AEROSPACE
MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York, N.Y. 10017

AMS 4118D

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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.

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