

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 4030A

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ALUMINUM ALLOY SHEET AND STRIP Copper Manganese Magnesium (17S-0)

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

2. **COMPOSITION:**

Copper	3.5 - 4.5	Chromium	0.25 max
Manganese	0.4 - 1.0	Zinc	0.10 max
Magnesium	0.2 - 0.8	Other Impurities, each	0.05 max
Iron	1.0 max	Other Impurities, total	0.15 max
Silicon	0.8 max	Aluminum	remainder

3. **CONDITION:** (a) Annealed conforming to the following physical properties when test specimens are cut across the direction of rolling, except from strips less than 9 inches wide which may be cut lengthwise:

<u>Thickness</u> inches	<u>Tensile Strength</u> lb per sq in., max	<u>Elongation</u> % in 2 in., min	<u>Bend</u> 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:

<u>Thickness</u> inches	<u>Tensile</u> <u>Strength</u> lb per sq in.	<u>Yield Strength at 0.2% Set</u> <u>or at Extension Indicated</u>		<u>Elongation</u> % in 2 in.	<u>Bend</u> Factor
		lb per sq in.	<u>Extension</u> Under Load inch in 2"		
0.010 - 0.020	58,000	34,000	0.0106	15	3
0.021 - 0.040	58,000	34,000	0.0106	18	3
0.041 - 0.128	58,000	34,000	0.0106	18	4
0.129 - 0.258	58,000	34,000	0.0106	15	6
0.259 - 0.500	58,000	34,000	0.0106	12	8
0.501 - 1.000	58,000	34,000	0.0106	10	-

(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.