

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
29 West 39th Street  
New York City

## AMS 4118A

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### ALUMINUM ALLOY Copper Manganese Magnesium (17S-T)

1. ACKNOWLEDGMENT: A vendor must mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Rods, bars, or shapes.
3. COMPOSITION:

Copper	3.5 - 4.5
Manganese	0.4 - 1.0
Magnesium	0.2 - 0.8
Iron	1.0 max
Silicon	0.8 max
Chromium	0.25 max
Other impurities, each	0.03 max
Other impurities, total	0.10 max
Aluminum	remainder
4. CONDITION: (a) Heat treated conforming to the following minimum physical properties:

Tensile strength, lb. per sq. in.	55,000
Yield Strength, lb. per sq. in.	32,000
Elongation, % in 2 in.	16
Brinell Hardness	90

(b) Material which conforms to the minimum tensile requirements shall not be rejected on the basis of hardness.

(c) The physical properties specified apply to rounds, squares, hexagons and octagons from 0.125 to 8.000 inches in diameter or least thickness and to rectangles up to 3.000 inches in least thickness.
5. QUALITY: The material shall be uniform in quality and temper, free from blisters, fins, seams, laps, cracks, segregations and other defects which adversely affect its strength, use, or machinability. It is subject to coarse etching, and any other tests necessary to insure high quality. If material defects are revealed while machining the parts, the material is subject to rejection.
6. REPORTS: Unless otherwise specified, the manufacturer shall furnish three copies of a notarized report showing the physical properties obtained and stating that the material is within the chemical requirements. This report shall include the purchase order number, material specification number, size, and quantity.
7. IDENTIFICATION: Unless otherwise specified, each rod, bar, and/or shape in sizes 5/8 inch in diameter or equivalent and over, shall be marked with the manufacturer's identification, and, in addition, the alloy name or number and temper, or AMS 4118A. The characters shall be not less than 1/8 inch in height and shall be applied continuously at intervals not exceeding 2 feet. The characters shall be clearly legible and applied to the material by suitable means and suitable marking fluid, and shall not be obliterated by normal handling or heat treatment. Rods, bars, and/or shapes less than 5/8 inch in diameter, or equivalent, may be identified by other means as agreed upon by the vendor and the purchaser.