



# AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

## AMS 4059C

Superseding AMS 4059B

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### ALUMINUM ALLOY SHEET AND PLATE 4.5Mg - 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 (65 - 150 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. or 4D 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** When a dispute occurs between purchaser and vendor over the yield strength values, yield strength determined by the offset method shall apply.
- 5.1.2** If sizes other than those shown are ordered, tensile property requirements shall be as agreed upon by purchaser and vendor.
- 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.

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