



AEROSPACE MATERIAL SPECIFICATION

AMS4124™

REV. F

Issued 1967-04

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Superseding AMS4124E

Aluminum Alloy, Rolled or Cold Finished Bars, Rods, and Wire
5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T73, T7351)
Solution Heat Treated, Stress Relieved by Stretching, and Overaged
(Composition similar to UNS A97075)

RATIONALE

AMS4124F prohibits unauthorized exceptions (3.6), revises condition (3.2), properties (3.3.1.3), reports (4.4), and identification (5.1.1), and results from a Five-Year Review and update of this specification.

1. SCOPE

1.1 Form

This specification covers an aluminum alloy in the form of rolled or cold finished bars, rods, and wire up to 6.000 inches (152.40 mm) in nominal diameter or least nominal dimension (see 8.6).

1.2 Application

These products have been used typically for machined parts subject to excessive warpage during machining due to residual stresses and for parts requiring high strength and resistance to stress-corrosion cracking and whose fabrication does not involve forming or welding, 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 (inside USA and Canada) or +1 724-776-4970 (outside USA), 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

ARP1917 Clarification of Terms Used in Aerospace Metals Specifications

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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 for Aerospace Applications
ASTM B660	Packaging/Packing of Aluminum and Magnesium Products
ASTM B666/B666M	Identification of Aluminum and Magnesium Alloy Products
ASTM E10	Brinell Hardness of Metallic Materials

2.3 ANSI Accredited Publications

Copies of these documents are available online at <http://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)

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	--	0.40
Iron	--	0.50
Copper	1.2	2.0
Manganese	--	0.30
Magnesium	2.1	2.9
Chromium	0.18	0.28
Zinc	5.1	6.1
Titanium	--	0.20
Titanium + Zirconium	--	0.25
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	

3.2 Condition

3.2.1 Bar and Rod

Rolled or cold finished, followed by solution heat treating and subsequent processing as in 3.2.1.1 or 3.2.1.2.

- 3.2.1.1 T73: Precipitation hardened to the T73 temper (refer to ANSI H35.1/H35.1M).
- 3.2.1.2 T7351: Stress-relieved by stretching to produce a nominal permanent set of 1-1/2%, but not less than 1% nor more than 3%, then precipitation hardened to the T7351 temper (refer to ANSI H35.1/H35.1M).
- 3.2.1.3 When T73 product is specified, T7351 product may be supplied unless specifically prohibited by the purchaser.