

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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ALUMINUM ALLOY BARS (EXTRUDED) Copper Magnesium Manganese (24S-T)

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

2. FORM: Bars, rods, and shapes.

3. 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

4. CONDITION: (a) Solution heat treated conforming to the following minimum physical properties:

Diameter or Least Thickness or Area	Tensile Strength	Yield Strength at 0.2% Offset or at Extension Indicated		Elongation
			Extension Under Load	
<u>Inches</u>	<u>psi</u>	<u>psi</u>	<u>Inch in 2 in.</u>	<u>% in 4D</u>
0.050 - 0.249, incl	57,000	42,000	0.0119	12
0.250 - 0.749, incl	60,000	44,000	0.0123	12
0.750 - 1.499, incl	65,000	46,000	0.0127	10
1.500 - 25 sq. in., incl	70,000	52,000	0.0138	10
Over 25 sq. in. to 32 sq. in., incl	68,000	48,000	0.0130	8

Note: The physical properties shall be based on the thickness of the portion of the extrusion from which the test specimens are taken and the physical properties of such specimens shall be in accordance with the values shown above.

(b) If sizes other than those shown under (a) are ordered, physical properties shall be as agreed between vendor and purchaser.

(c) Extrusions shall have hardness of not less than Brinell 100, using 500 kg load and 10 mm ball or the equivalent, or not less than Brinell 106, using 1000 kg load and 10 mm ball, but shall not be rejected on the basis of hardness if they conform to the minimum tensile requirements.

(d) Unless otherwise specified, all extrusions shall be supplied with the extruded surface finish.