



# AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
485 LEXINGTON AVENUE, NEW YORK, N. Y. 10017

**AMS 4117C**  
Superseding AMS 4117B

Issued 1-15-60  
Revised 5-1-68

## ALUMINUM ALLOY BARS, ROLLED, DRAWN, OR COLD FINISHED 1.0Mg - 0.60Si - 0.30Cu - 0.20Cr (6061-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 wire.
- 3. APPLICATION:** Primarily for parts where strength is required and limited formability is acceptable.
- 4. COMPOSITION:**

	min	max
Magnesium	0.8	1.2
Silicon	0.40	0.8
Copper	0.15	0.40
Chromium	0.04	0.35
Iron	--	0.7
Zinc	--	0.25
Manganese	--	0.15
Titanium	--	0.15
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

- 5. CONDITION:** Rolled, drawn, or cold finished, as ordered, and solution and precipitation heat treated.
- 6. TECHNICAL REQUIREMENTS:** The product shall conform to the following requirements; tensile properties shall be determined in accordance with the latest issue of AMS 2355.
  - 6.1 Tensile Properties:** Except as specified in 6.1.1 and 6.1.2, the following requirements apply to all sizes of bars, rods, and wire:

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 2 in. or 4D	10 min

- 6.1.1** Tensile properties shall be as agreed upon by purchaser and vendor for rounds over 8.000 in. in diameter and for squares, rectangles, hexagons, and octagons having a cross-sectional area over 50 sq inches.
  - 6.1.2** Yield strength and elongation requirements do not apply to material under 0.125 inch.
  - 6.1.3** When a dispute occurs between purchaser and vendor over the yield strength values, yield strength determined by the offset method shall apply.

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