AERONAUTICAL MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 4025C

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ALUMINUM ALLOY SHEET AND PLATE
1Mg - 0.6Si - 0.25Cu - 0.25Cr (6061-0)

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 where moderate formability and response to ø heat treatment are required.

3. COMPOSITION:

Magnesium	0.8 - 1.2
Silicon	0.40 - 0.8
Copper	0.15 - 0.40
Chromium	0.15 - 0.35
ø Iron	0.7 max
Zinc	0.25 max
Manganese	0.15 max
Titanium	0.15 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

4. CONDITION: Annealed.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties: Test specimens shall conform to ASTM E8-54T, except from material less than 3/4 in. wide, and shall be cut across the direction of rolling except from material less than 9 in. wide. Elongation requirements apply only to material 3/4 in. and over in width.

Nominal Thickness Inches	Tensile Strength psi, max	Elongation % in 2 in., min
ø 0.010 to 0.020, incl	22,000	14
Over 0.020 to 0.128, incl	22,000	16
Over 0.128 to 1.000, incl	22,000	18
Over 1.000 to 3.000, incl	22,000	16

5.2 Bending: Material 0.500 in. and under in thickness shall be capable of withstanding, without cracking, bending at room temperature through an angle of 180 deg around a diameter equal to the bend factor times the nominal thickness of the material, with axis of bend parallel to direction of rolling.

ø Nominal Thickness Inch	Bend Factor
0.020 and under	0
Over 0.020 to 0.128, incl	1
Over 0.128 to 0.249, incl	2
Over 0.249 to 0.500, incl	3

5.3 Properties After Heat Treatment: Material after proper solution and precipitation heat treatment shall conform to the following requirements.

5.3.1 Tensile Properties: Test specimens shall conform to ASTM E8-54T except from material less than 3/4 in. wide, and shall be cut across the direction of rolling except from material less than 9 in. wide. Elongation requirements apply only to material 3/4 in. and over in width.

Ø	Nominal Thickness Inches	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 10,000,000) psi, min	Extension Under Load in. in 2 in.	Elongation % in 2 in. min.
	0.010 to 0.020, incl	42,000	35,000	0.0110	8
	Over 0.020 to 0.500, incl	42,000	35,000	0.0110	10
	Over 0.500 to 1.000, incl	42,000	35,000	0.0110	9
	Over 1.000 to 2.000, incl	42,000	35,000	0.0110	8
	Over 2.000 to 3.000, incl	42,000	35,000	0.0110	6

5.3.1.1 When a dispute occurs between purchaser and vendor over the yield strength Ø value, yield strength determined by the offset method shall apply.

5.3.2 Bending: Material 0.500 in. and under in thickness shall be capable of Ø withstanding, without cracking, bending at room temperature through an angle of 180 deg around a diameter equal to the bend factor times the nominal thickness of the material, with axis of bend parallel to direction of rolling.

Nominal Thickness Inch	Bend Factor
0.020 and under	2
Over 0.020 to 0.036, incl	3
Over 0.036 to 0.064, incl	4
Over 0.064 to 0.128, incl	5
Over 0.128 to 0.249, incl	6
Over 0.249 to 0.500, incl	7

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 the latest issue of AMS 2202 as applicable. Thickness tolerances shall conform to Table II.

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.