

ASTM A480 Plate Thickness & Flatness Tolerances

Tolerance below apply to the following alloys: RA 253 MA, RA330, RA333, ZERON 100, AL-6XN, 304, 309, 316, 321, 347, 410, 446, 2205, 2507, 2101, 17-4, 15-5, 800

Tolerances listed were taken from ASTM A480 (Reference Only)

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]
	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	0.050 [1.27]	0.085 [2.16]	51_
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]



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- * 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] ≤ t < 3/8 [9.52]	3/8 [9.5]		
3/8 [9.52] ≤ t < 1/2 [12.70]	5/16 [7.9]		
1/2 [12.70] ≤ t < 3/4 [19.05]	5/16 [7.9]		
3/4 [19.05] ≤ t < 1 [25.40]	5/16 [7.9]		
1 [25.40] ≤ t < 1 1/2 [38.10]	1/4 [6.4]		
1 1/2 [38.10] ≤ t < 4 [101.60]	1/4 [6.4]		
t ≥ 4 [101.60]	1/4 [6.4]		