



AEROSPACE MATERIAL SPECIFICATION

AMS4334™

REV. B

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Superseding AMS4334A

Aluminum Alloy, Forgings
7.8Zn - 2.2Mg - 1.6Cu - 0.15Cr (7249-T74 and -T7452)

RATIONALE

AMS4334B has been declared "STABILIZED" by AMS Committee D because it contains mature technology that is not expected to change and thus no further revisions are anticipated.

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1. SCOPE:

1.1 Form:

This specification covers an aluminum alloy in the form of die forgings, hand forgings, and forging stock.

1.2 Application:

This product has been used typically for parts requiring high strength, high toughness, and good resistance to stress-corrosion cracking, but usage is not limited to such applications.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2201	Tolerances, Aluminum and Aluminum Alloy Bar, Rod, Wire, and Forging Stock, Rolled or Cold Finished
MAM 2201	Tolerances, Metric, Aluminum and Aluminum Alloy Bar, Rod, Wire, and Forging Stock, Rolled, Drawn, or Cold Finished
AMS 2355	Quality Assurance Sampling and Testing, Aluminum Alloys and Magnesium Alloys, Wrought Products, Except Forging Stock, and Rolled, Forged, or Flash Welded Rings
MAM 2355	Quality Assurance Sampling and Testing, Aluminum Alloys and Magnesium Alloys, Wrought Products, Except Forging Stock, and Rolled, Forged, or Flash Welded Rings, Metric (SI) Units
AMS 2750	Pyrometry
AMS 2808	Identification, Forgings

2.2 ASTM Publications:

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM B 594	Ultrasonic Examination of Aluminum-Alloy Wrought Products for Aerospace Applications
ASTM B 660	Packaging/Packing of Aluminum and Magnesium Products
ASTM E 1417	Liquid Penetrant Examination
ASTM G 34	Exfoliation Corrosion Susceptibility in 2XXX and 7XXX Series Aluminum Alloys (EXCO Test)
ASTM G 47	Determining Susceptibility to Stress-Corrosion Cracking of High-Strength Aluminum Alloy Products

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

Shall conform to the percentages by weight shown in Table 1, determined in accordance with AMS 2355 or MAM 2355.

TABLE 1 - Composition

Element	in	max
Zinc	7.5	8.2
Magnesium	2.0	2.4
Copper	1.3	1.9
Chromium	0.12	0.18
Iron	--	0.12
Manganese	--	0.10
Silicon	--	0.10
Titanium	--	0.06
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

3.2 Condition:

The product shall be supplied in the following condition:

3.2.1 Die Forgings: Solution and precipitation heat treated to an overaged condition (-T74 temper).

3.2.2 Hand Forgings: Solution heat treated, stress relieved by compressing to produce a 1 to 5% permanent set, and precipitation heat treated to an overaged condition (-T7452 temper).

3.2.2.1 Other amounts of permanent set may be used for stress relieving parts of unusual geometry or for other parts when specified on the engineering drawing or approved by the cognizant engineering organization.

3.2.3 Forging Stock: As ordered by the forging manufacturer.

3.3 Heat Treatment:

Forgings, prolongations, or test coupons representing the forgings shall be heat treated as follows; pyrometry shall be in accordance with AMS 2750.

3.3.1 Solution Heat Treatment: Heat to 875 °F ± 10 (468 °C ± 6), hold at heat for 60 minutes per inch (25 mm) of thickness but not less than 60 minutes, and quench in room temperature water (100 °F (38 °C) maximum).