SAE Aerospace
An SAE International Group

AEROSPACE MATERIAL SPECIFICATION

AMS 4001J

Issued OCT 1943
Revised AUG 2002
Cancelled JUL 2007

Superseded by ASTM B 209

Aluminum Sheet and Plate
0.12Cu (1100-0)
Annealed

(Composition similar to UNS A91100)

RATIONALE

AMS 4001H has been cancelled and superseded because equivalent technical requirements are provided by ASTM B 209.

CANCELLATION NOTICE

This specification has been declared “CANCELLED” by the Aerospace Materials Division, SAE, as of July, 2007, and has been superseded by ASTM B 209, Alloy 1100, Temper 0. The requirements of the latest issue of ASTM B 209, Alloy 1100, Temper 0 shall be fulfilled whenever reference is made to the cancelled AMS 4001H. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by ASTM B 209, Alloy 1100, Temper 0.

Cancelled specifications are available from SAE.

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

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1. SCOPE:

1.1 Form:

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

1.2 Application:

These products have been used typically for severely formed parts and for parts requiring welding, 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 supplied 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 of Aluminum Alloys and Magnesium Alloys, Wrought Products (Except Forging Stock) and Flash Welded Rings

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

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 American National Standards Institute, Inc., 25 West 43rd 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, determined in accordance with AMS 2355 or MAM 2355:

TABLE 1 - Composition

Element	min	max
Aluminum	99.00	--
Silicon + Iron	--	0.95
Copper	0.05	0.20
Manganese	--	0.05
Zinc	--	0.10
Other Elements, each	--	0.05
Other Elements, total	--	0.15

3.2 Condition:

Annealed.

3.3 Properties:

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

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	Yield Strength at 0.2% Offset ksi, min	Elongation in 2 Inches or 4D %, min
0.006 to 0.019, incl	11.0 to 15.5	3.5	15
Over 0.019 to 0.031, incl	11.0 to 15.5	3.5	20
Over 0.031 to 0.050, incl	11.0 to 15.5	3.5	25
Over 0.050 to 0.249, incl	11.0 to 15.5	3.5	30
Over 0.249 to 3.000, incl	11.0 to 15.5	3.5	28

TABLE 2B - Tensile Properties, SI Units

Nominal Thickness Millimeters	Tensile Strength MPa	Yield Strength at 0.2% Offset MPa, min	Elongation in 50.8 mm or 4D %, min
0.15 to 0.48, incl	76 to 107	24	15
Over 0.48 to 0.79, incl	76 to 107	24	20
Over 0.79 to 1.27, incl	76 to 107	24	25
Over 1.27 to 6.32, incl	76 to 107	24	30
Over 6.32 to 76.20, incl	76 to 107	24	28

3.3.2 Bending:

3.3.2.1 Product 0.249 inch (6.32 mm) and under in nominal thickness shall withstand, without cracking, bending at room temperature flat on itself with axis of bend parallel to the direction of rolling.

3.3.2.2 Bending requirements for product over 0.249 inch (6.32 mm) in nominal thickness shall be as agreed upon by purchaser and vendor.

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.