

**AEROSPACE
MATERIAL
SPECIFICATION**

AMS 4187A
Superseding AMS 4187

Issued 6-1-74
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UNS A97075

ALUMINUM ALLOY BARS AND RODS, ROLLED, DRAWN, OR COLD FINISHED

5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-0)

Annealed

1. SCOPE:

1.1 Form: This specification covers an aluminum alloy in the form of bars, rods, and wire.

1.2 Application: Primarily for parts requiring forming and as stock for flash welded rings which are to be subsequently solution and precipitation heat treated. Certain design and processing procedures may cause these products to become susceptible to stress-corrosion cracking after solution and precipitation heat treatment; ARP 823 recommends practices to minimize such conditions.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) and Aerospace Recommended Practices (ARP) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2201 - Tolerances, Aluminum and Aluminum Alloy Bar, Rod, Wire,
and Forging Stock, Rolled or Drawn

AMS 2350 - Standards and Test Methods

AMS 2355 - Quality Assurance Sampling and Testing of Aluminum-Base and
Magnesium-Base Alloys, Wrought Products (Except Forgings
and Forging Stock) and Flash Welded Rings

AMS 2770 - Heat Treatment of Aluminum Alloy Parts

2.1.2 Aerospace Recommended Practices:

ARP 823 - Minimizing Stress-Corrosion Cracking in Wrought Heat-Treatable
Aluminum Alloy Products

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2.2 U.S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.2.1 Military Specifications:

MIL-H-6088 - Heat Treatment of Aluminum Alloys

2.2.2 Military Standards:

MIL-STD-649 - Aluminum and Magnesium Products, Preparation for Shipment and Storage

3. TECHNICAL REQUIREMENTS:

3.1 Composition: Shall conform to the following percentages by weight, determined in accordance with AMS 2355:

Ø	min	max
Zinc	5.1	6.1
Magnesium	2.1	2.9
Copper	1.2	2.0
Chromium	0.18	0.28
Iron	--	0.50
Silicon	--	0.40
Manganese	--	0.30
Titanium	--	0.20
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

3.2 Condition: Annealed in accordance with MIL-H-6088.

3.3 Properties: The product shall conform to the following requirements, determined in accordance with AMS 2355:

3.3.1 As Annealed:

3.3.1.1 Tensile Properties: Product 8 in. (200 mm) and under in nominal diameter or distance between parallel sides shall have the following properties:

Tensile Strength, max	40,000 psi (275 MPa)
Elongation in 2 in. (50 mm) or 4D, min	10%

3.3.1.1.1 Tensile property requirements for product over 8 in. (200 mm) in nominal diameter or distance between parallel sides shall be as agreed upon by purchaser and vendor.