AEROSPACE MATERIAL SPECIFICATION

AMS4216	REV. B

Issued 1989-07
Revised 2003-07
Reaffirmed 2013-12

Superseding AMS4216A

Aluminum Alloy, Sheet
1.0Mg - 0.8Si - 0.8Cu - 0.50Mn (6013-T6)
Solution Heat Treated and Artificially Aged
(Composition similar to A96013)

RATIONALE

AMS4216B has been reaffirmed to comply with the SAE five-year review policy.

1. SCOPE:

1.1 Form:

This specification covers an aluminum alloy in the form of sheet.

1.2 Application:

This sheet has been used typically for structural parts requiring good strength, toughness, and fatigue properties and maximum corrosion resistance, 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 canceled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001 or www.sae.org.

AMS 2355 Quality Assurance Sampling and Testing, Aluminum Alloys and Magnesium Alloys, Wrought Products, Except Forging Stock, and Rolled, Forged, or Flash Welded Rings
AMS 2772 Heat Treatment of Aluminum Alloy Wrought Materials

AS1990 Aluminum Alloy Tempers

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AMS4216B

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 or www.astm.org.

ASTM B 660 Packaging/Packing of Aluminum and Magnesium Products
ASTM B 666/B 666M Identification Marking of Aluminum and Magnesium Products

2.3 ANSI Publications:

Available from ANSI, 25 West 43rd Street, New York, NY 10036 or www.ansi.org.

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 AMS 2355:

TABLE 1 - Composition

Element	min	max
Silicon	0.6	1.0
Iron	--	0.50
Copper	0.6	1.1
Manganese	0.20	0.8
Magnesium	0.8	1.2
Chromium	--	0.10
Zinc	--	0.25
Titanium	--	0.10
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	

3.2 Condition:

Solution heat treated and artificially aged to the T6 temper in accordance with AMS 2772 (see AS1990).

3.3 Tensile Properties:

Sheet shall conform to the requirements shown in Table 2, determined on the mill product size in the long-transverse direction in accordance with AMS 2355:

TABLE 2 - Minimum Tensile Properties

Property	Value
Tensile Strength	52.0 ksi (359 MPa)
Yield Strength at 0.2% Offset	46.0 ksi (317 MPa)
Elongation in 2 inches (50.8 mm)	8%

3.4 Quality:

Sheet, as received by purchaser, shall be uniform in quality and condition, sound, and free from foreign materials and from imperfections detrimental to usage of the sheet.

3.5 Tolerances:

Shall conform to all applicable requirements of ANSI H35.2 or ANSI H35.2M.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection:

The vendor of sheet shall supply all samples for vendor's tests and shall be responsible for the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the sheet conforms to specified requirements.

4.2 Classification of Tests:

All technical requirements of this specification are acceptance tests and, except for composition, shall be performed on each inspection lot.

4.3 Sampling and Testing:

Shall be in accordance with AMS 2355.

4.4 Reports:

The vendor of the product shall furnish with each shipment a report stating that the product conforms to the composition, tolerances and showing the numerical results of tests on each inspection lot to determine conformance to the other technical requirements. This report shall include the purchase order number, inspection lot number(s), AMS 4216B, size, and quantity. The report shall also identify the producer, the product form, and the size of the mill product.

4.5 Resampling and Retesting:

Shall be in accordance with AMS 2355.

5. PREPARATION FOR DELIVERY:

5.1 Identification:

Shall be in accordance with ASTM B 666/B 666M.

5.2 Packaging:

5.2.1 Product shall be protected from damage during storage and shipment by a method determined by vendor unless specified by purchaser. Examples of typical protective methods include but are not limited to interleaving with paper or oiling of the surface.

5.2.2 Sheet shall be prepared for shipment in accordance with ASTM B 660 and in compliance with applicable rules and regulations pertaining to the handling, packaging, and transportation of the sheet to ensure carrier acceptance and safe delivery.

6. ACKNOWLEDGMENT:

A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. REJECTIONS:

Sheet not conforming to this specification, or to modifications authorized by purchaser, will be subject to rejection.

8. NOTES:

8.1 A change bar (|) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this specification. An (R) symbol to the left of the document title indicates a complete revision of the specification, including technical revisions. Change bars and (R) are not used in original publications, nor in specifications that contain editorial changes only.

8.2 Terms used in AMS are clarified in ARP1917.

8.3 Dimensions and properties in inch/pound units are primary; dimensions and properties in SI units are shown as the approximate equivalents of the primary units and are presented only for information.