

AEROSPACE
MATERIAL
SPECIFICATION

AMS 4024C

Issued 6-30-60
Revised 7-1-85

ALUMINUM ALLOY SHEET AND PLATE
4.3Zn - 3.3Mg - 0.60Cu - 0.20Mn - 0.17Cr
(7079; -T6 Sheet, -T651 Plate)

UNS A97079

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of 7-9-75. It is recommended that this specification not be specified for new designs.

This cover sheet should be attached to the "C" revision of the subject specification.

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AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N. Y. 1000

AMS 4024C

Superseding AMS 4024B

Issued 6-30-60

Revised 11-1-68

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:** Shall be determined in the long transverse direction; the product shall also be capable of meeting the following requirements when tested in the longitudinal or short transverse direction.

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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)	
0.015 to 0.039, incl	Long Trans.	73,000	64,000	0.0164	7
Over 0.039 to 0.249, incl	Long Trans.	74,000	65,000	0.0166	8
Over 0.249 to 1.000, incl	Long Trans.	74,000	65,000	0.0166	8
Over 1.000 to 1.500, incl	Long Trans.	73,000	64,000	0.0164	8
Over 1.500 to 2.000, incl	Long Trans.	73,000	64,000	0.0164	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.	72,000	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 specified and showing the results of tests for long transverse tensile properties. This report shall include the purchase order number, material specification number and its revision letter, 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 and its revision letter, 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.