SAE Aerospace
An SAE International Group

AEROSPACE MATERIAL SPECIFICATION

SAE AMS 4056G

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Reaffirmed 2010-10

Superseding AMS 4056F

Aluminum Alloy, Sheet and Plate
4.4Mg - 0.70Mn - 0.15Cr (5083-0)
Annealed

(Composition similar to UNS A95083)

1. SCOPE:

1.1 Form:

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

1.2 Application:

These products have been used typically for parts requiring moderate forming and where good welding characteristics, moderate strength, and good resistance to corrosion are important, but usage is not limited to such applications. Excessive cold work or prolonged heating in the temperature range 150 to 300 °F (66 to 149 °C) may cause susceptibility to stress corrosion.

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, 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

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/AMS4056G

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	--	0.40
Iron	--	0.40
Copper	--	0.10
Manganese	0.40	1.0
Magnesium	4.0	4.9
Chromium	0.05	0.25
Zinc	--	0.25
Titanium	--	0.15
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	Remainder	

3.2 Condition:

Annealed with mill finish.

3.3 Properties:

The product shall conform to the following requirements, determined on the mill produced size in accordance with AMS 2355:

3.3.1 Tensile Properties: Shall be as shown in Table 2.

TABLE 2A - Tensile Properties, Inch/Pound Units

Nominal Thickness Inches	Tensile Strength ksi min	Tensile Strength ksi max	Yield Strength at 0.2% Offset ksi min	Yield Strength at 0.2% Offset ksi max	Elongation in 2 inches or 4D %, min
0.051 to 1.500, incl	40.0	51.0	18.0	29.0	16
Over 1.500 to 3.000, incl	39.0	51.0	17.0	29.0	16
Over 3.000 to 4.000, incl	38.0	--	16.0	--	16
Over 4.000 to 5.000, incl	38.0	--	16.0	--	14
Over 5.000 to 7.000, incl	37.0	--	15.0	--	14
Over 7.000 to 8.000, incl	36.0	--	14.0	--	12

TABLE 2B - Tensile Properties, SI Units

Nominal Thickness Millimeters	Tensile Strength MPa min	Tensile Strength MPa max	Yield Strength at 0.2% Offset MPa min	Yield Strength at 0.2% Offset MPa max	Elongation in 50.8 mm or 4D %, min
1.30 to 38.10, incl	276	352	124	200	16
Over 38.10 to 76.20, incl	269	345	117	200	16
Over 76.20 to 101.60, incl	262	--	110	--	16
Over 101.60 to 127.00, incl	262	--	110	--	14
Over 127.00 to 177.80, incl	255	--	103	--	14
Over 177.80 to 203.20, incl	248	--	97	--	12

3.4 Quality:

The product, 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 product.

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 the product 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 product conforms to the specified requirements.

4.2 Classification of Tests:

Composition (3.1), tensile properties (3.3.1), and tolerances (3.5) are acceptance tests and, except for composition, shall be performed on each 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 chemical composition and tolerances and showing the numerical results of tests on each inspection lot to determine conformance to the other acceptance test requirements. This report shall include the purchase order number, inspection lot number(s), AMS 4056G, size, and quantity. The report shall also identify the producer, product form and the mill produced size.

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 Protective Treatment:

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 surfaces.