

ASTM A240 specification covers stainless steel plates, sheets and strips for pressure vessels and general applications

This specification covers chromium, chromium-nickel, and chromium-manganese-nickel stainless steel plate, sheet, and strip for pressure vessels and for general applications including architectural, building, construction, and aesthetic applications.

ASTM A240 steel plate covers Austenitic Steels, Ferritic steels and Martensitic Steels. 304/304L, 316/316L is common stainless steel grades for many industries, We can provide best quality of ASTM A240 steel plate for your project,

316 / 316L stainless steel plate provides more effective corrosion and pitting protection than 304 stainless steel due to increased levels of molybdenum and nickel in the alloy. It exhibits the same high strength, toughness, high temperature and high workability as 304 stainless alloys.

316 Molybdenum bearing alloy with better overall corrosion resistance than 304 and higher creep strength at elevated temperatures.

316L Same characteristics as 316 with a lower Carbon content .03 max. Good corrosion resistance in high temperature intermittent service. Used when post weld annealing is impossible. The lower carbon content reduces Carbide precipitation in the welded zone

Applications

316L plate/316L Sheet is used to manufacture products for applications that are exposed to salt water, acids such as sulfuric acid and chloride, petrochemicals and chemicals and high-heat such as engines and motors. Products include tanks, supports and frames, enclosures and housings, engine, motor and machinery components and parts.

ASTM A240 316L Plate Dimension:

Product	Thickness (mm)	Width (mm)
Cold rolled coils(2D/2B/BA)	0.3-3mm	800-1300
Hot rolled coils(No.1)	2-10mm	800-2000
Stainless steel sheet/Plate	0.3-100mm	800-2000

Chemical Composition of ASTM A240 316/ ASTM A240 316L stainless Steel Plate

Chemical Composition of 316/316L steel		
Element	316	316L
Carbon	0.08	0.030 max
Chromium	16.0-18.0	16.0-18.0
Nickel	10.0-14.0	10.0-14.0
Molybdenum	2.00-3.00	2.00-3.00
Manganese	2.00	2.00
Silicon	0.75	0.75
Nitrogen	0.10	0.10
Phosphorus	0.045	0.045
Sulfur	0.030	0.030

Mechanical Properties of ASTM A240 316/ ASTM A240 316L Steel Plate

Mechanical Property of 316/316L	316	316L
Yield Strength, min. (ksi)	30	25
Tensile Strength, min. (ksi)	75	70
Elongation, min. (%)	40	40
Hardness, max. (Rb)	95	95

ASTM-A480 › Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip

Table A2.17 Permitted Variation in Thickness of Hot-Rolled Mill Plate (Quarto Plate)*,

Width (w), in. [mm]

Specified Thickness (t), in. [mm]	w ≤ 84 [2134]	84 [2134] < w ≤ 120 [3048]	120 [3048] < w ≤ 144 [3658]	w > 144 [3658]
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Tolerance Over Specified Thickness, * in. [mm]**

t < 3/16 [4.76]	0.055 [1.35]	0.070 [1.78]	—	—
3/16 [4.76] ≤ t < 3/8 [9.52]	0.045 [1.14]	0.050 [1.27]	0.085 [2.16]	—
3/8 [9.52] ≤ t < 3/4 [19.05]	0.055 [1.40]	0.060 [1.52]	0.085 [2.16]	0.090 [2.29]
3/4 [19.05] ≤ t < 1 [25.04]	0.060 [1.52]	0.065 [1.65]	0.085 [2.16]	0.100 [2.54]
1 [25.40] ≤ t < 2 [50.80]	0.070 [1.78]	0.075 [1.90]	0.095 [2.41]	0.115 [2.92]
2 [50.80] ≤ t < 3 [76.20]	0.125 [3.20]	0.150 [3.80]	0.175 [4.45]	0.200 [5.08]
3 [76.20] ≤ t < 4 [101.6]	0.150 [3.81]	0.160 [4.06]	0.200 [5.08]	0.225 [5.72]
4 [101.6] ≤ t < 6 [152.4]	0.180 [4.75]	0.200 [5.08]	0.335 [8.50]	0.355 [9.02]
6 [152.4] ≤ t < 8 [203.2]	0.235 [6.00]	0.255 [6.48]	0.355 [9.02]	0.435 [11.0]
8 [203.2] ≤ t < 10 [254.0]	0.315 [8.00]	0.335 [8.50]	0.435 [11.0]	0.550 [14.0]

* Thickness is measured along the longitudinal edges of the plate at least 3/8 in. [9.52mm], but not more than 3 in. [76.20 mm], from the edge.

** For plates up to 10 in. [254.0mm], excl, in thickness, the tolerance under the specified thickness is 0.010 in. [0.25 mm].

*** For circles, the over thickness tolerances in this table apply to the diameter of the circle corresponding to the width ranges shown. For plates of irregular shape, the over thickness tolerances apply to the greatest width corresponding to the width ranges shown.

Below is the Tolerance for Flatness taken from ASTM A480
(Understand that this covers Mill Plates and not cut pieces)

Table A2.20 Permitted Variations in Flatness of Plate Mill Plate (Quarto Plate)

Note 1 — Tolerances in this table apply to any length, not necessarily the rolling direction, up to 36 in. [914mm] and to any 36 in. [914mm] of longer lengths in the plane of the plate measured while the plate rests on a flat surface with the concavity of the curvature upward.

Note 2 — If the longer dimension is under 36 in. [914mm], the tolerance is not greater than 1/4 in. [6.4mm].

Note 3 — for plates with specified minimum yield strengths of 35 ksi [240MPa] or more, the permitted variations are increased to 1 1/2 times the amounts shown.

Specified Thickness (t), in. [mm]	Flatness Tolerance for Thicknesses Given, in. [mm]
$t < 1/4$ [6.35]	7/16 [11]
$1/4$ [6.35] $\leq t < 3/8$ [9.52]	3/8 [9.5]
$3/8$ [9.52] $\leq t < 1/2$ [12.70]	5/16 [7.9]
$1/2$ [12.70] $\leq t < 3/4$ [19.05]	5/16 [7.9]
$3/4$ [19.05] $\leq t < 1$ [25.40]	5/16 [7.9]
1 [25.40] $\leq t < 1\ 1/2$ [38.10]	1/4 [6.4]
$1\ 1/2$ [38.10] $\leq t < 4$ [101.60]	1/4 [6.4]
$t \geq 4$ [101.60]	1/4 [6.4]

316L/NO. 1 5X1500 120154350200



