

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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AMS 4380A

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## MAGNESIUM ALLOY SHEET AZ51X (Annealed)

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

Ø	<b>COMPOSITION:</b>	Aluminum	4.1 - 5.5
		Zinc	0.4 - 1.3
		Manganese	0.15 min
		Silicon	0.3 max
		Calcium	0.3 max
		Copper	0.05 max
		Nickel	0.005 max
		Iron	0.005 max
		Total Other Elements	0.3 max
	Magnesium	remainder	

3. **CONDITION:** Annealed, conforming to the following physical properties: Tensile test specimens, in accordance with ASTM E8, Figure 2, are acceptable and shall be cut parallel to the direction of rolling, except from sheet less than 3/4 inch wide. Elongation requirements apply only to sheet 3/4 inch and over in width.

Tensile Strength, psi	46,000 max
Elongation, % in 2 in.	8.0 min

The above physical properties apply to sheet from 0.020 to 0.249 inch inclusive, in thickness.

4. **QUALITY:** Sheet shall be uniform in quality and condition, clean, sound, smooth and free from foreign material and from internal and external defects detrimental to fabrication or to the performance of parts. Sheet in which defects are revealed during fabrication will be subject to rejection.

5. **TOLERANCES:** Unless otherwise specified, tolerances shall conform to the latest issue of AMS 2212.

6. **REPORTS:** (a) Unless otherwise specified, the vendor of sheet shall furnish with each shipment three copies of a notarized report stating that the physical properties and chemical composition of the sheet conform to the requirements specified. This report shall include the purchase order number, material specification number, size and quantity.

(b) Unless otherwise specified, the vendor of finished or semi-finished parts shall furnish with each shipment three copies of a notarized report showing the purchase order number, material specification number, contractor or other direct supplier of sheet, part number, and quantity. When sheet for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of sheet to determine conformance to the requirements of this specification, and shall include in the report a certification that the sheet conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.