

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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ALUMINUM ALLOY EXTRUSIONS

4.5Cu - 0.9Si - 0.8Mn - 0.5Mg (14S-T6)

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	3.9 - 5.0
Silicon	0.5 - 1.2
Manganese	0.40 - 1.2
Magnesium	0.20 - 0.8
Iron	1.0 max
Zinc	0.25 max
Titanium	0.15 max
Chromium	0.10 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

4. CONDITION: Solution and precipitation heat treated.

4.1 Unless otherwise specified, all extrusions shall be supplied with the as extruded surface finish.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties:

Nominal Diameter or Least Thickness or Area Inches	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 10,500,000)		Elongation % in 4D
		psi, min	Extension Under Load in. in 2 in.	
0.499 and under	60,000	53,000	0.0141	7
Over 0.499 - 0.749, incl	64,000	58,000	0.0150	7
Over 0.749				
25 sq in. and under	68,000	60,000	0.0154	7
Over 25 - 32 sq in., incl	68,000	58,000	0.0150	6

5.1.1 The tensile property requirements shall be based on the thickness of the portion of the extrusion from which the test specimens are taken.

5.1.2 If sizes other than those shown above are ordered, tensile properties shall be as agreed upon by purchaser and vendor.

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