



AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
485 LEXINGTON AVENUE, NEW YORK, N.Y. 10017

AMS 4059D

Superseding AMS 4059C

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ALUMINUM ALLOY SHEET AND PLATE

4.4Mg - 0.65Mn - 0.15Cr (5083-H321)

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 parts requiring moderate forming, and where welding and good resistance to corrosion are important. Excessive cold work or prolonged heating in the temperature range of 150 - 300 F (66 - 149 C) may cause susceptibility to stress corrosion.
3. **COMPOSITION:**

	min	max
Magnesium	4.0	4.9
Manganese	0.30	1.0
Chromium	0.05	0.25
Iron	--	0.40
Silicon	--	0.40
Zinc	--	0.25
Titanium	--	0.15
Copper	--	0.10
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

4. **CONDITION:** Strain-hardened quarter hard and then stabilized.
5. **TECHNICAL REQUIREMENTS:** The product shall conform to the following requirements; tensile properties shall be determined in accordance with the latest issue of AMS 2355.

5.1 Tensile Properties:

Nominal Thickness Inches	Tensile Strength psi	Yield Strength at 0.2% Offset or at Extension Indicated (E = 10,200,000)		Elongation, % in 2 in. min
		psi	Extension Under Load in. in 2 in.	
0.188 to 1.500, incl	44,000 - 56,000	31,000 - 43,000	0.0101 - 0.0124	12
Over 1.500 to 3.000, incl	41,000 - 56,000	29,000 - 43,000	0.0097 - 0.0124	12

- 5.1.1 If sizes other than those shown are ordered, tensile property requirements shall be as agreed upon by purchaser and vendor.
- 5.1.2 When a dispute occurs between purchaser and vendor over the yield strength values, yield strength determined by the offset method shall apply.
6. **QUALITY:** Material shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts.