

SPECIFICATIONS FOR CARBON STEEL PLATES

ASTM – A36 - Standard Specification for Carbon Steel.

This specification covers carbon steel plates for use in riveted, bolted, or welded construction of bridges and buildings, and for general structural purposes.

ASTM – A572 - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.

This specification covers five grades of high-strength low-alloy structural steel plates intended for riveted or bolted construction of bridges, or for riveted, bolted or welded construction in other applications.

ASTM – A588 - Standard Specification for High-Strength Low-Alloy Structural Steel.

This specification covers HSLA steel plates for welded, riveted or bolted construction but intended primarily for use in welded bridges and buildings where savings in weight and added durability are important. The atmospheric corrosion resistance of this steel is substantially better than that of carbon structural steels with or without copper added.

ASTM – A514 - Standard Specification for High-Yield-Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding.

This specification covers quenched and tempered alloy steel plates of structural quality intended primarily for use in welded bridge construction and other structures.

ASTM – A709 - Standard Specification for Carbon and High-Strength Low Alloy and Quenched-and-Tempered Alloy Structural Steel Plates for Bridges.

This specification covers carbon HSLA plates intended for use in bridges. Seven grades are available in four yield strength levels.

SPECIFICATIONS FOR CARBON STEEL PLATES

ASTM – A285 - Standard Specification for Pressure Vessel Plates, Carbon Steel, Low and Intermediate Tensile Strength.

This specification covers carbon steel plates of low and intermediate-tensile strength and is intended for fusion-welded pressure vessels. The plates are available in three grades having different strength levels.

ASTM – A515 - Standard Specification for Pressure Vessel Plates, Carbon Steel, for Intermediate and Higher-Temperature Service.

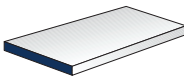
This specification covers carbon-silicon steel plates primarily for intermediate and higher-temperature service in welded boilers and other pressure vessels. The plates are available in three grades each having different strength levels.

ASTM – A516 - Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate and Lower-Temperature Service.

This specification covers carbon steel plates intended primarily for service in welded pressure vessels where improved notch toughness is important. The plates are available in four grades each having different strength levels.

PLATE

Commercial & Specification Grades

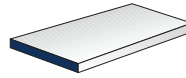


Average Mechanical Properties

Grade	Tensile Strength psi	Minimum Yield psi	Elongation In 2" Min %	Misc. Properties
Low Carbon 3/4" & Under 3/4-1 1/2				.10-.20 Carbon .15-.25 Carbon
Over 1 1/2"	ORDERED TO CHEMISTRY NO PHYSICALS SPECIFIED			.20-.33 Carbon
SPEC. GRADE				
ASTM A-36	50,000 to 80000	36,000	23	.25-.29 Carbon
ASTM T1-A	105,000 to 135.00.	90,000 to 100000	17 to 18	.229 to .293 Brinell
AR360	166,000	160,000	15	360 Brinell
AR400	190.00.	184,000	15	400 Brinell
ASTM A285 Grade C	55000 to 65,000	30,000	25	0.28 Carbon
ASTM A515 Grade 70	70000 to 85,000	38,000	17	.31 to .35 Carbon
ASTM A516 Grade 70	70000 to 85,000.	38,000	17	.27 to .31 Carbon
ASTM A572	65,000	50,000	21	0.23 Carbon
A588	70,000	50,000	19	20 Carbon

Stocked ABS Grade A

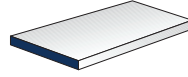
ABS Plate



ABS is plate that is certified to meet the American Bureau of Shipping standards. ABS is produced for maritime applications such as hull and structural parts of ships, barges, offshore rigs or general marine equipment. Available grades include A, B, AH, D, DH & EH. DH and AH are normalized for improved notch toughness

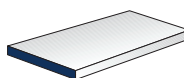
Size (in.)	Stock Sizes (in.)	Wt. Per Sq. Ft.	Wt. Per Sheet
1/4	96 x 240	10.21	1634.00
	96 x 480		3268.00
	120 x 480		4084.00
5/16	96 x 480	12.76	4083.20
3/8	96 x 240	15.32	2451.20
	96 x 288		2941.44
	96 x 360		3676.80
	96 x 480		4902.40
	120 x 240		3064.00
	120 x 480		6128.00
7/16	96 x 480	17.87	5718.40
1/2	96 x 240	20.42	3267.20
	96 x 360		4900.80
	96 x 480		6534.40
	120 x 240		4084.00
	120 x 480		8168.00
5/8	96 x 240	25.53	4084.80
	96 x 360		6127.20
	96 x 480		8169.60
	120 x 480		10212.00
3/4	96 x 240	30.63	4900.80
	96 x 480		9801.60
	120 x 480		12252.00
1	96 x 240	40.84	6534.40
	96 x 480		13068.80
	120 x 480		16336.00
1 1/8	96 x 240	45.95	7352.00
1 1/4	96 x 240	51.05	8168.00
1 3/8	96 x 240	56.16	8985.60
1 1/2	96 x 240	61.27	9803.20
1 5/8	96 x 240	66.37	10619.20
1 3/4	96 x 240	71.47	11435.20
2	96 x 240	81.68	13068.80
2 1/2	96 x 240	102.10	16336.00
2 3/4	96 x 240	112.31	17969.60
3	96 x 240	122.52	19603.20

Hot Rolled Plate



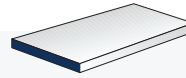
Size (in.)	Stock Sizes (in.)	Wt. Per Sq. Ft.	Wt. Per Sheet
3/16	48 x 96	7.66	245.12
	48 x 120		306.40
	48 x 144		367.68
	48 x 240		612.80
	60 x 120		383.00
	60 x 144		459.60
	60 x 240		777.00
	72 x 120		459.60
	72 x 240		919.20
1/4	96 x 240	10.21	1225.60
	48 x 96		326.72
	48 x 120		408.40
	48 x 144		490.08
	48 x 240		816.80
	60 x 120		510.50
	60 x 144		612.60
	60 x 240		1021.00
	72 x 120		612.60
	72 x 240		1225.20
	84 x 240		1429.40
	96 x 240		1633.60
5/16	96 x 480	12.76	3267.20
	120 x 480		4084.00
	48 x 96		408.32
	48 x 120		510.40
	48 x 144		612.48
	48 x 240		1020.80
	60 x 120		638.00
	60 x 144		765.60
	60 x 240		1276.00
	72 x 240		1531.20
	84 x 240		1786.40
	96 x 240		2041.60
3/8	96 x 480	15.32	4083.20
	120 x 480		5104.00
	48 x 96		490.24
	48 x 120		612.80
	48 x 144		735.36
	48 x 240		1225.60
	60 x 120		766.00
	72 x 120		919.20
	72 x 240		1838.40

Hot Rolled Plate



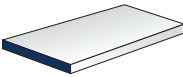
Size (in.)	Stock Sizes (in.)	Wt. Per Sq. Ft.	Wt. Per Sheet
3/8 (con't)	84 x 240	15.32	2144.80
	96 x 240		2451.20
	96 x 360		3676.80
	96 x 480		4902.40
	120 x 240		3064.00
	120 x 480		6128.00
1/2	48 x 96	20.42	653.44
	48 x 120		816.80
	48 x 144		980.16
	60 x 120		1021.00
	72 x 120		1225.20
	72 x 240		2450.40
	84 x 240		2858.80
	96 x 240		3267.20
	96 x 360		4900.80
	96 x 480		6534.40
	120 x 480		8168.00
5/8	48 x 96	25.53	816.96
	48 x 120		1021.20
	48 x 240		2042.40
	60 x 120		1276.50
	72 x 120		1531.80
	72 x 240		3063.60
	84 x 240		3574.20
	96 x 240		4084.80
	96 x 480		8169.60
3/4	48 x 96	30.63	980.16
	48 x 120		1225.20
	60 x 120		1531.50
	72 x 240		3675.60
	84 x 240		4288.20
	96 x 240		4900.80
	96 x 480		9801.60
7/8	48 x 96	35.74	1143.68
	48 x 120		1429.60
	48 x 240		2859.20
	60 x 120		1787.00
	72 x 120		2144.40
	72 x 240		4288.80
	84 x 240		5003.60
	96 x 240		5718.40
	96 x 480		11436.80

Hot Rolled Plate



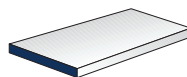
Size (in.)	Stock Sizes (in.)	Wt. Per Sq. Ft.	Wt. Per Sheet
1	48 x 96	40.84	1306.88
	48 x 120		1633.60
	48 x 240		3267.20
	60 x 96		1633.60
	60 x 120		2042.00
	60 x 240		4084.00
	72 x 120		2450.40
	72 x 240		4900.80
	72 x 480		9801.60
	96 x 120		3267.20
	96 x 240		6534.40
	96 x 480		13068.80
	120 x 240		8168.00
	120 x 480		16336.00
1 1/8	96 x 240	45.95	7352.00
	120 x 240		9190.00
1 1/4	48 x 120	51.05	2042.00
	48 x 240		4084.00
	60 x 120		2552.50
	72 x 240		6126.00
	96 x 240		8168.00
1 1/2	48 x 96	61.26	1960.32
	48 x 120		2450.40
	48 x 240		4900.80
	60 x 120		3063.00
	72 x 240		7351.20
	96 x 240		9801.60
1 3/4	48 x 96	71.47	2287.04
	48 x 120		2858.80
	96 x 240		11435.20
2	48 x 96	81.68	2613.76
	48 x 120		3267.20
	48 x 240		6534.40
	96 x 240		13068.80
2 1/4	48 x 96	91.89	2940.48
	48 x 240		7351.20
	96 x 240		14702.40
2 1/2	48 x 96	102.10	3267.20
	48 x 240		8168.00
	96 x 240		16336.00
2 3/4	48 x 96	112.31	3593.92
	96 x 240		17969.60
3	96 x 144	122.52	11761.92
	96 x 240		19603.20

Hot Rolled Plate



Size (in.)	Stock Sizes (in.)	Wt. Per Sq. Ft.	Wt. Per Sheet
3 1/2	96 x 144	142.93	13721.28
	96 x 240		22868.80
4	96 x 144	163.36	15682.56
	96 x 240		26137.60
4 1/2	96 x 144	183.78	17642.88
	96 x 240		29404.80
5	48 x 96	204.20	6534.40
	96 x 144		19603.20
	96 x 240		32672.00
5 1/2	60 x 120	224.61	11230.50
	60 x 240		22461.00
	60 x 480		44922.00
6	60 x 240	245.03	24503.00
	60 x 480		49006.00
	72 x 120		14701.80
	72 x 240		29403.60
	96 x 120		19602.40
	96 x 240		39204.80
6 1/2	96 x 120	265.45	21236.00
	96 x 240		42472.00
7	60 x 120	285.87	14293.50
	60 x 240		28587.00
	96 x 120		22869.60
	96 x 240		45739.20
8	60 x 120	326.71	16335.50
	60 x 240		32671.00
10	84 x 120	408.38	28586.60

Floor Plate



Thickness	Stock Sizes (in.)	Wt. Per Sq. Ft.	Wt. Per Sheet
1/8	48 x 96	6.16	197.12
	48 x 120		246.40
	48 x 144		295.68
	48 x 240		492.80
	60 x 120		308.00
	60 x 240		616.00
3/16	48 x 96	8.71	278.72
	48 x 120		348.84
	48 x 240		696.80
	60 x 120		435.50
	60 x 240		871.00
	72 x 240		1045.20
1/4	48 x 96	11.26	360.32
	48 x 120		450.40
	48 x 240		900.80
	60 x 240		1126.00
	72 x 240		1351.20
	96 x 240		1801.60
5/16	48 x 120	13.81	552.40
	48 x 240		1104.80
	60 x 240		1381.00
	72 x 240		1657.20
	96 x 240		2209.60
3/8	48 x 120	16.37	654.80
	48 x 240		1309.60
	60 x 240		1637.00
	72 x 240		1964.40
	96 x 240		2619.20
1/2	48 x 120	21.47	858.80
	48 x 240		1717.60
	60 x 240		2147.00
	96 x 240		3435.20
5/8	96 x 240	26.58	4252.80
3/4	96 x 240	31.68	5068.80
1	96 x 240	41.89	6702.40

SHEET SELECTION GUIDE

HOT ROLLED

Commercial Quality Sheets produced from low carbon steel and intended for uses involving simple bending or moderate drawing and welding. A wide variety of applications from agriculture implements to automotive equipment, from blower and ventilating systems to hot air registers, from stub barrels and drums to bins and partitions.

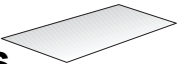
HOT ROLLED PICKLED & OILED

Pickled & Oiled Sheets should be used when the tight oxide scale present on Hot Rolled Sheets is objectionable. Pickled and Oiled Sheets with their superior smooth clean surface are recommended for stamping or ordinary drawing applications. After cleaning they can be painted or enameled.

COLD ROLLED

Cold Rolled Commercial Quality Sheets are produced from low carbon steel and are intended for exposed or unexposed parts involving bending, moderate drawing or forming and welding. Sheets of this quality have a greater degree of ductility and are more consistent in performance because of higher standards in production, selection, and processing of the steel. The surface finish is a dull matte texture.

Hot Rolled Steel Sheets



Commercial Quality - Low Carbon

Gauge Number	Stock Sizes (In.)	Wt. Per Sq. Ft.	Wt. Per Sheet
16 Ga.	48 x 96	2.5	80
	48 x 120		100
	48 x 144		120
	60 x 96		100
	60 x 120		125
	60 x 144		150
14 Ga.	48 x 96	3.125	100
	48 x 120		125
	48 x 144		150
	60 x 96		125
	60 x 120		156.3
	60 x 144		187.5
12 Ga.	48 x 96	4.375	140
	48 x 120		175
	48 x 144		210
	60 x 96		175
	60 x 120		218.8
	60 x 144		262.5
	72 x 120		262.5
	72 x 144		315
11 Ga.	48 x 96	5	160
	48 x 120		200
	48 x 144		240
	60 x 96		200
	60 x 120		250
	60 x 144		300
	72 x 120		300
	72 x 144		360
	72 x 240		600
10 Ga.	48 x 96	5.625	180
	48 x 120		225
	48 x 144		270
	60 x 96		225
	60 x 120		281.3
	60 x 144		337.5
	72 x 120		337.5
	72 x 144		405
	72 x 240		675

Sheet Product

AISI Thickness Tolerance Range



Gauge Number	Thickness Inches					
	H.R. & H.R.P.O.		C.R.		Galv.	
	Dec. Equiv.	Tolerance Range	Dec. Equiv.	Tolerance Range	Dec. Equiv.	Tolerance Range
7	0.1793	0.1873 0.1713	0.1793	0.1883 0.1703		
8	0.1644	0.1724 0.1564	0.1644	0.1734 0.1554		
9	0.1495	0.1575 0.1415	0.1495	0.1585 0.1405		
10	0.1345	0.1425 0.1265	0.1345	0.1405 0.1285	0.1382	0.1472 1292.0000
11	0.1196	0.1276 0.1116	0.1196	0.1256 0.1136	0.1233	0.1323 0.1143
12	0.1046	0.1126 0.0966	0.1046	0.1106 0.0986	0.1084	0.1174 0.0994
13	0.0897	0.0967 0.0827	0.0897	0.0947 0.0847	0.0934	0.1014 0.0854
14	0.0747	0.0817 0.0677	0.0747	0.0797 0.0697	0.0785	0.0865 0.0705
15	0.0673	0.0733 0.0613	0.0673	0.0723 0.0623	0.0710	0.0770 0.0650
16	0.0598	0.0658 0.0538	0.0598	0.0648 0.0548	0.0635	0.0695 0.0575
17	0.0538	0.0598 0.0478	0.0538	0.0578 0.0498	0.0575	0.0625 0.0525
18	0.0478	0.0528 0.0428	0.0478	0.0518 0.0438	0.0516	0.0566 0.0466
19	0.0418	0.0458 0.0378	0.0456	0.0506 0.0406		
20	0.0359	0.0389 0.0329	0.04	0.0436 0.0356		
21	0.0329	0.0359 0.0299	0.037	0.0406 0.0326		
22	0.0299	0.0329 0.0269	0.034	0.0376 0.0296		
23	0.0269	0.0299 0.0239	0.031	0.0346 0.0266		
24	0.0239	0.0269 0.0209	0.028	0.0316 0.0236		
25	0.0209	0.0239 0.0719	0.025	0.0287 0.0207		
26	0.0179	0.0199 0.0159	0.022	0.0247 0.0187		
27	0.0164	0.0184 0.0144	0.02	0.0232 0.0172		
28	0.0149	0.0169 0.0129	0.019	0.0217 0.0157		
29	0.0135	0.0155 0.0115	0.017	0.0202 0.0142		
30	0.012	0.013 0.011	0.016	0.0187 0.0127		