

**C.D. SEAMLESS
MECHANICAL TUBING**
STANDARD MFG. TOLERANCES

ASTM A-519

- (c) Tubing having a wall thickness less than 3% of the outside diameter cannot be straightened properly without a certain amount of distortion. Consequently such tubes, while having an average outside diameter and inside diameter within the tolerances shown in the table, will require an ovality of tolerance of 1/2% over or under the nominal outside diameter and inside diameter in addition to the tolerances indicated in the table.

WAREHOUSE TOLERANCES LIMITED TO O.D.-AND WALL (except for Cylinder Tubing specially drawn to O.D.-I.D. dimensions.)

**HOT FINISHED SEAMLESS
MECHANICAL TUBING**
DIAMETER TOLERANCES-INCHES/MILLIMETERS

ASTM A-519

OD Size Range Inches Inclusive	As Rolled or Annealed OD, ± Inches	Quenched & Tempered OD & ID ± OD
2.000-2.499	.017	.027
2.500-2.999	.019	.029
3.000-3.499	.021	.032
3.500-3.999	.023	.035
4.000-4.499	.025	.038
4.500-4.999	.027	.041
5.000-5.499	.029	.044
5.500-5.999	.031	.047
6.000-6.499	.033	.050
6.500-6.999	.035	.053
7.000-7.499	.037	.056

OD Size Range Millimeters, Inclusive	As Rolled or Annealed OD, ± Millimeters	Quenched & Tempered OD & ID ± Millimeters
50.80-63.48	0.43	0.686
63.49-76.17	0.48	0.737
76.18-88.87	0.53	0.813
88.88-101.57	0.58	0.889
101.58-114.28	0.64	0.985
114.29-126.97	0.69	1.041
126.98-139.67	0.74	1.118
139.68-152.38	0.79	1.194
152.39-165.08	0.84	1.270
165.09-177.78	0.89	1.346
177.79-190.48	0.94	1.422

Tolerances do not apply to heat treated material or bearing quality tubing.

CONTINUED

GENERAL AND TECHNICAL INFORMATION

HOT FINISHED SEAMLESS MECHANICAL TUBING

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WALL THICKNESS TOLERANCES-
INCHES/MILLIMETERS

Wall Thickness % of OD	Maximum Percent Over & Under Nominal	Wall Thickness % of OD	Maximum Percent Over & Under Nominal
	OD 2" and Over		OD 2" and Over
Under 10	10.0	Under 10	10.0
10 to 25	7.5	10 to 25	7.5

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STRAIGHTNESS TOLERANCES-INCHES/MILLIMETERS

OD Size Range Inches Inclusive	Wall Percent of OD	Maximum Deviation from Straight Total Inches in any 3 Feet
Up to 5.000	3% OD & Over	.030
5.001-7.500	4% OD & Over	.045

OD Size Range Inches Inclusive	Wall Percent of OD	Maximum Deviation from Straight Total Millimeters in any 3 Feet
Up to 127.00	3% OD & Over	0.83
127.01-190.50	4% OD & Over	1.14

Straightness, or camber, is measured for any 3 ft. or meter of length with a 3 ft. or meter straight edge and a feeler guage.