

400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION

Submitted for recognition as an American National Standard

SAE

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Superseding AMS 4145E

ALUMINUM ALLOY FORGINGS 12.2Si - 1.1Mg - 0.9Cu - 0.9Ni (32S-T6)

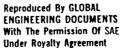
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AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc. 29 West 39th Street New York City AMS 4145E

lesued 12-5-59 Revised 2-15-52

ALUMINUM ALLOY FORGINGS
12.2Si - 1.1Mg - 0.9Cu - 0.9Ni (32S-T6)

- 1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
- 2. FORM: Die forgings and forging stock.
- 3. COMPOSITION:

11.0 - 13.5 Silicon 0.8 - 1.3 Magnesium 0.5 - 4.8 Copper 0.5,-01.3 Nickel 1.0 max Iron 0,25 max Zinc Titanium 0.05 max 0.10 max Chromium Other Impurities, each 0.05 max Other Impurities, total 0.15 max remainder Aluminum

- 4. CONDITION:
- Die Forgings: 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 internal streases at a minimum.
- 4.2 Forging Stocks As fabricated.
- 5. TECHNICAL REQUIREMENTS:
- 5.1 Die Forgings:
- 5.1.1 Tensile Properties:
- 5.1.1.1 Test Specimens: Test specimens, machined from separately forged coupons or from forging stock representing the forgings and in either case heat treated with the forgings, or machined from prolongations on heat treated forgings, shall conform to the following requirements:

Tensile Strength, psi
Yield Strength at 0.2% Offset or at 0.0114 in.
in 2 in. Extension Under Load (E=11,400,000), psi
Elongation, % in 4D

52,000 min
42,000 min
5 min

5.1.1.2 Forgings, With Grain Flow: When test specimens are machined from forgings with the axis approximately parallel to the forging flow lines, the tensile properties shall conform to those specified in 5.1.1.1, except that elongation may be as low as 3.5%, unless otherwise agreed upon by purchaser and vendor.

REAFFIRMED