

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. [914 mm] and to any 36 in. [914 mm] 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. [914 mm], the tolerance is not greater than ¼ in. [6.4 mm].

NOTE 3 – For plates with specified minimum yield strengths of 35 ksi [240 MPa] or more, the permitted variations are increased to 1 ½ times the amounts shown.

Specified Thickness (t), in. [mm]	Flatness Tolerance for Thicknesses Given, in. [mm]
$t < \frac{1}{4}$ [6.35]	$\frac{1}{16}$ [1.1]
$\frac{1}{4}$ [6.35] $\leq t < \frac{3}{8}$ [9.52]	$\frac{3}{8}$ [9.5]
$\frac{3}{8}$ [9.52] $\leq t < \frac{1}{2}$ [12.70]	$\frac{5}{16}$ [7.9]
$\frac{1}{2}$ [12.70] $\leq t < \frac{3}{4}$ [19.05]	$\frac{5}{16}$ [7.9]
$\frac{3}{4}$ [19.05] $\leq t < 1$ [25.40]	$\frac{5}{16}$ [7.9]
1 [25.40] $\leq t < 1\frac{1}{2}$ [38.10]	$\frac{1}{4}$ [6.4]
$1\frac{1}{2}$ [38.10] $\leq t < 4$ [101.60]	$\frac{1}{4}$ [6.4]
$t \geq 4$ [101.60]	$\frac{1}{4}$ [6.4]

Permitted Variations in Thickness of Hot-Rolled Mill Plate (Quarto Plate)^{A,B}

Specified Thickness (t), in. [mm]	Width (w), in. [mm]			
	$w \leq 84$ [2134]	84 [2134] $< w \leq 120$ [3048]	120 [3048] $< w \leq 144$ [3658]	$w \leq 144$ [3658]
	Tolerance Over Specified Thickness ^{C,D} , in. [mm]			
$t < \frac{3}{16}$ [1.40]	0.055 [135]	0.070 [1.78]	---	---
$\frac{3}{16}$ [1.40] $\leq t < \frac{3}{8}$ [9.52]	0.045 [1.14]	0.050 [1.27]	0.085 [2.16]	---
$\frac{3}{8}$ [9.52] $\leq t < \frac{3}{4}$ [19.05]	0.055 [1.40]	0.060 [1.52]	0.085 [2.16]	0.090 [2.29]
$\frac{3}{4}$ [19.05] $\leq t < 1$ [25.40]	0.060 [1.52]	0.065 [1.65]	0.085 [2.16]	0.100 [2.54]
1 [25.40] $\leq t < 2$ [50.80]	0.070 [1.78]	0.075 [1.90]	0.095 [2.41]	0.115 [2.92]
2 [50.80] $\leq t < 3$ [76.20]	0.125 [3.20]	0.150 [3.80]	0.175 [4.45]	0.200 [5.08]
3 [76.20] $\leq t < 4$ [101.6]	0.150 [3.81]	0.160 [4.06]	0.200 [5.08]	0.225 [5.72]
4 [101.6] $\leq t < 6$ [152.4]	0.180 [4.57]	0.200 [5.08]	0.335 [8.50]	0.355 [9.02]
6 [152.4] $\leq t < 8$ [203.2]	0.235 [6.00]	0.255 [6.48]	0.355 [9.02]	0.435 [11.0]
8 [203.2] $\leq t < 10$ [254.0]	0.315 [8.00]	0.335 [8.50]	0.435 [11.0]	0.550 [14.0]

^A Thickness is measured along the longitudinal edges of the plate at least ⅜ in. [9.52 mm], but not more than 3 in. [76.20mm], from the edge.

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

^C 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.

^D The tolerance over specified thickness in the area more than 3 inches in from the longitudinal edges of the plate at the mill produced width shall not exceed twice the tabular tolerance.

Source: ASME SA480 Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet and Strip