



# AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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## AMS 5050F

Superseding AMS 5050E

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### STEEL TUBING, SEAMLESS Low Carbon, Annealed

- 1. ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
- 2. APPLICATION:** Primarily for oil lines and other parts requiring high quality tubing suitable for severe forming and for welding and brazing.
- 3. COMPOSITION:**

	min	max
Carbon	--	0.15
Manganese	0.30 -	0.60
Phosphorus	--	0.040
Sulfur	--	0.050

- 3.1 Check Analysis:** Composition variations shall meet the requirements of the latest issue of AMS 2259, paragraph titled "Carbon Steel, Seamless Tubing."

- 4. CONDITION:** Cold drawn and annealed.

- 4.1 Fabrication:** Any surface finishing operation applied to remove objectionable pits and surface blemishes shall be performed prior to the last annealing. A light polish to improve surface appearance may be employed after annealing.

- 5. TECHNICAL REQUIREMENTS:**

- 5.1 Tensile Properties:**

Nominal OD Inches	Elongation	
	% in 2 in., min	
	Full Tube	Strip
Up to 0.50, incl	32	--
Over 0.50 to 5.50, incl	35	25

- 5.2 Flarability:** Tubing shall be capable of being flared without formation of cracks or other visible defects. Specimens for flaring may be cut from any portion of the tube, or an entire tube may be used as a specimen. The end of the specimen to be flared shall be cut square with the cut end smooth and free from burrs, but not rounded. The specimen shall, at room temperature, be forced axially with steady pressure over a hardened and polished tapered steel pin having a 74 deg included angle, to produce a flare having the permanent percentage OD increase specified in the following table. After flaring, the inside surface of the tubing shall be smooth and shall show no evidence of a bead that might prevent the assembly of pressure tight joints.

Nominal Wall Thickness % of OD	OD Increase %, min
Up to 7, incl	35
Over 7	45

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