



AEROSPACE MATERIAL SPECIFICATION

AMS2244™**REV. D**

Issued 1974-06
Reaffirmed 2018-04
Revised 2021-04

Superseding AMS2244C

Tolerances Titanium and Titanium Alloy Tubing

RATIONALE

AMS2244D corrects errors in Tables 1A, 2A, and 3A.

1. SCOPE

This specification covers established manufacturing tolerances applicable to titanium and titanium alloy tubing. These tolerances apply to all conditions, unless otherwise noted. The term "excl" is used to apply only to the higher figure of the specified range.

- 1.1 Tubing shall be specified in either inch/pound units or SI units. When inch/pound units are used, the tolerances shown for SI units are not applicable. When SI units are used, the tolerances for inch/pound units are not applicable.

2. APPLICABLE DOCUMENTS

There are no referenced publications specified herein.

3. DIAMETER

When specified, OD tolerances shall apply to the ID but not to both ID and OD of the same lot of tubing. Mean OD is the average of two measurements taken at right angles to each other. Diameter tolerances include ovality except for tubing having specified wall thickness less than 4% of the specified OD; for tubing with specified wall thickness less than 4% of the specified OD, the ovality tolerance shall be double the diameter tolerance.

- 3.1 Seamless, Cold Reduced, Annealed, or Stress Relieved

Shall be as shown in Table 1.

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Table 1A - OD tolerances, seamless tubing, inch/pound units

Specified OD Inches	Standard Tolerance Inches Plus and Minus	Special Tolerance Inches Plus Only
Up to 0.093, excl	0.002	0.002
0.093 to 0.188, excl	0.003	0.003
0.188 to 1.000, excl	0.004	0.004
1.000 to 1.500, excl	0.005	0.005
1.500 to 2.000, excl	0.006	0.006
2.000 to 2.500, excl	0.007	0.007
2.500 to 3.500, excl	0.010	0.010
3.500 to 4.500, excl	0.015	0.015

Table 1B - OD tolerances, seamless tubing, SI units

Specified OD Millimeters	Standard Tolerance Millimeters Plus and Minus	Special Tolerance Millimeters Plus Only
Up to 2.50, excl	0.05	0.05
2.50 to 4.75, excl	0.08	0.08
4.75 to 25.00, excl	0.10	0.10
25.00 to 37.50, excl	0.13	0.13
37.50 to 50.00, excl	0.15	0.15
50.00 to 63.50, excl	0.18	0.18
63.50 to 89.00, excl	0.25	0.25
89.00 to 115.00, excl	0.38	0.38

3.2 Welded, Cold Reduced, Annealed, or Stress Relieved

Shall be as shown in Tables 2 or 3, as applicable.

Table 2A - Standard OD tolerances, inch/pound units

Specified OD Inches	Tolerance, Inches Plus Only
Up to 0.125, excl	0.002
0.125 to 0.188, excl	0.003
0.188 to 0.500, excl	0.004
0.500 and over	0.005

Table 2B - Standard OD tolerances, SI units

Specified OD Millimeters	Tolerance, Millimeters Plus Only
Up to 3.00, excl	0.05
3.00 to 4.75, excl	0.08
4.75 to 12.50, excl	0.10
12.50 and over	0.12

Table 3A - Special OD tolerances, inch/pound units

Specified OD Inches	Tolerance, Inches Plus Only
Up to 0.250, excl	0.001
0.250 to 0.812, excl	0.002
0.812 to 1.000, excl	0.004