AERONAUTICAL MATERIAL SPECIFICATION

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A L U M I N U M A L L O Y T U B I N G (SEAMLESS)
Copper Magnesium Manganese (24S-O)

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

2. COMPOSITION:

Copper	3.8 - 4.9
Magnesium	1.2 - 1.8
Manganese	0.3 - 0.9
Iron	0.5 max
Silicon	0.5 max
Chromium	0.25 max
Zinc	0.10 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

3. CONDITION: (a) Annealed, unless otherwise specified, conforming to a maximum tensile strength of 35,000 psi.

(b) The tubing shall be capable of being flattened sidewise under a gradually applied load, without cracking to the following outside dimensions

Wall Thickness, Inch	Flattened Outside Dimension
Up to 0.049, incl.	3 times the wall thickness
Over 0.049	4 times the wall thickness

4. PHYSICAL PROPERTIES: Unless otherwise specified, the tubing after solution heat treatment shall conform to the following minimum physical properties:

Diameter	Wall Thickness	Tensile Strength	Yield Strength (0.2% Offset) or at Extension Indicated		
				Extension Under Load	
Inches	Inch	psi	psi	inch in 2 in.	Elongation % in 2 in.
1/4 to 2, incl.	0.025 - 0.049	64,000	40,000	0.0116	12
	0.050 - 0.259	64,000	40,000	0.0116	14
	0.260 - 0.500	64,000	40,000	0.0116	16
Over 2 to 8, incl.	0.025 - 0.259	64,000	40,000	0.0116	10
	0.260 - 0.500	64,000	40,000	0.0116	12

5. QUALITY: (a) Tubing shall be uniform in quality and condition, sound and free from foreign material and from internal and external defects detrimental to fabrication to the performance of parts in service. Tubing revealing defects during fabrication shall be subject to rejection.

(b) Tubing and parts made therefrom shall be subject to inspection by any method which will reveal defects.