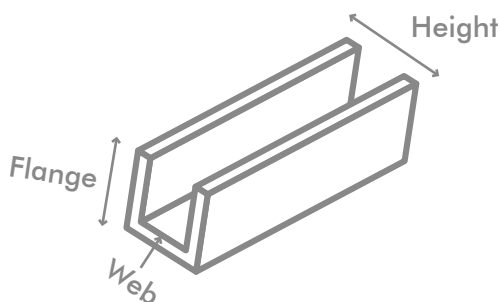


Height	Total vertical distance between the two flanges of a beam.
Flange	Horizontal part of the beam at the top and bottom, which distributes the loads.
Web	Central vertical wall connecting the two flanges, supporting shear forces.

U-Channels



Height (in)	Flange Width (in)	Flange Thickness (in)	Weight (lb/ft)
3/4	1/2	1/8	0.218
	3/4	1/8	0.294
1	1/2	1/8	0.258
	3/4	1/8	0.326
	1/2	1/8	0.33
	1	1/8	0.413
1 1/2	1	1/8	0.471
	1 1/2	1/8	0.622
2	1	1/8	0.543
	1 1/2	1/8	0.703
2 1/4	1	3/16	0.85
2 1/2	1 5/16	3/16	1.03
3	1	1/8	0.691
	1 1/2	3/16	1.48
	1 1/2	1/4	1.84
	2	1/4	2.18
4	1 1/2	1/4	1.93
	2	3/16	2.02
	1 3/4	1/4	2.24
	2	1/4	2.52
	2 1/2	1/4	2.9
5	2	3/16	2.5
	2	9/32	3.09
	2 1/2	1/4	3.54
6	2 1/2	1/4	3.51
	2	9/32	3.59
	2 3/4	1/4	4.07
	3 1/2	3/8	6.41
7	2 1/2	7/32	3.91
	3 1/2	1/4	4.72
8	2 3/4	1/4	4.65
	3	9/32	5.57
10	3 1/2	5/16	7.58



Height

Total vertical distance of the profile, measured between the outer edges of the flanges.

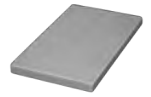
Flange

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.

Plates



Aluminum

Thickness (in)	Thickness (mm)	Weight (lb/ft²)
1/4	6.35	3.66
5/16	7.92	4.52
3/8	9.53	5.44
1/2	12.7	7.25
5/8	15.88	9.02
3/4	19.05	10.84
1	25.4	14.44
1 1/4	31.75	17.96
1 1/2	38.1	21.49
1 3/4	44.45	25.07
2	50.8	28.64
2 1/4	57.15	32.13
2 1/2	63.5	35.8
2 3/4	69.85	39.48
3	76.2	42.85
3 1/4	82.55	46.51
3 1/2	88.9	50.09
4	101.6	57.36
4 1/2	114.3	64.42
6	152.4	85.58

Aluminum — Flooring

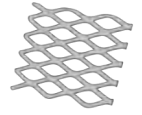
Thickness (in)	Thickness (mm)	Weight (lb/ft²)
1/16	1.59	1.008
1/8	3.18	1.9
3/16	4.78	2.8
1/4	6.35	3.7
3/8	9.53	5.5
1/2	12.7	7.4

Sheets



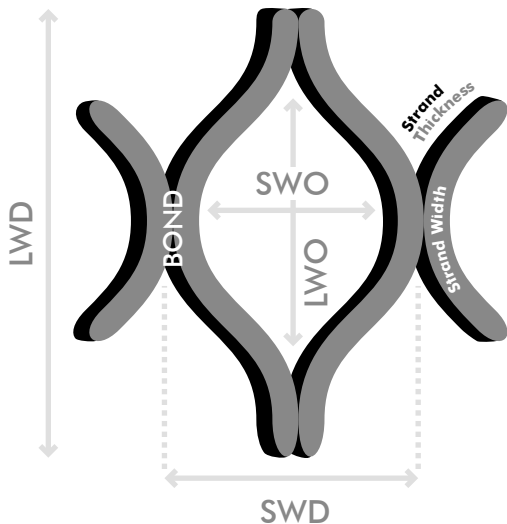
Gauges	Thickness (in)	Thickness (mm)	Weight (lb/ft ²)
10	0.1382	3.51	5.781
11	0.1233	3.132	5.156
12	0.1084	2.753	4.531
14	0.0785	1.994	3.281
16	0.0635	1.613	2.656
18	0.0516	1.311	2.156
20	0.0396	1.006	1.656
22	0.0336	0.853	1.406
24	0.0276	0.701	1.156
26	0.0217	0.551	0.906
28	0.0187	0.475	0.781
30	0.015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

Expanded Metals



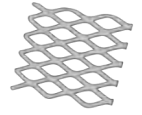
Flattened Aluminum

Patterns		Dimension		Thickness	Weight (lb/ft²)
		SWD	LWD		
3/16	0.032F	0.226	0.5	0.032	0.24
5/16	0.032F	0.375	1	0.032	0.2
1/2	0.051F	0.57	1.2	0.051	0.23
	0.081F	0.57	1.2	0.081	0.37
3/4	0.051F	1.09	2	0.051	0.16
	0.081LF	1.09	2	0.081	0.28
	0.081HF	1.09	2	0.081	0.38
	0.125F	1.09	2	0.12	0.62
	0.188F	1.15	2	0.18	1.05
1 1/2	0.081F	1.525	3	0.081	0.22
	0.125F	1.5	3	0.12	0.43



- 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.

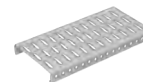
Expanded Metals (continued)



Regular Aluminum

Patterns		Dimension		Thickness	Weight (lb/ft ²)
		SWD	LWD		
3/16	0.032	0.2	1.2	0.032	0.23
1/2	0.051	0.5	1.2	0.051	0.27
	0.081	0.5	2	0.081	0.44
3/4	0.051	0.923	2	0.051	0.17
	0.064	0.923	2	0.064	0.22
	0.081	0.923	2	0.081	0.41
	0.081L	0.923	2	0.081	0.32
	0.081H	0.923	2	0.081	0.41
	0.125	0.923	2	0.125	0.65
	0.188	0.923	2	0.288	0.113
1 1/2	0.051	1.33	3	0.051	0.13
	0.081	1.333	3	0.081	0.22
	0.125	1.333	3	0.125	0.43

Security Mesh



Diamond Grip Safety Grating

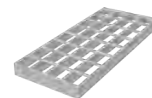
Width (in)	Type	Height (in)	Weight (lb/ft)
4 ¾ (2 diamonds)	0.08	2	0.93
7 (3 diamonds)	0.08	2	1.2
9 ½ (4 diamonds)	0.08	2	1.4
11 ¾ (5 diamonds)	0.08	2	1.6
18 ¾ (8 diamonds)	0.1	2	2.7



Embossed Pattern Safety Grating

Width (in)	Type	Height (in)	Weight (lb/ft)
5 (2 holes)	0.125	2	1.3
7 (3 holes)	0.125	2	1.5
10 (5 holes)	0.125	2	1.8
12 (6 holes)	0.125	2	2.1
18 (10 holes)	0.125	2	2.8

Gratings



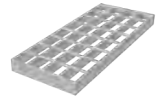
Mechanically Pressed Aluminum Grating (19SR)

Side Height (in)	Thickness (in)	19SR4 Weight (lb/ft ²)	19SR2 Weight (lb/ft ²)	Type
3/4	1/8	1.4	1.6	Plain
	3/16	1.9	2.1	Plain
1	1/8	1.7	1.9	Plain or Serrated
	3/16	2.5	2.7	Plain or Serrated
1 1/4	1/8	2.1	2.3	Plain or Serrated
	3/16	3.1	3.3	Plain or Serrated
1 1/2	1/8	2.5	2.7	Plain or Serrated
	3/16	3.7	3.9	Plain or Serrated
1 3/4	3/16	4.2	4.4	Plain or Serrated
2	3/16	4.8	5	Plain or Serrated
2 1/4	3/16	5.4	5.6	Plain or Serrated
2 1/2	3/16	5.9	6.1	Plain or Serrated

Pressed Aluminum Grating (19AP)

Side Height (in)	Thickness (in)	19AP4 Weight (lb/ft ²)	19AP2 Weight (lb/ft ²)	Type
3/4	1/8	1.4	1.6	Plain
	3/16	1.9	2.1	Plain
1	1/8	1.7	1.9	Plain or Serrated
	3/16	2.5	2.7	Plain or Serrated
1 1/4	1/8	2.1	2.3	Plain or Serrated
	3/16	3.1	3.3	Plain or Serrated
1 1/2	1/8	2.5	2.7	Plain or Serrated
	3/16	3.7	3.9	Plain or Serrated
1 3/4	3/16	4.2	4.4	Plain or Serrated
2	3/16	4.8	5	Plain or Serrated
2 1/4	3/16	5.4	5.6	Plain or Serrated
2 1/2	3/16	5.9	6.1	Plain or Serrated

Caillebotis (suite)



Mechanically Pressed Aluminum Grating (15SR)

Side Height (in)	Thickness (in)	15SR4 Weight (lb/ft ²)	15SR2 Weight (lb/ft ²)	Type
3/4	1/8	1.7	1.9	Plain
	3/16	2.3	2.8	Plain
1	1/8	2.1	2.4	Plain or Serrated
	3/16	3.1	3.3	Plain or Serrated
1 1/4	1/8	2.6	2.8	Plain or Serrated
	3/16	3.8	4	Plain or Serrated
1 1/2	1/8	3.1	3.3	Plain or Serrated
	3/16	4.5	4.8	Plain or Serrated
1 3/4	3/16	5.3	5.5	Plain or Serrated
2	3/16	6	6.2	Plain or Serrated
2 1/4	3/16	6.7	6.9	Plain or Serrated
2 1/2	3/16	7.4	7.8	Plain or Serrated

Pressed Aluminum Grating (15AP)

Side Height (in)	Thickness (in)	15AP4 Weight (lb/ft ²)	15AP2 Weight (lb/ft ²)	Type
3/4	1/8	1.8	2.1	Plain
	3/16	2.7	3.2	Plain
1	1/8	2.3	2.6	Plain or Serrated
	3/16	3.4	3.9	Plain or Serrated
1 1/4	1/8	2.9	3.3	Plain or Serrated
	3/16	4.3	5	Plain or Serrated
1 1/2	1/8	3.4	3.8	Plain or Serrated
	3/16	5	5.7	Plain or Serrated
1 3/4	3/16	5.7	6.4	Plain or Serrated
2	3/16	6.4	7.1	Plain or Serrated
2 1/4	3/16	7.2	7.8	Plain or Serrated
2 1/2	3/16	7.9	8.5	Plain or Serrated