

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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MAGNESIUM ALLOY EXTRUSIONS AZ61A

1. ACKNOWLEDGEMENT: 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:

Aluminum	5.8 - 7.2
Zinc	0.40 - 1.5
Manganese	0.15 min
Silicon	0.30 max
Copper	0.05 max
Nickel	0.005 max
Iron	0.005 max
Other Impurities, total	0.30 max
Magnesium	remainder

4. CONDITION: As extruded.

4.1 Unless otherwise specified, extrusions shall be supplied with an as-extruded surface finish.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties:

Nominal Diameter or Least Thickness Inches	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 6,500,000)		Elongation % in 2 in. min
		psi, min	in. in 2 in.	
Under 0.250	38,000	20,000	0.0102	8
0.250 to 2.500, incl	40,000	21,000	0.0114	9
Over 2.500 to 4.499, incl, but not over 25 sq in.				
Gross Sectional Area	38,000	22,000	0.0108	5
Hollow Shapes of All Wall Thicknesses	36,000	16,000	0.0089	7

5.2 Hardness: Material should have hardness not lower than Brinell 50 using 500 kg load and 10 mm ball or 1000 kg load and 9/16 in. ball, or not lower than Brinell 57 using 1000 kg load and 10 mm ball, but shall not be rejected on the basis of hardness if the tensile property requirements are met.

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