

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS4088A

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ALUMINUM ALLOY TUBING Copper Magnesium Manganese (24S-T)

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

2. <u>COMPOSITION</u> :	Copper	3.8 - 4.9	Chromium	0.25 max
	Magnesium	1.2 - 1.8	Zinc	0.10 max
	Manganese	0.3 - 0.9	Other Impurities, each	0.05 max
	Iron	0.5 max	Other Impurities, total	0.15 max
	Silicon	0.5 max	Aluminum	remainder

3. CONDITION: Heat treated conforming to the following minimum physical properties:

Diameter inches	Wall Thickness inches	Tensile Strength lb per sq in.	Yield Strength at 0.2% Set or at Extension Indicated		
			Extension Under Load inch in 2 in.	Elongation % in 2 in.	
1/4 to 2	0.025 - 0.049	62,000	42,000	0.0124	12
	0.050 - 0.259	62,000	42,000	0.0124	14
	0.260 - 0.500	62,000	42,000	0.0124	16
Over 2 to 8	0.025 - 0.049	62,000	42,000	0.0124	10
	0.050 - 0.259	62,000	42,000	0.0124	11
	0.260 - 0.500	62,000	42,000	0.0124	12

4. QUALITY: The material shall be seamless, uniform in quality and temper commercially straight, clean, smooth, and free from seams, laminations, blisters, and other injurious defects. Material revealing defects during fabrication is subject to rejection.

5. TOLERANCES: (a) Diameter - The outside diameter of the tubing at any section shall not vary from the nominal diameter by more than the following tolerances; all dimensions are in inches:

<u>Nominal Outside Diameter</u>	Tolerance, plus or minus	
	<u>Mean Diameter Measurement</u>	<u>Individual* Diameter Measurement</u>
3/8 to 1/2, incl.	0.003	0.006
Over 1/2 to 1 "	0.004	0.008
Over 1 to 2 "	0.005	0.010
Over 2 to 3 "	0.006	0.012
Over 3 to 5 "	0.008	0.016
Over 5 to 6 "	0.010	0.020
Over 6 to 8 "	0.015	0.030
Over 8 to 10 "	0.020	0.040
Over 10 to 12 "	0.025	0.050

*NOTE: The tolerance of individual measurements shall not apply to tubes in which the wall thickness is less than 2.5 per cent of the diameter or less than 0.020 in. Such thin wall tubes shall be commercially round.