SAE Aerospace
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AEROSPACE MATERIAL SPECIFICATION

SAE AMS 4006K

Issued NOV 1941
Revised AUG 2005
Cancelled SEP 2007

Superseded by ASTM B 209

Aluminum Alloy, Sheet and Plate
1.25Mn - 0.12Cu (3003-0)
Annealed

(Composition similar to UNS A93003)

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RATIONALE

AMS 4006J has been cancelled and superseded because equivalent technical requirements are provided by ASTM B 209.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has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of September, 2007, and has been superseded by ASTM B 209, Alloy 3003, Temper 0. The requirements of the latest issue of ASTM B 209, Alloy 3003, Temper 0 shall be fulfilled whenever reference is made to the cancelled AMS 4006J. 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will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by ASTM B 209, Alloy 3003, Temper 0.

Cancelled specifications are available from SAE.

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1. SCOPE:

1.1 Form:

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

1.2 Application:

This product has been used typically for parts fabricated by spinning or severe forming where good weldability is required, 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 Raw Materials
AS1990	Aluminum Alloy Tempers

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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, 4th Floor, 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
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	

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3.2 Condition:

Annealed in accordance with AMS 2772 to the T-0 temper (See AS1990).

3.3 Properties:

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

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

TABLE 2A - Tensile Properties, Inch/Pound Units

Nominal Thickness Inches	Tensile Strength ksi	Yield Strength at 0.2% Offset ksi, minimum	Elongation in 2 Inches or 4D %, minimum
0.006 to 0.007, incl	14.0 to 19.0	5.0	14
Over 0.007 to 0.012, incl	14.0 to 19.0	5.0	18
Over 0.012 to 0.031, incl	14.0 to 19.0	5.0	20
Over 0.031 to 0.050, incl	14.0 to 19.0	5.0	23
Over 0.050 to 0.249, incl	14.0 to 19.0	5.0	25
Over 0.249 to 3.000, incl	14.0 to 19.0	5.0	23

TABLE 2B - Tensile Properties, SI Units

Nominal Thickness Millimeters	Tensile Strength MPa	Yield Strength at 0.2% Offset MPa, minimum	Elongation in 50.8 mm or 4D %, minimum
0.15 to 0.18, incl	97 to 131	34.5	14
Over 0.18 to 0.30, incl	97 to 131	34.5	18
Over 0.30 to 0.79, incl	97 to 131	34.5	20
Over 0.79 to 1.27, incl	97 to 131	34.5	23
Over 1.27 to 6.32, incl	97 to 131	34.5	25
Over 6.32 to 76.20, incl	97 to 131	34.5	23

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3.3.2 Bending: 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.

3.4 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.