



AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

AMS 4024B

Superseding AMS 4024A

Issued 6-30-60

Revised 11-1-67

ALUMINUM ALLOY SHEET AND PLATE

4. 3Zn - 3. 3Mg - 0. 60Cu - 0. 20Mn - 0. 17Cr (7079; -T6 Sheet, -T651 Plate)

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily for parts requiring high strength. Plate is also suitable for structural machined parts where warpage during machining due to residual stresses must be kept to a minimum. Certain design and processing procedures may cause this material to be susceptible to stress corrosion cracking; ARP 823 recommends practices to minimize such conditions.
3. **COMPOSITION:**

	min	max
Zinc	3.8	4.8
Magnesium	2.9	3.7
Copper	0.40	0.8
Manganese	0.10	0.30
Chromium	0.10	0.25
Iron	--	0.40
Silicon	--	0.30
Titanium	--	0.10
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

4. **CONDITION:**

- 4.1 **Sheet:** Solution and precipitation heat treated.
- 4.2 **Plate:** Solution heat treated, stretched to produce a nominal permanent set of 2%, but not less than 1-1/2% nor more than 3%, and precipitation heat treated.

4.2.1 Plate shall receive no further straightening operations after stretching.

5. **TECHNICAL REQUIREMENTS:** The product shall conform to the following requirements; tensile properties shall be determined in accordance with the latest issue of AMS 2355.

5.1 **Tensile Properties:** Test specimens cut in either the longitudinal or short transverse directions shall be capable of meeting the requirements specified below.

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Nominal Thickness Inches	Direction	Yield Strength at 0.2% Offset or at Extension Indicated (E = 10,300,000)			Elongation % in 2 in. or 4D min
		Tensile Strength psi, min	psi, min	Extension Under Load (See Note 1)	
0.040 to 0.249, incl	Long Trans.	72,000	62,000	0.0160	8
Over 0.249 to 1.000, incl	Long Trans.	73,000	63,000	0.0162	8
Over 1.000 to 1.500, incl	Long Trans.	73,000	63,000	0.0162	8
Over 1.500 to 2.000, incl	Long Trans.	73,000	63,000	0.0162	7
Over 2.000 to 2.500, incl	Long Trans.	73,000	63,000	0.0162	6
Over 2.500 to 3.000, incl	Long Trans.	71,000	62,000	0.0160	6
Over 3.000 to 4.000, incl	Longitudinal	70,000	60,000	0.0156	6
	Long Trans.	70,000	60,000	0.0156	5
	Short Trans.	65,000	56,000	0.0074	2
Over 4.000 to 4.500, incl	Longitudinal	68,000	58,000	0.0153	6
	Long Trans.	68,000	58,000	0.0153	5
	Short Trans.	63,000	54,000	0.0072	2
Over 4.500 to 5.000, incl	Longitudinal	68,000	58,000	0.0153	5
	Long Trans.	68,000	58,000	0.0153	5
	Short Trans.	63,000	54,000	0.0072	2
Over 5.000 to 5.500, incl	Longitudinal	67,000	57,000	0.0151	4
	Long Trans.	67,000	57,000	0.0151	4
	Short Trans.	62,000	53,000	0.0071	2
Over 5.500 to 6.000, incl	Longitudinal	66,000	56,000	0.0149	4
	Long Trans.	66,000	56,000	0.0149	4
	Short Trans.	61,000	52,000	0.0070	2

Note 1. Longitudinal and long trans., in. in 2 in.; short trans., in. in 1 in.

- 5.1.1 When a dispute occurs between purchaser and vendor over the yield strength values, yield strength determined by the offset method shall apply.
6. **QUALITY:** Material shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts.
7. **TOLERANCES:** Unless otherwise specified, tolerances shall conform to all applicable requirements of the latest issue of AMS 2202.
8. **REPORTS:**
- 8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report stating that the product conforms to the chemical composition and technical requirements of this specification. This report shall include the purchase order number, material specification number, thickness, size, and quantity.
- 8.2 Unless otherwise specified, the vendor of finished or semi-finished parts shall furnish with each shipment three copies of a report showing the purchase order number, material specification number, contractor or other direct supplier of material, part number, and quantity. When material for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of material to determine conformance to the requirements of this specification, and shall include in the report a statement that the material conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.