



AEROSPACE MATERIAL SPECIFICATION

AMS4406™**REV. B**

Issued	2007-05
Reaffirmed	2017-11
Revised	2018-02
Stabilized	2024-02

Superseding AMS4406A

Aluminum Alloy, Centrifugal Castings
5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (709.0-T61)
Hot Isostatically Pressed, Solution and Precipitation Heat Treated
(Composition similar to UNS A07090)

RATIONALE

AMS4406B has been declared "STABILIZED" by AMS Committee D Nonferrous Alloys. This document will no longer be updated and may no longer represent standard industry practice. This document was stabilized because Committee D can find no producers for this document.

NOTE: Previously, this document was reaffirmed. The last technical update of this document occurred in February 2018. Users of this document should refer to the cognizant engineering organization for disposition of any issues with reports/certifications to the specification, including exceptions listed on the certification. In many cases, the purchaser may represent a sub-tier supplier and not the cognizant engineering organization.

STABILIZED NOTICE

AMS4406B has been declared "STABILIZED" by SAE AMS Committee D Nonferrous Alloys and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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Full document details: SAE AMS4406B

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Documents
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1. SCOPE

1.1 Form

This specification covers an aluminum alloy (see 8.5) in the form of centrifugal castings.

1.2 Application

These products have been used typically for applications requiring high strength in light-to-medium sections and where dimensional stability is required during machining, but usage is not limited to such applications. Certain design and processing procedures may cause these castings to become susceptible to stress-corrosion cracking.

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.

AMS2175	Classification and Inspection of Castings
AMS2360	Room Temperature Tensile Properties of Castings
AMS2694	In-Process Welding of Castings

- AMS2771 Heat Treatment of Aluminum Alloy Castings
- AMS2804 Identification Castings
- ARP1917 Clarification of 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 B557 Tension Testing Wrought and Cast Aluminum and Magnesium Alloy Products
- ASTM B557M Tension Testing Wrought and Cast Aluminum and Magnesium Alloy Products (Metric)
- ASTM B594 Ultrasonic Inspection of Aluminum-Alloy Wrought Products for Aerospace Applications
- ASTM B660 Packaging/Packing of Aluminum and Magnesium Products
- ASTM E10 Brinell Hardness of Metallic Materials
- ASTM E29 Using Significant Digits in Test Data to Determine Conformance with Specifications
- ASTM E716 Sampling Aluminum and Aluminum Alloys for Spectrochemical Analysis
- ASTM E1251 Analysis of Aluminum and Aluminum Alloys by Spark Atomic Emission Spectrometry
- ASTM E1417/E1417M Liquid Penetrant Testing
- ASTM E1742/E1742M Radiographic Examination
- ASTM E3061 Analysis of Aluminum and Aluminum Alloys by Inductively Coupled Plasma Atomic Emission Spectrometry (Performance Based Method)

3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall conform to the percentages by weight shown in Table 1, determined by spectrochemical methods in accordance with ASTM E1251 or ASTM E3061, or by other analytical methods acceptable to purchaser (see 3.4.1).

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	