

**AEROSPACE
MATERIAL
SPECIFICATION**

AMS 4003H

Issued DEC 1939
Revised SEP 1995
Cancelled APR 2007

Superseding AMS 4003G

Aluminum Alloy, Sheet and Plate
0.12Cu (1100-H14)
Strain Hardened

(Composition similar to UNS A91100)

RATIONALE

AMS 4003G has been cancelled and superseded because equivalent technical requirements are provided by ASTM B 209 Alloy 1100, Temper H14.

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of April, 2007, and has been superseded by ASTM B 209 alloy 1100, temper H14. The requirements of the latest issue of ASTM B 209 alloy 1100, temper H14 shall be fulfilled whenever reference is made to the cancelled AMS 4003G. 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will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by ASTM B 209 alloy 1100, temper H14. Cancelled specifications are available from SAE.

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AMS 4003H

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ALUMINUM ALLOY, SHEET AND PLATE
0.12 Cu (1100-H14)
Strain Hardened

UNS A91 100

1. SCOPE:

1.1 Form:

This specification covers an aluminum alloy in the form of sheet and plate 1 .000 inch (25.40 mm) and under in nominal thickness.

1.2 Application:

These products have been used typically for formed parts and for parts requiring welding, but usage is not limited to such applications.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2202	Tolerances, Aluminum Alloy and Magnesium Alloy Sheet and Plate
MAM 2202	Tolerances, Metric, Aluminum Alloy and Magnesium Alloy Sheet and Plate
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
AMS 2811	Identification, Aluminum and Magnesium Alloy Wrought Products

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2.2 ASTM Publications:

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM B 660 Packaging/Packing of Aluminum and Magnesium Products

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	--
Copper	0.05	0.20
Iron + Silicon	--	0.95
Zinc	--	0.10
Manganese	--	0.05
Other impurities, each	--	0.05
Other impurities, total	--	0.15

3.2 Condition:

Strain hardened to H14 temper.

3.3 Properties:

The product shall conform to the following requirements determined in accordance with AMS 2355 or MAM 2355:

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

TABLE 2A - Tensile Properties, Inch/Pound Units

Nominal Thickness Inch	Tensile Strength ksi	Yield Strength At 0.2% Offset ksi, min	Elongation in 2 Inches or 4D %, min
0.009 to 0.012, incl	16.0 to 21.0	14.0	1
Over 0.012 to 0.019, incl	16.0 to 21.0	14.0	2
Over 0.019 to 0.031, incl	16.0 to 21.0	14.0	3
Over 0.031 to 0.050, incl	16.0 to 21.0	14.0	4
Over 0.050 to 0.113, incl	16.0 to 21.0	14.0	5
Over 0.113 to 0.499, incl	16.0 to 21.0	14.0	6
Over 0.499 to 1.000, incl	16.0 to 21.0	14.0	10

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
0.23 to 0.30, incl	110 to 145	97	1
Over 0.30 to 0.48, incl	110 to 145	97	2
Over 0.48 to 0.79, incl	110 to 145	97	3
Over 0.79 to 1.27, incl	110 to 145	97	4
Over 1.27 to 2.87, incl	110 to 145	97	5
Over 2.87 to 12.67, incl	110 to 145	97	6
Over 12.67 to 25.40, incl	110 to 145	97	10

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 AMS 2202 or MAM 2202.