

AERONAUTICAL MATERIAL SPECIFICATIONS

AMS 4115

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

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Revised

ALUMINUM ALLOY BARS, ROLLED OR DRAWN
1Mg - 0.6Si - 0.25Cu - 0.25Cr (6061-0)

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 requiring moderate strength, especially where such parts and assemblies require brazing or welding during fabrication.
4. COMPOSITION:

Magnesium	0.8 - 1.2
Silicon	0.40 - 0.6
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 annealed, unless otherwise specified.
6. TECHNICAL REQUIREMENTS:

- 6.1 Tensile Properties:

Tensile Strength, psi	22,000 max
Elongation, % in 4D	18 min

- 6.1.1 Tensile properties of material under 0.125 in. or over 8.0 in. in diameter or distance between parallel sides shall be as agreed upon by purchaser and vendor.

- 6.2 Hardness: Material should have hardness not higher than Brinell 40 using 500 kg load and 10 mm ball or 1000 kg load and 9/16 in. ball, or not higher than Brinell 45 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.

- 6.3 Properties After Heat Treatment: Material after proper solution and precipitation heat treatment shall conform to the following requirements:

Tensile Strength, psi	42,000 min
Yield Strength at 0.2% Offset or at 0.0111 in. in 2 in. Extension Under Load (E = 9,900,000), psi	35,000 min
Elongation, % in 4D	10 min

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