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AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 4035 D

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ALUMINUM ALLOY SHEET AND PLATE
4.5Cu - 1.5Mg - 0.6Mn (2024-0)

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 formed structural parts which will be subsequently heat treated.

3. COMPOSITION:

Copper	3.8 - 4.9
Magnesium	1.2 - 1.8
Manganese	0.30 - 0.9
Iron	0.50 max
Silicon	0.50 max
Zinc	0.25 max
Chromium	0.10 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 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 Inch	Tensile Strength psi, max	Elongation % in 2 in., min
0.500 and under	32,000	12

5.2 Bending: Material shall withstand, 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
0.032 and under	0
Over 0.032 to 0.064, incl	1
Over 0.064 to 0.128, incl	2
Over 0.128 to 0.249, incl	4
Over 0.249 to 0.500, incl	6

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5.3 Properties After Solution Heat Treatment: Unless otherwise specified, the material after proper solution heat treatment and aging for not less than 4 days at room temperature shall conform to the following requirements.

5.3.1 Tensile Properties: Test specimens shall conform to ASTM E8 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 Inch	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 10,500,000) psi, min	Extension Under Load in. in 2 in.	Elongation % in 2 in. min
0.020 and under	62,000	40,000	0.0116	12
Over 0.020 to 0.051, incl	62,000	40,000	0.0116	15
Over 0.051 to 0.249, incl	62,000	40,000	0.0116	17
Over 0.249 to 0.500, incl	62,000	38,000	0.0112	12

5.3.2 Bending: Material shall withstand, 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
0.040 and under	4
Over 0.040 to 0.051, incl	5
Over 0.051 to 0.128 incl	6
Over 0.128 to 0.249 incl	8
Over 0.249 to 0.500 incl	10

6. QUALITY: Material shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external defects 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.

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