THICKNESS TOLERANCES

Cold Rolled Sheets in cut Lengths and Coils
Stainless and Heat Resisting Steels

Specified Thickness,[a] in (mm)	Permissible Variations, Over and Under [b] in	mm
0.005 (0.13)	0.001	0.03
Over 0.005 to 0.007 (0.13 to 0.18), incl.	0.0015	0.04
Over 0.007 to 0.016 (0.18 to 0.41), incl.	0.002	0.05
Over 0.016 to 0.026 (0.41 to 0.66), incl.	0.003	0.08
Over 0.026 to 0.040 (0.66 to 1.02), incl.	0.004	0.10
Over 0.040 to 0.058 (1.02 to 1.47), incl.	0.005	0.13
Over 0.058 to 0.072 (1.47 to 1.83), incl.	0.006	0.15
Over 0.072 to 0.083 (1.83 to 2.11), incl.	0.007	0.18
Over 0.083 to 0.098 (2.11 to 2.19), incl.	0.008	0.20
Over 0.098 to 0.114 (2.49 to 2.90), incl.	0.009	0.23
Over 0.114 to 0.130 (2.90 to 3.30), incl.	0.010	0.25
Over 0.130 to 0.145 (3.30 to 3.68), incl.	0.012	0.30
Over 0.145 to 3/16 (3.68 to 4.76), excl.	0.014	0.36

a. Thickness measurements are taken at least 3/8 in (9.52 mm) from the edge of the sheet.

b. Cold rolled sheets in cut lengths and coils are produced in some type numbers and some widths and thicknesses to tolerances less than those shown in the table.

c. The tolerances shown are based on ASTM A480.

WIDTH TOLERANCES

Hot Rolled Sheets and Cold Rolled Sheets Not Resquared And Cold Rolled Sheets in Coils Stainless and Heat Resisting Steels

	Tolerances, in (mm) for Specified Width	
Specified Thickness, in (mm)	**24 to 48 (610 to 1,219), excl.**	**48 (1,219) and Over**
All thicknesses	1/16 (1.59) over, 0 under	1/8 (3.8) over, 0 under

NOTE: Tolerances shown are based on ASTM A480.

WIDTH AND LENGTH TOLERANCES
Stainless Sheared Mill Plates

		Tolerances, in inches over specified width & length for given width, length and thickness					
		Under 3/8" Thick		3/8" to 1/2" Thick, Incl.		Over 1/2" to 1" Thick, Incl.	
Width In Inches	Length in Inches	Width	Length	Width	Length	Width	Length
48 and Under	144	1/8	3/16	3/16	1/4	5/16	3/8
Over 48 to 60, incl.	and	3/16	1/4	1/4	5/16	3/8	7/16
Over 60 to 84, incl.	Under	1/4	5/16	5/16	3/8	7/16	1/2
Over 84 to 108, incl.		5/16	3/8	3/8	7/16	1/2	9/16
Over 108		3/8	7/16	7/16	1/2	5/8	11/16
48 and Under	Over	3/16	3/8	1/4	1/2	5/16	5/8
Over 48 to 60, incl.	144	1/4	7/16	5/16	5/8	3/8	3/4
Over 60 to 84, incl.	To	3/8	1/2	7/16	11/16	1/2	3/4
Over 84 to 108, incl.	240	7/16	9/16	1/2	3/4	5/8	7/8
Over 108		1/2	5/8	5/8	7/8	11/16	1
48 and Under	Over	1/4	1/2	5/16	5/8	3/8	3/4
Over 48 to 60, incl.	240	5/16	5/8	3/8	3/4	1/2	3/4
Over 60 to 84, incl.	to	7/16	11/16	1/2	3/4	5/8	7/8
Over 84 to 108, incl.	360	9/16	3/4	5/8	7/8	3/4	1
Over 108		5/8	7/8	11/16	1	7/8	1
60 and Under	Over	7/16	1-1/8	1/2	1-1/4	5/8	1-3/8
Over 60 to 84, incl.	360	1/2	1-1/4	5/8	1-3/8	3/4	1-1/2
Over 84 to 108, incl.	to	9/16	1-1/4	3/4	1-3/8	7/8	1-1/2
Over 108	480	3/4	1-3/8	7/8	1-1/2	1	1-5/8
60 and Under	Over	7/16	1-1/4	1/2	1-1/2	5/8	1-5/8
Over 60 to 84, incl.	480	1/2	1-3/8	5/8	1-1/2	3/4	1-5/8
Over 84 to 108, incl.	to	5/8	1-3/8	3/4	1-1/2	7/8	1-5/8
Over 108	600	3/4	1-3/8	7/8	1-1/2	1	1-5/8
60 and Under	Over	1/2	1-3/4	5/8	1-7/8	3/4	1-7/8
Over 60 to 84, incl.	600	5/8	1-3/4	3/4	1-7/8	7/8	1-7/8
Over 84 to 108, incl.		5/8	1-3/4	3/4	1-7/8	7/8	1-7/8
Over 108		7/8	1-3/4	1	2	1-1/8	2-1/4

The tolerance under specified width and length is 1/4 inch.

CAMBER TOLERANCES

Hot Rolled Sheets and Cold Rolled Sheets Not Resquared and Cold Rolled Sheets in Coils Stainless and Heat Resisting Steels (ASTM A480)

Camber is the greatest deviation of a side edge from a straight line, and measurement is taken by placing an 8 ft. (2,438 mm) straight edge on the concave side and measuring the greatest distance between the sheet edge and the straight edge.

Specified Width, In (mm)	Tolerance, in (mm) per Unit Length of 8 ft (2,438 mm)
24 to 36 (610 to 914), incl.	1/8 (3.18)
Over 36 (914)	3/32 (2.38)

LENGTH TOLERANCES

Hot Rolled Sheets and Cold Rolled Sheets Not Resquared Stainless and Heat Resisting Steels (ASTM A480)

Length, in (mm)	Tolerance, in (mm)
Up to 120 (3,048), incl.	1/4 (6.35) over, 0 under
Over 120 to 240 (3,048 to 6,096)	1/2 (12.70) over, 0 under

FLATNESS TOLERANCES

Hot Rolled Sheets and Cold Rolled Sheets, Specified to Stretcher Leveled Standard of Flatness, Not including Hard Tempers of 2xx and 3xx series Stainless and Heat Resisting Steels

Specified Thickness, in (mm)	Width, in (mm)	Length, in (mm)	Flatness Tolerance,[a] in (mm)
All	To 48 (1,219), incl.	To 96 (2,438), incl.	1/8 (3.18)
All	To 48 (1,219), incl.	Over 96 (2,438)	1/4 (6.35)
All	Over 48 (1,219)	To 96 (2,438), incl.	1/4 (6.35)
All	Over 48 (1,219)	Over 96 (2,438)	1/4 (6.35)

a. Maximum deviation from a horizontal flat surface.
NOTE: Tolerances shown are based on ASTM A480.

FLATNESS TOLERANCES

Hot Rolled Sheets and Cold Rolled Sheets, Not Specified to Stretcher Leveled Standard of Flatness, Not Including Hard Tempers of 2xx and 3xx Series, Dead Soft Sheets and Deep Drawing Sheets Stainless and Heat Resisting Steels (ASTM A480)

Specified Thickness, in (mm)	Width, in (mm)	Flatness Tolerance,[a] in (mm)
Under 0.062 (1.57)	To 36 (914), incl.	1/2 (12.70)
incl.	Over 36 to 60 (914 to 1,524),	3/4 (19.05)
	Over 60 (1,564)	1 (25.40)
0.062 (1.57) and over	To 60 (1,524), incl.	1/2 (12.70)
	Over 60 to 72 (1,524 to 1,829), incl.	3/4 (19.05)

a. Maximum deviation from a horizontal flat surface.

RECOMMENDED MACHINING ALLOWANCES FLAME CUT PLATES

Including Circles, Rings and Sketched Stainless and Heat Resisting Steels (ASTM A480)

Specified Thickness, in (mm)	Machining Allowance per Edge, in (mm)
2 (51) and under	1/4 (6.35)
Over 2 to 3 (51 to 76), incl.	3/8 (9.52)
Over 3 to 6 (76 to 152), incl.	1/2 (12.70)

NOTE: The above minimum recommended machining allowances are to be added by the purchaser to each edge on all flame cut plates.

THICKNESS TOLERANCES FOR PLATES
Stainless and Heat Resisting Steels

	Width,[a] in (mm)			
	To 84 (2,134), incl.	Over 84 to 120 (2,134 to 3,048), incl.	Over 120 to 144 (3,048 to 3,658), incl.	Over 144 (3,658)
Specified thickness, in (mm)	Tolerance, in (mm), Over Specified Thickness[b]			
3/16 to 3/8 (4.76 to 9.52), excl.	0.045 (1.14)	0.050 (1.27)	—	—
3/8 to 3/4 (9.52 to 19.05), excl.	0.055 (1.40)	0.060 (1.52)	0.075 (1.90)	0.090 (2.29)
3/4 to 1 (19.05 to 25.40), excl.	0.060 (1.52)	0.065 (1.65)	0.085 (2.16)	0.100 (2.54)
1 to 2 (25.40 to 50.80), excl.	0.070 (1.78)	0.075 (1.90)	0.095 (2.41)	0.115 (2.92)
2 to 3 (50.80 to 76.20), excl.	0.125 (3.18)	0.150 (3.81)	0.175 (4.44)	0.200 (5.08)
3 to 4 (76.20 to 101.60), excl.	0.175 (4.44)	0.210 (5.33)	0.245 (6.22)	0.280 (7.11)
4 to 6 (101.60 to 152), excl.	0.250 (6.35)	0.300 (7.62)	0.350 (8.89)	0.400 (10.16)
6 to 8 (152 to 203), excl.	0.350 (8.89)	0.420 (10.67)	0.490 (12.45)	0.560 (14.22)
8 to 10 (203 to 254), excl.	0.450 (11.43)	0.540 (13.72)	0.630 (16.00)	—

a. Thickness is measured along the longitudinal edges of the plate at least 3/8 in (9.52 mm), but not more than 3 in (76.20 mm) from the edge.
b. 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. For plates up to 10 in (254 mm), incl. in thickness, the tolerance under the specified thickness is 0.010 in (0.25 mm).

FLATNESS TOLERANCES

Annealed Plates
Stainless and Heat Resisting Steels
(ASTM A480)

Specified Thickness, in	Flatness tolerance (Deviation from a Horizontal Flat Surface), in, for Thicknesses and Width Given								
	Width, in								
	48 or Under	Over 48 to 60, excl.	60 to 72 excl.	72 – 84 excl.	84 to 96 excl.	96 to 108 excl.	108 to 120 excl.	120 to 144 excl.	144 and Over
3/16 to 1/4, excl.	3/4	1-1/16	1-1/4	1-3/8	1-5/8	1-5/8	1-7/8	2	—
1/4 to 3/8, excl.	11/16	3/4	15/16	1-1/8	1-3/8	1-7/16	1-9/16	1-7/8	—
3/8 to 1/2, excl.	1/2	9/16	11/16	3/4	15/16	1-1/8	1-1/4	1-7/16	1-3/4
1/2 to 3/4, excl.	1/2	9/16	5/8	5/8	13/16	1-1/8	1-1/8	1-1/8	1-3/8
3/4 to 1, excl.	1/2	9/16	5/8	5/8	3/4	13/16	15/16	1	1-1/8
1 to 1-1/2, excl.	1/2	9/16	9/16	9/16	11/16	11/16	11/16	3/4	1
1-1/2 to 4, excl.	3/16	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8
4 to 6, excl.	1/4	3/8	1/2	9/16	5/8	3/4	7/8	1	1-1/8