



AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

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

AMS 4122E

Superseding AMS 4122D

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ALUMINUM ALLOY BARS, ROLLED, DRAWN, OR COLD FINISHED 5.6Zn - 2.5Mg - 1.6Cu - 0.30Cr (7075-T6)

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, and wire.
3. **APPLICATION:** Primarily for parts requiring high strength and whose fabrication does not involve welding or forming. Certain design and processing procedures may cause this material to be susceptible to stress corrosion cracking; ARP 823 recommends practices to minimize such conditions.
4. **COMPOSITION:**

	min	max
Zinc	5.1	6.1
Magnesium	2.1	2.9
Copper	1.2	2.0
Chromium	0.18	0.40
Iron	--	0.7
Silicon	--	0.50
Manganese	--	0.30
Titanium	--	0.20
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

5. **CONDITION:** Rolled, drawn, or cold finished, as ordered, and solution and precipitation heat treated.
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:** Except as specified in 6.1.2, the following requirements apply to all sizes:

Tensile Strength, psi	77,000 min
Yield Strength at 0.2% Offset or at 0.0168 in. in 2 in. Extension Under Load (E = 10,300,000), psi	66,000 min
Elongation, % in 2 in. or 4D	7 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.
 - 6.1.2 Tensile properties shall be as agreed upon by purchaser and vendor on rounds over 4.000 in. in diameter, on squares, hexagons, and octagons over 3.500 in., and on rectangles with thickness over 3.000 in. and width over 6.000 in. (width over 10.000 in. for rectangles 3.000 in. and under in thickness).
 - 6.2 **Hardness:** Material should have hardness not lower than Brinell 135 using 500 kg load and 10 mm ball or 1000 kg load and 9/16 in. ball, or not lower than Brinell 140 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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