

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
29 West 39th Street  
New York City

## AMS 2203B

Issued 7-1-45

Revised 10-1-50

### TOLERANCES Aluminum and Aluminum Alloy Drawn Round Tubing

- PURPOSE:** To publish established manufacturing tolerances.
- APPLICATION:** Tolerances shown herein apply, unless otherwise agreed upon by purchaser and vendor. These tolerances apply to all conditions and are based on individual measurements, unless otherwise noted. The term "excl" is used to apply only to the higher figure of the specified range.
- DIAMETER:**

TABLE I

| Nominal OD<br>Inches    | Tolerance, Inch, Plus and Minus |                                      |                          |
|-------------------------|---------------------------------|--------------------------------------|--------------------------|
|                         | Mean Diameter <sup>(2)</sup>    | Diameter at any Point <sup>(3)</sup> |                          |
|                         | All Alloys                      | Non-Heat Treatable<br>Alloys         | Heat Treatable<br>Alloys |
| 0.50 and under          | 0.003                           | 0.003                                | 0.006                    |
| Over 0.50 to 1.0, incl  | 0.004                           | 0.004                                | 0.008                    |
| Over 1.00 to 2.0, incl  | 0.005                           | 0.005                                | 0.010                    |
| Over 2.00 to 3.0, incl  | 0.006                           | 0.006                                | 0.012                    |
| Over 3.00 to 5.0, incl  | 0.008                           | 0.008                                | 0.016                    |
| Over 5.00 to 6.0, incl  | 0.010                           | 0.010                                | 0.020                    |
| Over 6.00 to 8.0, incl  | 0.015                           | 0.015                                | 0.030                    |
| Over 8.00 to 10.0, incl | 0.020                           | 0.020                                | 0.040                    |
| Over 10.00              | 0.025                           | 0.025                                | 0.050                    |

- Notes: (1) If so specified in the purchase order, the tolerances for outside diameter shall apply to the inside diameter instead, but not to both inside and outside diameter of the same lot of tubing.
- (2) Mean diameter is the average of two measurements taken at right angles to each other.
- (3) Not applicable in the annealed (0) temper nor if wall thickness is less than  $2\frac{1}{2}$  per cent of the outside diameter, or is less than 0.020 inch.

Section of the SAE Technical Board rules provides that: "All technical reports, including standard, approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary; there is no agreement to adhere to such reports or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."