AERONAUTICAL MATERIAL SPECIFICATION

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

AMS4130C

Issued 3-13-40
Revised 10-1-45

ALUMINUM ALLOY FORGINGS
Copper Silicon Manganese (25S-T)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. COMPOSITION:

Copper	3.9 - 5.0
Silicon	0.5 - 1.2
Manganese	0.4 - 1.2
Iron	1.00 max
Zinc	0.25 max
Titanium	0.15 max
Chromium	0.10 max
Magnesium	0.05 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

3. CONDITION: (a) Solution and precipitation heat treated. Quenching from the solution temperature shall be at a rate fast enough for the material to meet the following requirements, but shall be as slow as practicable in order to keep the internal stresses at a minimum.

(b) Test specimens, machined after heat treatment from separately forged coupons representing the forgings and heat treated with the forgings, or machined after heat treatment from prolongations on the forgings, shall conform to the following minimum physical properties:

Tensile Strength, psi	55,000
Yield Strength (0.2% Offset), psi	30,000
Equivalent Extension Under Load, inch in 2 in.	0.0098
Elongation, % in 4D	16

(c) When test specimens are machined from heat treated forgings with the axis approximately parallel to the forging flow lines, the physical properties shall conform to those specified in (b) above, except that elongation may be as low as 11.0%, unless otherwise agreed between purchaser and vendor.

(d) Heat treated forgings and test specimens shall have hardness of not less than Brinell 100, using 500 kg load and 10 mm ball or the equivalent, or not less than Brinell 106, using 1000 kg load and 10 mm ball.

4. STOCK FOR FORGING: (a) The composition shall conform to that of section 2 above.

(b) When a sample of the stock is forged to a test coupon, a test specimen taken from the coupon after proper heat treatment shall show the physical properties in paragraphs 3(b) and 3(d), but this test is not required in routine inspection. If a test specimen taken from the stock after proper heat treatment shows the properties specified in paragraphs 3(b) and 3(d) the test shall be accepted as equivalent to the test of the forged coupon, but this test is not required.