

Issued Dec. 4, 1939  
Revised \_\_\_\_\_  
Revised \_\_\_\_\_

# AERONAUTICAL MATERIAL SPECIFICATION

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

AMS  
6360

## STEEL TUBING (SEAMLESS) Chromium Molybdenum

1. ACKNOWLEDGMENT: A vendor must mention this specification number and its last revision in all quotations and when acknowledging purchase orders.

2. COMPOSITION:
- |            |             |
|------------|-------------|
| Carbon     | 0.28 - 0.33 |
| Manganese  | 0.40 - 0.60 |
| Phosphorus | 0.040 max   |
| Sulphur    | 0.050 max   |
| Chromium   | 0.80 - 1.10 |
| Molybdenum | 0.15 - 0.25 |

3. GRAIN SIZE: 5 or finer, A.S.T.M. E19-39T, Method a.

4. CONDITION: Normalized to conform to the following minimum physical properties:

| Nominal Wall Thickness<br>inches | Tensile Strength<br>lb per sq in. | Yield Strength<br>lb per sq in. | Elongation in 2" |       |
|----------------------------------|-----------------------------------|---------------------------------|------------------|-------|
|                                  |                                   |                                 | Full Tube        | Strip |
| Up to 0.035, incl.               | 95,000                            | 75,000                          | 10%              | 5%    |
| 0.036 to 0.188, "                | 95,000                            | 75,000                          | 12%              | 7%    |
| Over 0.188                       | 90,000                            | 70,000                          | 15%              | 10%   |

5. QUALITY: (a) This material must be aircraft quality, uniform in temper and must not reveal defects during the fabrication processes.

(b) All tubes shall be straight; the inside and outside surfaces must be clean, smooth, and free from seams, tears, grooves, slivers, pits, scale, rust and any other injurious defects.

6. TOLERANCE: (a) The following variations in mean outside diameter are permissible:

| Nominal Outside Diameter, inches | Tolerances, inches |
|----------------------------------|--------------------|
| less than 1.500                  | -0.000, + 0.005    |
| 1.500 to 3, inclusive            | -0.000, + 0.010    |
| over 3"                          | -0.000, + 0.015    |

(b) The wall thickness of tubes, 0.5" or larger nominal inside diameter shall not vary more than plus or minus 10% from the thickness specified; smaller sizes may vary plus or minus 15%.

7. REPORTS: The manufacturer shall furnish three copies of a certified report of chemical analysis on each heat on each shipment. This report shall include the purchase order number, heat number, material specification number, size and quantity. If parts are supplied, the part number shall also be included.