



Dimensional Tolerances per ASTM B251

Wall Thickness Tolerances for Copper and Brass Tube (Applicable to Specifications B 68, B 75, and B 135.)							
Note — <i>Maximum Deviation at Any Point:</i> The following tolerances are plus and minus; if tolerances all plus or all minus are desired, double the values given.							
Wall Thickness, in.	Outside Diameter, in. ^A						
	1/32 to 1/8, incl.	Over 1/8 to 5/8, incl.	Over 5/8 to 1, incl.	Over 1 to 2, incl.	Over 2 to 4, incl.	Over 4 to 7, incl.	Over 7 to 10, incl.
Up to 0.017, incl.	0.002	0.001	0.0015	0.002	---	---	---
Over 0.017 to 0.024, incl.	0.003	0.002	0.002	0.0025	---	---	---
Over 0.024 to 0.034, incl.	0.003	0.0025	0.0025	0.003	0.004	---	---
Over 0.034 to 0.057, incl.	0.003	0.003	0.0035	0.0035	0.005	0.007	---
Over 0.057 to 0.082, incl.	---	0.0035	0.004	0.004	0.006	0.008	0.010
Over 0.082 to 0.119, incl.	---	0.004	0.005	0.005	0.007	0.009	0.011
Over 0.119 to 0.164, incl.	---	0.005	0.006	0.006	0.008	0.010	0.012
Over 0.164 to 0.219, incl.	---	0.007	0.0075	0.008	0.010	0.012	0.014
Over 0.219 to 0.283, incl.	---	---	0.009	0.010	0.012	0.014	0.016
Over 0.283 to 0.379, incl.	---	---	0.012	5 ^B %	5 ^B %	6 ^B %	6 ^B %
Over 0.379	---	---	---	5 ^B %	5 ^B %	6 ^B %	6 ^B %

Average Diameter* Tolerances for Copper and Brass Tube^A (Applicable to Specifications B 68, B 75, and B 135.)	
Specified Diameter, in.	Tolerance, plus and minus, in.
Up to 1/8, incl.	0.002
Over 1/8 to 5/8, incl.	0.002
Over 5/8 to 1, incl.	0.0025
Over 1 to 2, incl.	0.003
Over 2 to 3, incl.	0.004
Over 3 to 4, incl.	0.005
Over 4 to 5, incl.	0.006
Over 5 to 6, incl.	0.007
Over 6 to 8, incl.	0.008
Over 8 to 10, incl.	0.010

Straightness Tolerances for Copper and Brass Tube^A in Any Drawn Temper (Applicable to Specifications B 75, B 135, and B 466.)	
Note --- Applies to round tube in any drawn temper from 1/4 (6.35 mm) to 3 1/2 in. (88.9 mm), incl. in outside diameter.	
Length, ft. ^B	Maximum Curvature (Depth of Arc), in.
Over 3 to 6, incl.	3/16
Over 6 to 8, incl.	5/16
Over 8 to 10, incl.	1/2

Length Tolerances for Copper and Brass Tube, Straight Lengths (Applicable to Specifications B 68, B 75, and B 135, B 466.)			
Note --- Tolerances are all plus; if all minus tolerances are desired, use the same values; if tolerance plus and minus are desired, halve the values given.			
Length	Tolerances, in. Applicable only to Full-Length Pieces		
	For Major Outside Dimensions up to 1 in. incl.	For Major Outside Dimensions over 1 in. to 4 in. incl.	For Major Outside Dimensions over 4 in.
Specific Lengths:			
Up to 6 in., incl.	1/32	1/16	---
Over 6 in. to 2 ft., incl.	1/16	3/32	1/8
Over 2 ft. to 6 ft., incl.	3/32	1/8	1/4
Over 6 ft. to 14 ft., incl.	1/4	1/4	1/4
Over 14 ft.	1/2	1/2	1/2



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***The average outside or inside diameter** of a tube is the average of the maximum and minimum outside diameters, or of the maximum and minimum inside diameters, whichever is applicable, as determined at any one cross-section of the tube.

Tolerances on a given tube may be specified with respect to any two, but not all three of the following: A. Outside dimension B. Inside dimension C. Wall thickness.

When the tube is ordered by O.D. and I.D. the maximum plus and minus deviation of the wall thickness from the mean at any point shall not exceed by more than 50% the values of specified diameter.

The Length Information:

1. Mill Lengths-Certain uniform lengths subject to established tolerances with short lengths included according to established agreement with customer.
2. Random Lengths-Run of the mill lengths without any indicated preferred length, subject to customer approval.
3. Specific Lengths-Indicated uniform lengths, subject to established length tolerances; for example: 12'-0", 9'-7" or 0'-4 1/2" is a specific length. Unless specified otherwise, tolerances are per ASTM B-251.

Weight Per Foot Formula:

To determine weight per linear foot of a seamless tube, when outside diameter (O.D.) is given: 1. Subtract wall thickness from O.D., and then multiply by wall thickness. 2. Using figure from step one, multiply by 11.5736 for brass or 12.1768 for copper.