

AERONAUTICAL MATERIAL SPECIFICATION

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ALUMINUM ALLOY TUBING 4.5Cu - 1.5Mg - 0.5Mn (24S-T3)

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Parts and assemblies such as brackets where high strength, non-weldable material is required.

3. **COMPOSITION:**

Copper	3.8 - 4.9
Magnesium	1.2 - 1.8
Manganese	0.30 - 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

4. **CONDITION:** Solution heat treated.

5. **TECHNICAL REQUIREMENTS:**

5.1 **Tensile Properties:**

Nominal OD Inch	Nominal Wall Thickness Inch	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 10,500,000)		Elongation % in 2 in., min
			psi, min	Extension Under Load in. in 2 in.	
0.25 - 2, incl	Under 0.050	64,000	42,000	0.0120	12
	0.050 - 0.259, incl	64,000	42,000	0.0120	14
	Over 0.259	64,000	42,000	0.0120	16
Over 2 - 8, incl	Under 0.260	64,000	42,000	0.0120	10
	0.260 and over	64,000	42,000	0.0120	12

5.2 **Flattening:**

- 5.2.1 Tubing having nominal wall thickness less than 10% of the nominal outside diameter shall be capable of being flattened sideways under a gradually applied load, without cracking, to an outside dimension 8 times the nominal wall thickness, while under load.

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