

AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N.Y. 10017

AMS 4118D

Issued 12-5-39

Revised 2-15-65

ALUMINUM ALLOY BARS, ROLLED, DRAWN, OR COLD FINISHED 4.0Cu - 0.7Mn - 0.50Mg (2017-T4)

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 requiring good strength and whose fabrication does not involve welding. Certain design and processing procedures may cause this material to be susceptible to stress corrosion cracking; ARP 823 recommends practices to minimize such conditions.

4. **COMPOSITION:**

	min	max
Copper	3.5	4.5
Manganese	0.40	1.0
Magnesium	0.20	0.8
Iron	--	1.0
Silicon	--	0.8
Zinc	--	0.25
Chromium	--	0.10
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

- Ø 5. **CONDITION:** Rolled, drawn, or cold finished, and solution heat treated, unless otherwise specified.

6. **TECHNICAL REQUIREMENTS:**

- 6.1 **Tensile Properties:** Except as specified in 6.1.2 and 6.1.3, the following requirements apply to all Ø sizes of bars, rods, and wire:

Tensile Strength, psi	55,000 min
Yield Strength at 0.2% Offset or at 0.0102 in. in 2 in. Extension Under Load (E = 10,400,000), psi	32,000 min
Elongation, % in 2 in. or 4D	12 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.

- Ø 6.1.2 Yield strength and elongation requirements do not apply to material under 0.125 inch.

- 6.1.3 Tensile properties shall be as agreed upon by purchaser and vendor for rounds over 8.000 in. in Ø diameter and for squares, hexagons, octagons, and rectangles having a cross sectional area over 50 sq inches.

- 6.2 **Hardness:** Material should have hardness not lower than Brinell 90 using 500 kg load and 10 mm ball or 1000 kg load and 9/16 in. ball, or not lower than Brinell 95 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.