



AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

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

AMS 4112A

Superseding AMS 4112

Issued 2-15-65

Revised 11-1-67

ALUMINUM ALLOY BARS, ROLLED, DRAWN, OR COLD FINISHED 4.5Cu - 1.5Mg - 0.6Mn (2024-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 requiring higher yield strength than is afforded by the common tempers of this alloy, 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	3.8	4.9
Magnesium	1.2	1.8
Manganese	0.30	0.9
Iron	--	0.50
Silicon	--	0.50
Zinc	--	0.25
Chromium	--	0.10
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 6.1.2 and 6.1.3, the following requirements apply to all sizes:

Tensile Strength, psi	62,000 min
Yield Strength at 0.2% Offset or at 0.0135 in.	
in 2 in. Extension Under Load (E = 10,500,000), psi	50,000 min
Elongation, % in 2 in. or 4D	5 min

- 6.1.1 When a dispute occurs between purchaser and vendor over the yield strength values, yield strength determined by the offset method shall apply.
- 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 on rounds over 6.500 in. in diameter; on squares, hexagons, and octagons over 4.000 in.; and on rectangles with a thickness over 4.000 in. or an area over 36 sq inches.
- 6.2 **Hardness:** Material should have hardness not lower than Brinell 125 using 500 kg load and 10 mm ball or 1000 kg load and 9/16 in. ball, or not lower than Brinell 130 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.

SAE Technical Board rules provide that: "All technical reports, including standards approved by the Board, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAE standards, recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."