

## STAINLESS BAR

### Permissible Variations in Size of Hot-Finished Round, Turned,<sup>D</sup> and Square Bars

Specified Size, in. (mm)	Permissible Variations from Specified Size, in. (mm)		Out-of-Round <sup>A</sup> or Out-of-Square <sup>B</sup> in. (mm)
	Over	Under	
5/16 to 7/16 (8.00 to 11.00), incl <sup>C</sup>	0.006 (0.15)	0.006 (0.15)	0.009 (0.23)
Over 7/16 to 5/8 (11.00 to 15.50), incl <sup>C</sup>	0.007 (0.18)	0.007 (0.18)	0.010 (0.26)
Over 5/8 to 7/8 (15.50 to 22.00), incl	0.008 (0.20)	0.008 (0.20)	0.012 (0.30)
Over 7/8 to 1 (22.00 to 25.00), incl	0.009 (0.23)	0.009 (0.23)	0.013 (0.34)
Over 1 to 1 1/8 (25.00 to 28.00), incl	0.010 (0.25)	0.010 (0.25)	0.015 (0.38)
Over 1 1/8 to 1 1/4 (28.00 to 31.50), incl	0.011 (0.28)	0.011 (0.28)	0.016 (0.42)
Over 1 1/4 to 1 3/8 (31.50 to 34.50), incl	0.012 (0.30)	0.012 (0.30)	0.018 (0.46)
Over 1 3/8 to 1 1/2 (34.50 to 38.00), incl	0.014 (0.35)	0.014 (0.35)	0.021 (0.53)
Over 1 1/2 to 2 (38.00 to 50.00), incl	1/64 (0.40)	1/64 (0.40)	0.023 (0.60)
Over 2 to 2 1/2 (50.00 to 63.00), incl	1/32 (0.80)	0	0.023 (0.60)
Over 2 1/2 to 3 1/2 (63.00 to 90.00), incl	3/64 (1.20)	0	0.035 (0.90)
Over 3 1/2 to 4 1/2 (90.00 to 115.00), incl	1/16 (1.60)	0	0.046 (1.20)
Over 4 1/2 to 5 1/2 (115.00 to 140.00), incl	5/64 (2.00)	0	0.058 (1.50)
Over 5 1/2 to 6 1/2 (140.00 to 165.00), incl	1/8 (3.00)	0	0.070 (1.80)
Over 6 1/2 to 8 (165.00 to 200.00), incl	5/32 (4.00)	0	0.085 (2.20)
Over 8 to 12 (200.00 to 300.00), incl <sup>D</sup>	3/16 (4.80)	0	3/32 (2.40)
Over 12 to 15 (300.00 to 400.00), incl <sup>D</sup>	7/32 (5.50)	0	7/64 (2.80)
Over 15 to 25 (400.00 to 625.00), incl <sup>D</sup>	1/4 (6.50)	0	1/8 (3.20)

<sup>A</sup> Out of round is the difference between the maximum and minimum diameters of the bar measured at the same cross section.

<sup>B</sup> 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.

<sup>C</sup> Size tolerances have not been evolved for round section is the size range of 5/16 in. (8.00 mm) to approximately 5/8 in. (15.5 mm) in diameter which are produced on rod mills in coils.

<sup>D</sup> Turned bars are generally available from 2 to 25 in. (50 to 625 mm) in diameter, over 8 in. (200 mm) only turned bars are available.

### Permissible Variations in Size of Cold-Finished Round Bars

Specified Size, in. (mm)	Permissible Variations from Specified Size, in. (mm) <sup>A,B</sup>	
	Over	Under
1/16 to 5/16 (1.50 to 8.00), excl	0.001 (0.03)	0.001 (0.03)
5/16 to 1/2 (8.00 to 13.00), excl	0.0015 (0.04)	0.0015 (0.04)
1/2 to 1 (13.00 to 25.00), excl	0.002 (0.05)	0.002 (0.05)
1 to 1 1/2 (25.00 to 38.00), excl	0.0025 (0.06)	0.0025 (0.06)
1 1/2 to 4 (38.00 to 100.00), incl <sup>C</sup>	0.003 (0.08)	0.003 (0.08)

<sup>A</sup> Unless otherwise specified, size tolerances are over and under as shown in this table. When required, however, they may be specified all over and nothing under, or all under and nothing over, or any combination of over and under, if the total spread in size tolerance for a specified size is not less than the total spread shown in the table.

<sup>B</sup> When it is necessary to heat treat or heat treat and pickle after cold finishing, size tolerances are double those shown in the table.

<sup>C</sup> Cold-finished bars over 4 in. (100 mm) in diameter are produced: size tolerances for such bars are not included herein.