



AEROSPACE MATERIAL SPECIFICATION

AMS4317™

REV. B

Issued 2005-07
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Superseding AMS4317A

Aluminum Alloy, Extruded Bar, Rod, and Shapes
5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr
7075-T76(51X)
Solution Heat Treated and Overaged
(Composition similar to UNS R97075)

RATIONALE

AMS4317B revises Condition (3.2), Properties (3.3.1.2, 3.3.2.2), prohibits unauthorized exceptions (3.6), revises 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 extruded bars, rods, and shapes up to 4.000 inches, incl (101.60 mm, incl) in nominal diameter or least thickness, and having a nominal cross-sectional area up to 20 in² (129 cm²) (see 8.5).

1.2 Application

This product has been used typically for structural applications requiring material with high strength and resistance to exfoliation-corrosion, but usage is not limited to such applications.

1.2.1 Certain design and processing procedures may cause these products to become susceptible to stress-corrosion cracking; ARP823 recommends practices to minimize such conditions.

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.

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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
- ARP823 Minimizing Stress-Corrosion Cracking in Wrought Heat-Treatable Aluminum Alloy Products
- ARP1917 Clarification of Terms Used in Aerospace Metals Specifications

2.2 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)

2.3 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 B666/B666M Identification Marking of Aluminum and Magnesium Products
- ASTM G47 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 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
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	