

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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ALUMINUM ALLOY SHEET Magnesium Chromium (52S-1/4 H)

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

2. **COMPOSITION:**

Magnesium	2.2 - 2.8
Chromium	0.15 - 0.35
Iron plus Silicon	0.45 max
Manganese	0.10 max
Copper	0.10 max
Zinc	0.10 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

3. **CONDITION:** (a) Quarter-hard and unless otherwise specified, mill finish.

(b) Physical properties shall conform to the values in the following table. Test specimens shall conform to ASTM E-8, except from sheet less than 3/4 inch wide, and shall be cut parallel to the direction of rolling. Elongation requirements apply only to sheet 3/4 inch and over in width.

Thickness Inch	Tensile Strength psi min	Elongation % in 2 in. min	Bend Factor
0.017 - 0.019, incl.	31,000	4	1
0.020 - 0.050, incl.	31,000	5	1
0.051 - 0.113, incl.	31,000	7	2
0.114 - 0.249, incl.	31,000	9	3

(c) Sheet shall withstand, without cracking, bending at room temperature through an angle of 180° around a diameter equal to the bend factor shown above times the nominal thickness of the sheet, with axis of bend parallel to direction of rolling.

4. **QUALITY:** (a) Sheet shall be uniform in quality and condition, clean, sound, and free from foreign material and from internal and external defects detrimental to fabrication or to the appearance and performance of parts. Sheet revealing defects during fabrication shall be subject to rejection.

(b) Sheet and parts made therefrom shall be subjected to inspection by any method which will reveal defects.

5. **TOLERANCES:** Unless otherwise specified, tolerances shall conform to the latest revision of AMS 2202 as applicable. Thickness tolerances shall conform to Table II.

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