

AEROSPACE MATERIAL SPECIFICATION



AMS 4051G

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Cancelled	FEB 2005
Superseding	AMS 4051F

Aluminum Alloy Sheet and Plate, Alclad
6.8Zn - 2.8Mg - 2.0Cu - 0.23Cr (Alclad 7178-0)
Annealed

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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:

Primarily for structural use, including machine tapered parts. Certain design and processing procedures may cause these products to become susceptible to stress-corrosion cracking after heat treatment; ARP 823 recommends practices to minimize such conditions.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications and Aerospace recommended Practices 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.

2.1.1 Aerospace Material Specifications:

AMS 2202	Tolerances, Aluminum Alloy and Magnesium Alloy Sheet and Plate
MAM 2202	Tolerances, Metric, Aluminum Alloy and Magnesium Alloy Sheet and Plate
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 Alloy Parts

2.1.2 Aerospace Recommended Practices:

ARP 823	Minimizing Stress-Corrosion Cracking in Wrought Heat-Treatable Aluminum Alloy Products
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2.2 U.S. Government Publications:

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

2.2.1 Military Specifications:

MIL-H-6088 Heat Treatment of Aluminum Alloys

2.2.2 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:

Core (7178)

	min		max
Zinc	6.3	-	7.3
Magnesium	2.4	-	3.1
Copper	1.6	-	2.4
Chromium	0.18	-	0.28
Iron	--		0.50
Silicon	--		0.40
Manganese	--		0.30
Titanium	--		0.20
Other Impurities, each	--		0.05
Other Impurities, total	--		0.15
Aluminum	remainder		

Cladding (7072)

	min		max
Zinc	0.8	-	1.3
Silicon + Iron	--		0.7
Copper	--		0.10
Magnesium	--		0.10
Manganese	--		0.10
Other Impurities, each	--		0.05
Other Impurities, total	--		0.15
Aluminum	remainder		