

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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Revised

STEEL TUBING (SEAMLESS) .32 - .38 Carbon

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. COMPOSITION:

		Individual Tube Check Analysis Over or Under
Carbon	0.32 - 0.38	0.02
Manganese	0.60 - 0.90	0.03
Phosphorus	0.04 max	0.008
Sulphur	0.05 max	0.008

3. GRAIN SIZE: Shall be fine and uniform in all parts of the tubing.

4. CONDITION: (a) Cold drawn and stress relieved to conform to the following minimum physical properties for tubing of 1.5 inches maximum OD and 0.125 inch maximum wall thickness:

Tensile Strength, psi	90,000
Yield Strength (0.2% Offset), psi	70,000
Equivalent Extension Under Load, inch in 2 in.	0.0087
Elongation, % in 2 in.	
0.50 nominal O.D. by 0.035 wall or smaller	8
Over 0.50 O.D. and/or wall thickness over 0.035	10

(b) Tubing may be ordered to the following physical properties when agreed between vendor and purchaser:

Tensile Strength, psi	105,000
Yield Strength (0.2% Offset), psi	85,000
Equivalent Extension Under Load, inch in 2 in.	0.0097
Elongation, % in 2 in.	8

5. QUALITY: (a) The tubing shall be suitable for use in aircraft, shall be uniform in temper and shall not reveal defects during the fabrication process.

(b) The tubing shall have a good workmanlike finish conforming to the best practice for high quality aircraft material. It shall be smooth, clean, and free from heavy scale or oxide, burrs, seams, tears, grooves, laminations, slivers, pits, and other injurious defects. Surface imperfections such as handling marks, straightening marks, light mandrel and die marks, shallow pits, and scale pattern will not be considered as injurious defects, provided the imperfections are removable within the tolerances specified herein for diameter and wall thickness. The removal of surface imperfections is not required.

(c) When magnaflux quality steel is required, it shall be so specified on the purchase order.