SAE Aerospace
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AEROSPACE MATERIAL SPECIFICATION

SAE AMS 4266 | REV. A

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Superseding AMS 4266

Aluminum Alloy, Sheet
6.5Fe - 1.3Si - 0.60V (8022-H112)
Powder Metallurgy Product, Strain Hardened

UNS 98022

RATIONALE

This document has been reaffirmed to comply with the SAE five-year review policy.

NONCURRENT NOTICE

This specification has been declared “NONCURRENT” by the Aerospace Materials Division, SAE, as of October 2001. It is recommended, therefore, that this specification not be specified for new designs.

“NONCURRENT” refers to those materials which have previously been widely used and which may be required on some existing designs in the future. The Aerospace Materials Division, however, does not recommend these as standard materials for future use in new designs. Each of these “NONCURRENT” specifications is available from SAE.

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http://www.sae.org/technical/standards/AMS4266A

1. SCOPE:

1.1 Form:

This specification covers an aluminum alloy powder metallurgy product in the form of sheet 0.010 to 0.250 inch (0.25 to 6.35 mm) in nominal thickness.

1.2 Application:

This sheet has been used typically for parts requiring a combination of intermediate strength, high modulus, and thermal stability up to 750 °F (399°C), 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 of 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

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
Iron	6.2	6.8
Silicon	1.2	1.4
Vanadium	0.40	0.8
Oxygen (3.1.1)	0.05	0.20
Zinc (3.1.1)	--	0.25
Titanium (3.1.1)	--	0.10
Chromium (3.1.1)	--	0.10
Manganese (3.1.1)	--	0.10
Other Impurities, each (3.1.1)	--	0.05
Other Impurities, total (3.1.1)	--	0.10
Aluminum	remainder	

3.1.1 Determination not required for routine acceptance.

3.2 Condition:

Strain-hardened by cold-rolling.

3.2.1 Product cannot be strengthened by precipitation heat treatment.

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 for sheet 0.020to0.055inch (0.51 to 1.40 mm), inclusive, in nominal thickness.

TABLE 2A - Minimum Tensile Properties, Inch/Pound Units

Specimen Orientation	Tensile Strength ksi	Yield Strength at 0.2% Offset ksi	Elongation in 2 Inches %
Longitudinal	46.0	40.0	6
Long-Trans.	46.0	40.0	6

TABLE 2B - Minimum Tensile Properties, SI Units

Specimen Orientation	Tensile Strength MPa	Yield Strength at 0.2% Offset MPa	Elongation in 50.8 mm %
Longitudinal	317	276	6
Long-Trans.	317	276	6

3.3.1.1 Tensile properties of sheet under 0.020 inch (0.51 mm) or over 0.055to0.250inch (1.40 to 6.35 mm) in thickness shall be as agreed upon by purchaser and vendor.

3.3.2 Bending: Sheet 0.010 to 0.055 inch (0.25 to 1.40 mm), inclusive, in nominal thickness shall withstand, without cracking, bending at room temperature through an angle of 180 degrees around a diameter equal to a bend factor of four times the nominal thickness of the sheet with axis of bend parallel to the direction of rolling.

3.3.2.1 Bending requirements for sheet over 0.055 to 0.250 inch (1.40 to 6.35 mm) in nominal thickness shall be as agreed upon by purchaser and vendor.

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 AMS 2202 or MAM 2202.

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 performing 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 requirements of this specification.

4.2 Classification of Tests:

Tests for all technical requirements are acceptance tests and shall be performed on each heat or lot as applicable.

4.3 Sampling and Testing:

Shall be in accordance with AMS 2355 or MAM 2355.