

AERONAUTICAL MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 4117

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Revised

ALUMINUM ALLOY BARS, ROLLED 1Mg - 0.6Si - 0.3Cu - 0.25Cr (6061-T6)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. FORM: Bars, rods, and wire.
3. APPLICATION: Primarily for parts where strength is required and limited formability is acceptable.
4. COMPOSITION:

Magnesium	0.8 - 1.2
Silicon	0.40 - 0.8
Copper	0.15 - 0.40
Chromium	0.15 - 0.35
Iron	0.7 max
Zinc	0.25 max
Manganese	0.15 max
Titanium	0.15 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

5. CONDITION: Rolled or cold finished, and solution and precipitation heat treated, unless otherwise specified.
6. TECHNICAL REQUIREMENTS:

6.1 Tensile Properties:

Tensile Strength, psi	42,000 min
Yield Strength at 0.2% Offset or at 0.0110 in.	
in 2 in. Extension Under Load (E = 9,900,000), psi	35,000 min
Elongation, % in 4D	10 min

- 6.1.1 When a dispute occurs between purchaser and vendor over the yield strength value, yield strength determined by the offset method shall apply.
- 6.1.2 Tensile properties shall be as agreed upon by purchaser and vendor on material under 0.125 in., on rounds over 8.0 in. in diameter, on squares over 4.000 in., and on rectangles with a thickness over 4.000 in. or a maximum area over 50 sq inches.
- 6.2 Hardness: Material should have hardness not lower than Brinell 80 using 500 kg load and 10 mm ball or 1000 kg load and 9/16 in. ball, or not lower than Brinell 85 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.