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

AMS 4116

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Revised

ALUMINUM ALLOY BARS, ROLLED
1Mg - 0.6Si - 0.3Cu - 0.25Cr (6061-T4)

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 moderate ductility, formability, and response to precipitation heat treatment are required.

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 as ordered, and solution heat treated.

6. TECHNICAL REQUIREMENTS:

6.1 Tensile Properties:

Tensile Strength, psi	30,000 min
Yield Strength at 0.2% Offset or at 0.0072 in. in 2 in. Extension Under Load (E = 9,900,000), psi	16,000 min
Elongation, % in 4D	18 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, and on rectangles and squares with an area over 50 sq inches.

6.2 Hardness: Brinell 50 - 80 using 500 kg load and 100 mm ball or 1000 kg load and 9/16 in. ball or Brinell 55 - 85 using 1000 kg load and 10 mm ball, but the product shall not be rejected on the basis of hardness if the requirements for tensile properties are met.

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