

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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Revised

ALUMINUM ALLOY SHEET AND PLATE 3.5Mg - 0.25Cr (A54S-0)

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

2. APPLICATION: Primarily for low strength, formed parts fabricated by fusion welding.

3. COMPOSITION:

Magnesium	3.1 - 3.9
Chromium	0.15 - 0.35
Silicon + Iron	0.45 max
Zinc	0.20 max
Titanium	0.20 max
Copper	0.10 max
Manganese	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 parallel to the direction of rolling. Elongation requirements apply only to material 3/4 in. and over in width.

Nominal Thickness Inch	Tensile Strength psi		Yield Strength at 0.2% Offset or at Extension Indicated (E = 10,100,000)		Elongation % in 2 in. min
	min	max	psi, min	in. in 2 in.	
0.031 and under	30,000	41,000	11,000	0.0062	12
Over 0.031 to 0.050, incl	30,000	41,000	11,000	0.0062	14
Over 0.050 to 0.113, incl	30,000	41,000	11,000	0.0062	16
Over 0.113 to 2.000, incl	30,000	41,000	11,000	0.0062	18

5.2 Bending: Material 0.249 in. and under in thickness shall withstand, without cracking, bending at room temperature flat on itself with axis of bend parallel to direction of rolling.

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.

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