

AEROSPACE MATERIAL SPECIFICATION

Submitted for recognition as an American National Standard



AMS 4007D

Issued	MAR 1974
Revised	APR 1987
Noncurrent	SEP 1991
Cancelled	AUG 1999

Superseding AMS 4007C

Aluminum Alloy Foil
4.4Cu - 1.5Mg - 0.6Mn (2024-0)

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1. SCOPE:

1.1 Form:

This specification covers an aluminum alloy in the form of foil.

1.2 Application:

Primarily for fabrication of diffusion-bonded, fiber-reinforced-composite tape, sheet, plate, and other structural forms.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications:

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

2.1.1 Aerospace Material Specifications:

AMS 2350 Standards and Test Methods

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

AMS 2770 Heat Treatment of Aluminum and Aluminum Alloys

2.2 ASTM Publications:

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

ASTM E252 Thickness of Thin Foil and Film by Weighing

ASTM E345 Tension Testing of Metallic Foil

2.3 U.S. Government Publications:

Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.3.1 Military Standards:

MIL-STD-649 Aluminum and Magnesium Products, Preparation for Shipment and Storage

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

Shall conform to the following percentages by weight, determined in accordance with AMS 2355 or MAM 2355:

	min	max
Copper	3.8	4.9
Magnesium	1.2	1.8
Manganese	0.30	0.9
Iron	--	0.50
Silicon	--	0.50
Zinc	--	0.25
Titanium	--	0.15
Chromium	--	0.10
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

3.2 Condition:

Annealed.

3.3 Properties:

Foil shall conform to the following requirements; tensile strength shall be determined in accordance with ASTM E345 and bending shall be performed in accordance with AMS 2355 or MAM 2355.

3.3.1 Tensile Properties As Annealed:

Tensile Strength, max 32,000 psi (220 MPa)

3.3.2 Properties After Solution Heat Treatment: Foil after solution heat treatment in accordance with AMS 2770 and aging for not less than 4 days at room temperature shall have the following properties:

3.3.2.1 Tensile Properties:

Tensile Strength, min 62,000 psi (425 MPa)