



AEROSPACE MATERIAL SPECIFICATION

AMS4132™**REV. J**

Issued 1957-01
Reaffirmed 2006-04
Revised 2026-03

Superseding AMS4132H

Aluminum Alloy, Die and Hand Forgings, and Rolled Rings,
2.3Cu - 1.6Mg - 1.1Fe - 1.0Ni - 0.18Si - 0.07Ti (2618-T61),
Solution and Precipitation Heat Treated
(Composition similar to UNS A92618)

RATIONALE

AMS4132J results from a Five-Year Review and update of this specification with changes to remove forging stock from the Title, update wording to prohibit unauthorized exceptions (see 3.4.1.1.4, 4.4.1, and 8.5), relocate Definitions (see 2.4), and update Applicable Documents (see Section 2) and Ordering Information (see 8.6).

1. SCOPE

1.1 Form

This specification covers an aluminum alloy in the form of die forgings, hand forgings, and rolled rings 4 inches (102 mm) and under in nominal thickness and forging stock of any size (see 8.6).

1.2 Application

These products have been used typically for rotating parts operating in service up to 450 °F (232 °C) and other parts operating up to 600 °F (316 °C) at low stresses, but usage is not limited to such applications.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (U.S. and Canada only) or +1 724-776-4970 (outside U.S. and Canada), www.sae.org.

AMS2355 Quality Assurance, Sampling and Testing, Aluminum Alloys and Magnesium Alloy, Wrought Products (Except Forging Stock), and Rolled, Forged, or Flash Welded Rings

AMS2772 Heat Treatment of Aluminum Alloy Raw Materials

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For more information on this standard, visit
<https://www.sae.org/standards/content/AMS4132J/>

Documents

Standard, visit Sharing Hub

AMS2808 Identification, Forgings

AS7766 Terms Used in Aerospace Metals Specifications

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM B594 Ultrasonic Inspection of Aluminum-Alloy Wrought Products

ASTM B660 Packaging/Packing of Aluminum and Magnesium Products

ASTM E10 Brinell Hardness of Metallic Materials

ASTM E1417/E1417M Liquid Penetrant Testing

2.3 ANSI Publications

Copies of these documents are available online at <https://webstore.ansi.org>.

ANSI H35.1/H35.1M Standard Alloy and Temper Designation System for Aluminum

ANSI H35.2 Dimensional Tolerances for Aluminum Mill Products

ANSI H35.2M Dimensional Tolerances for Aluminum Mill Products (Metric)

2.4 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall conform to the percentages by weight shown in Table 1, determined in accordance with AMS2355.

Table 1 - Composition

Element	Min	Max
Silicon	0.10	0.25
Iron	0.9	1.3
Copper	1.9	2.7
Magnesium	1.3	1.8
Nickel	0.9	1.2
Zinc	--	0.10
Titanium	0.04	0.10
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	

3.2 Condition

The product shall be supplied in the following condition:

3.2.1 Die Forgings and Rolled Rings, and Hand Forgings 4 Inches (102 mm) and Under in Nominal Thickness

Solution and precipitation heat treated to Temper T61 (refer to ANSI H35.1/H35.1M).

3.2.2 Hand Forgings Over 4 Inches (102 mm) in Nominal Thickness

As forged.

3.2.3 Forging Stock

As ordered by the forging manufacturer (see 8.6).

3.3 Heat Treatment

Die forgings, rolled rings, and hand forgings 4 inches (102 mm) and under in nominal thickness shall be solution and precipitation heat treated in accordance with AMS2772, except that the product shall be quenched in boiling water (i.e., to T61).

3.4 Properties

The product shall conform to the following requirements, determined in accordance with AMS2355 on the mill-produced product:

3.4.1 Forgings

3.4.1.1 Tensile Properties

Shall be as follows:

3.4.1.1.1 Die Forgings

3.4.1.1.1.1 Parallel to Grain Flow

Specimens, machined from forgings not over 4 inches (102 mm) in nominal thickness at time of heat treatment, with the axis of specimen in the area of gage length varying not more than 15 degrees from parallel to the forging grain flow lines, shall have the properties shown in Table 2. Test results may be identified as longitudinal tensile properties.

Table 2 - Minimum tensile properties

Property	Value
Tensile Strength	58.0 ksi (400 MPa)
Yield Strength at 0.2% Offset	48.0 ksi (331 MPa)
Elongation in 4D	4%
in 5D	3%

3.4.1.1.1.2 Perpendicular to Grain Flow

Specimens, machined from forgings not over 4 inches (102 mm) in nominal thickness at time of heat treatment, with the axis of specimen in the area of gage length varying not more than 15 degrees from perpendicular to the forging grain flow lines, shall have the properties shown in Table 3. Test results may be identified as transverse tensile properties.

Table 3 - Minimum tensile properties

Property	Value
Tensile Strength	55.0 ksi (379 MPa)
Yield Strength at 0.2% Offset	45.0 ksi (310 MPa)
Elongation in 4D	4%
in 5D	3%