

# AERONAUTICAL MATERIAL SPECIFICATION

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

## AMS5075A

Issued 3-1-42

Revised 3-1-51

### STEEL TUBING, SEAMLESS 0.22-0.28 Carbon (SAE 1025)

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

2. COMPOSITION:

		Check Analysis	
		Under Min	Over Max
Carbon	0.22 - 0.28	0.03	0.03
Manganese	0.30 - 0.60	0.03	0.03
Phosphorus	0.040 max	--	0.008
Sulfur	0.050 max	--	0.008

3. CONDITION: Cold drawn and stress relieved if necessary, and having a uniform fine grain in all parts of the tubing.

4. TECHNICAL REQUIREMENTS:

4.1 Tensile Properties:

Tensile Strength, psi	55,000 min
Yield Strength at 0.2% offset or at 0.0064 inch in 2 in. extension under load, psi	36,000 min
Elongation, % in 2 in.	22 min

4.1.1 For each 2000 psi in excess of 55,000 psi tensile strength, a reduction in elongation of 1% to a minimum elongation of 10%, shall be allowed.

4.2 Tensile Properties Normalized: The tubing shall be capable of developing the tensile properties specified in 4.1 when normalized by heating to 1625 F  $\pm$  10 followed by cooling in still air.

5. QUALITY:

5.1 Tubing shall be suitable for use in aircraft, shall be uniform in condition, and shall not reveal defects during fabrication processes.

5.2 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 for diameter and wall thickness. The removal of surface imperfections is not required.

in 7C of the SAE Technical Board rules provides that: "All technical reports, including standards, 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 any SAE standard or recommended practice, and no commitment to conform to 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."