SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION

SAE AMS 4064E

Issued MAY 1968
Revised MAY 2001
Reaffirmed APR 2006

Superseding AMS 4064D

Aluminum Alloy, Clad Two Sides Sheet
1.25Mn - 0.12Cu (No. 12-0 Brazing Sheet)
Annealed

(Composition similar to UNS A83003)

1. SCOPE:

1.1 Form:

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

1.2 Application:

This sheet has been used typically for brazed assemblies which are not subject to heat treatment after joining, 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.

AMS 2355	Quality Assurance Sampling and Testing, Aluminum Alloys and Magnesium Alloys, Wrought Products, Except Forging Stock, and Rolled, Forged, or Flash Welded Rings
MAM 2355	Quality Assurance Sampling and Testing, Aluminum Alloys and Magnesium Alloys, Wrought Products, Except Forging Stock, and Rolled Forged, or Flash Welded Rings, Metric (SI) Units

QUESTIONS REGARDING THIS DOCUMENT: (724) 772-7161 FAX: (724) 776-0243
TO PLACE A DOCUMENT ORDER: (724) 776-4970 FAX: (724) 776-0790
SAE WEB ADDRESS: http://www.sae.org

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

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, 11 West 42nd Street, New York, NY 10036-8002.

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 and Table 2, determined in accordance with AMS 2355 or MAM 2355.

TABLE 1 - Composition, Core (3003)

Element	min	max
Silicon	--	0.6
Iron	--	0.7
Copper	0.05	0.20
Manganese	1.0	1.5
Zinc	--	0.10
Other elements, each	--	0.05
Other elements, total	--	0.15
Aluminum	remainder	

TABLE 2 - Composition, Cladding (4343)

Element	min	max
Silicon	6.8	8.2
Iron	--	0.8
Copper	--	0.25
Manganese	--	0.10
Zinc	--	0.20
Other elements, each	--	0.05
Other elements, total	--	0.15
Aluminum	Remainder	

3.2 Condition:

Annealed (See 8.5).

3.3 Properties:

Sheet shall conform to the following requirements, determined on the mill produced size in accordance with AMS 2355 or MAM 2355.

3.3.1 Tensile Properties: Shall be as shown in Table 3.

TABLE 3A - Tensile Properties, Inch/Pound Units

Nominal Thickness Inch	Tensile Strength ksi, max	Elongation in 2 inches or 4D %, min
0.006 to 0.007, incl	20.0	12
Over 0.007 to 0.012, incl	20.0	15
Over 0.012 to 0.031, incl	20.0	18
Over 0.031 to 0.050, incl	20.0	20
Over 0.050 to 0.249, incl	20.0	23

TABLE 3B - Tensile Properties, SI Units

Nominal Thickness Millimeters	Tensile Strength MPa, max	Elongation in 50.8 mm or 4D %, min
0.15 to 0.18, incl	138	12
Over 0.18 to 0.30, incl	138	15
Over 0.30 to 0.79, incl	138	18
Over 0.79 to 1.27, incl	138	20
Over 1.27 to 6.32, incl	138	23

3.3.2 Bending: Sheet shall withstand, without cracking, bending at room temperature flat on itself with axis of bend parallel to the direction of rolling.

3.3.3 Cladding: Shall be applied to both faces of the core.

3.3.3.1 Cladding Thickness: After rolling, the average cladding thickness shall be as shown in Table 4.

TABLE 4 - Average Cladding Thickness

Total Thickness of Composite Product Inch	Total Thickness of Composite Product Millimeters	Average Cladding Thickness Per Side % of Total Thickness
Up to 0.063, incl	Up to 1.60, incl	8 to 12
Over 0.063 to 0.250, excl	Over 1.60 to 6.35, excl	4 to 6

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 the specified requirements.

4.2 Classification of Tests:

4.2.1 Acceptance 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 inspection lot.

4.2.2 Periodic Tests: Bending (3.3.2) and cladding thickness (3.3.3.1) are periodic tests and shall be performed at a frequency selected by the vendor unless frequency of testing is specified by purchaser.

4.3 Sampling and Testing:

Shall be in accordance with AMS 2355 or MAM 2355.