

SIZE TOLERANCES

HOT ROLLED BARS, ROUNDS AND SQUARES STAINLESS AND HEAT RESISTING STEELS

Specified Size		Size Tolerance				Out of Round ⁽¹⁾ or Out of square section ⁽²⁾	
		Over		Under		In.	mm.
In.	mm.	In.	mm.	In.	mm.		
Over 1/4 to 5/16 (3)(4)	6.35 to 7.94 incl. (3)(4)	(5)	(5)	(5)	(5)	(5)	(5)
Over 5/16 to 7/16(3)(4)	7.94 to 11.11 incl. (3)(4)	0.006	0.15	0.006	0.15	0.009	0.23
Over 7.16 to 5/8 (3)(4)	11.11 to 15.88 incl. (3)(4)	0.007	0.18	0.007	0.18	0.010	0.25
Over 5/8 to 7/8	15.88 to 22.22 incl.	0.008	0.20	0.008	0.20	0.012	0.30
Over 7/8 to 1	22.22 to 25.40 incl.	0.009	0.23	0.009	0.23	0.013	0.33
Over 1 to 1 1/8	25.40 to 28.58 incl.	0.010	0.25	0.010	0.25	0.015	0.38
Over 1 1/8 to 1 1/4	28.58 to 31.75 incl.	0.011	0.28	0.011	0.28	0.016	0.41
Over 1 1/4 to 1 3/8	31.75 to 34.93 incl.	0.012	0.30	0.012	0.30	0.018	0.46
Over 1 3/8 to 1 1/2	34.93 to 38.10 incl.	0.014	0.36	0.014	0.36	0.021	0.53
Over 1 1/2 to 2	38.10 to 50.80 incl.	1/64	0.40	1/64	0.40	0.023	0.58
Over 2 to 2 1/2	50.80 to 63.50 incl.	1/32	0.79	0	0	0.023	0.58
Over 2 1/2 to 3 1/2	63.50 to 88.90 incl.	3/64	1.19	0	0	0.035	0.89
Over 3 1/2 to 4 1/2	88.90 to 114.3 incl.	1/16	1.59	0	0	0.046	1.17
Over 4 1/2 to 5 1/2	114.3 to 139.7 incl.	5/64	1.98	0	0	0.058	1.47
Over 5 1/2 to 6 1/2	139.7 to 165.1 incl.	1/8	3.18	0	0	0.070	1.78
Over 6 1/2 to 8	165.1 to 203.2 incl.	5/32	3.97	0	0	0.085	2.16

(ASTM A484)

- (1) Out-of-round is the difference between the maximum and minimum diameters of the bar, measured at the same cross section.
- (2) Out-of-square section is the difference in the two dimensions at the same cross section of a square bar, each dimension being the distance between opposite faces.
- (3) Size tolerances for rounds in the size range of 1/4 in.(6.35 mm) to 5/16 (7.94 mm), incl., and for rounds in the size range of 1/4 in. (6.35 mm) to approximately 5/8 in.(15.88 mm) which are produced on rod mills in coils, are not shown.

- (4) Variations in size of coiled product made on rod mills are greater than size tolerances for product made on bar mills.
- (5) Squares in this size are not produced as hot rolled product.

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HOT ROLLED BARS, HEXAGONS AND OCTAGONS STAINLESS AND HEAT RESISTING STEELS

Specified Sizes Measured Between Opposite Sides	mm.	Size Tolerance				Maximum Difference 3 Measurements For Hexagons Only	
		Over		Under		In.	mm.
		In.	mm.	In.	mm.		
Over 1/4 TO 1/2	6.35 TO 12.70 incl.	0.007	0.18	0.007	0.18	0.011	0.28
Over 1/2 to 1	12.70 to 25.40 incl.	0.010	0.25	0.010	0.25	0.015	0.38
Over 1 to 1 1/2	25.40 to 38.10 incl.	0.021	0.53	0.021	0.53	0.025	0.64
Over 1 1/2 to 2	38.10 to 50.80 incl.	1/32	0.79	1/32	0.79	1/32	0.79
Over 2 to 2 1/2	50.80 to 63.50 incl.	3/64	1.19	3/64	1.19	3/64	1.19
Over 2 1/2 to 3 1/2	63.50 to 88.90 incl.	1/16	1.59	1/16	1.59	1/16	1.59

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HOT ROLLED BARS, FLATS STAINLESS AND HEAT RESISTING STEELS

Specified Widths, In.	Thickness Tolerances, In., For Thicknesses Given										
	1/8 to 1/2 Incl.	Over 1/2 to 1 Incl.	Over 1 to 2 Incl.	Over 2 to 4 Incl.		Over 4 to 6 Incl.		Over 6 to 8 Incl.		Width Tolerance, In.	
				Over	Under	Over	Under	Over	Under	Over	Under
Up to 1 incl.	0.008	0.010	-	-	-	-	-	-	-	0.015	0.015
Over 1 to 2 incl.	0.012	0.015	0.031	-	-	-	-	-	-	0.031	0.031
Over 2 to 4 incl.	0.015	0.020	0.031	0.062	0.031	-	-	-	-	0.062	0.031
Over 4 to 6 incl.	0.015	0.020	0.031	0.062	0.031	0.093	0.062	-	-	0.093	0.062
Over 6 to 8 incl.	0.016	0.025	0.031	0.062	0.031	0.093	0.062	0.125	0.156	0.125	0.156
Over 8 to 10 incl.	0.021	0.031	0.031	0.062	0.031	0.093	0.062	0.125	0.156	0.156	0.187

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