AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 4035 A

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ALUMINUM ALLOY SHEET AND STRIP
Copper Magnesium Manganese (24S-O)

1. ACKNOWLEDGMENT: A vendor must mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. COMPOSITION:

Copper	3.8 - 4.9	Chromium	0.25 max
Magnesium	1.2 - 1.8	Zinc	0.10 max
Manganese	0.3 - 0.9	Other Impurities, each	0.05 max
Iron	0.5 max	Other Impurities, total	0.15 max
Silicon	0.5 max	Aluminum	remainder

3. CONDITION: (a) Annealed conforming to the following physical properties when test specimens are cut in any direction:

Thickness inches	Tensile Strength lb per sq in., max	Elongation % in 2 in., min	Bend Factor
0.010 - 0.032	35,000	12	0
0.033 - 0.064	35,000	12	1
0.065 - 0.128	35,000	12	2
0.129 - 0.258	35,000	12	4
0.259 - 0.500	35,000	12	6

(b) The material shall not crack when cold bent 180°, in any direction, over a diameter equal to the bend factor times the thickness.

4. PHYSICAL PROPERTIES: (a) Unless otherwise specified, the material after proper heat treating and when cut in any direction shall conform to the following minimum physical properties:

Thickness inches	Tensile Strength lb per sq in.	Yield Strength at 0.2% Set or at Extension Indicated lb per sq in.	Extension Under Load inch in 2"	Elongation % in 2 in.	Bend Factor
0.010 - 0.020	62,000	40,000	0.0118	12	4
0.021 - 0.040	62,000	40,000	0.0118	15	4
0.041 - 0.051	62,000	40,000	0.0118	15	5
0.052 - 0.128	62,000	40,000	0.0118	17	6
0.129 - 0.250	62,000	40,000	0.0118	15	8
0.251 - 0.500	62,000	40,000	0.0118	12	10
0.501 - 1.000	62,000	40,000	0.0118	8	--

(b) The heat treated material shall not crack when cold bent 180° over a diameter equal to the bend factor times the thickness, the axis of the bend being parallel to the direction of rolling.

5. QUALITY: The material shall be uniform in quality and temper, commercially flat, clean, sound, smooth, and free from buckles, seams, cracks, laminations, blisters, and other injurious defects within the limits of best commercial manufacturing practices. Material revealing defects during fabrication is subject to rejection.

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