AERONAUTICAL MATERIAL SPECIFICATIONS

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

AMS 4118C

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ALUMINUM ALLOY BARS
4Cu - 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 Ø does not involve welding.

4. COMPOSITION:

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

Ø 5. CONDITION: Rolled or cold finished, and solution heat treated.

6. TECHNICAL REQUIREMENTS:

6.1 Tensile Properties:

Tensile Strength, psi	55,000 min
Yield Strength at 0.2% Offset or at 0.0101 in. in 2 in. Extension Under Load (E = 10,500,000), psi	32,000 min
Elongation, % in 4D	16 min

6.1.1 When a dispute occurs between purchaser and vendor over the yield strength Ø value, yield strength determined by the offset method shall apply.

6.1.2 Tensile properties of material over 8.00 in. in diameter or distance between Ø parallel sides or over 50 sq in. in cross-sectional area shall be as agreed upon by purchaser and vendor.

6.2 Hardness: Material should have hardness not lower than Brinell 90 using Ø 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.

7. QUALITY: Material shall be uniform in quality and condition, clean, sound, Ø smooth, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts.

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