



AEROSPACE MATERIAL SPECIFICATIONS

AMS 4160A

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

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

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ALUMINUM ALLOY EXTRUSIONS 1.0Mg - 0.60Si - 0.30Cu - 0.20Cr (6061-0)

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
- ∅ 2. **FORM:** Bars, rods, wire, shapes, and tubing.
3. **APPLICATION:** Primarily for parts requiring moderate strength, especially where such parts and assemblies require brazing or welding during fabrication.
4. **COMPOSITION:**

	min	max
Magnesium	0.8	1.2
Silicon	0.40	0.8
Copper	0.15	0.40
Chromium	0.04	0.35
Iron	--	0.7
∅ Zinc	--	0.25
Manganese	--	0.15
Titanium	--	0.15
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

5. **CONDITION:** Annealed.
- 5.1 Unless otherwise specified, extrusions shall be supplied with an as-extruded surface finish; light polishing to remove minor surface imperfections is permissible provided such imperfections can be removed within the dimensional tolerances.
6. **TECHNICAL REQUIREMENTS:** The product shall conform to the following requirements; tensile properties shall be determined in accordance with the latest issue of AMS 2355.

6.1 Tensile Properties:

Tensile Strength, psi	22,000 max
Yield Strength at 0.2% Offset or at 0.0072 in. in 2 in. Extension Under Load (E = 9,900,000), psi	16,000 max
Elongation, % in 2 in. or 4D	16 min

- 6.1.1 When a dispute occurs between purchaser and vendor over the yield strength values, yield strength determined by the offset method shall apply.
- 6.2 **Hardness:** Material should have hardness not higher than Brinell 40 using 500 kg load and 10 mm ball or 1000 kg load and 9/16 in. ball, or not higher than Brinell 45 using 1000 kg load and 10 mm ball, but shall not be rejected on the basis of hardness if the tensile property requirements are met.

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