

AERONAUTICAL MATERIAL SPECIFICATION

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ALUMINUM ALLOY SHEET AND PLATE Magnesium Silicon Copper (61S-T)

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

2. **COMPOSITION:**

Magnesium	0.80 - 1.20
Silicon	0.40 - 0.80
Copper	0.15 - 0.40
Chromium	0.15 - 0.35
Iron	0.70 max
Zinc	0.20 max
Manganese	0.15 max
Titanium	0.15 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

3. **CONDITION:** (a) Solution and precipitation heat treated, conforming to the following physical properties. Test specimens shall conform to ASTM E-8 except from sheet less than 3/4 inch wide, and shall be cut across the direction of rolling except from sheet less than 9 inches wide. Elongation requirements apply only to sheet 3/4 inch and over in width.

Thickness Inch	Tensile Strength psi min	Yield Strength (0.2% Offset) or at Extension Indicated		Elongation % in 2 in. min	Bend Factor
		psi min	Extension Under Load inch in 2 in. min		
0.010 - 0.020, incl.	42,000	35,000	0.0110	8	2
0.021 - 0.036, incl.	42,000	35,000	0.0110	10	3
0.037 - 0.064, incl.	42,000	35,000	0.0110	10	4
0.065 - 0.128, incl.	42,000	35,000	0.0110	10	5
0.129 - 0.249, incl.	42,000	35,000	0.0110	10	6
0.250 - 0.500, incl.	42,000	35,000	0.0110	10	7

(b) Sheet or plate 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 or plate, with axis of bend parallel to direction of rolling.

4. **QUALITY:** (a) Sheet and plate 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 or plate revealing defects during fabrication shall be subject to rejection.

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

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