Society of Automotive Engineers, Inc.
485 LEXINGTON AVENUE, NEW YORK, N.Y. 10017

AEROSPACE MATERIAL SPECIFICATION

AMS 4123D
Superseding AMS 4123C
Issued 6-30-60
Revised 5-1-68

ALUMINUM ALLOY BARS, ROLLED OR COLD FINISHED
5.6Zn - 2.5Mg - 1.6Cu - 0.30Cr (7075-T651)
Stress-Relief Stretched

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

2. FORM: Bars and rods.

3. APPLICATION: Primarily for machined parts subject to excessive warpage during machining due to residual stresses and 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 or cold finished, as ordered, and solution heat treated, stress-relieved by stretching, and precipitation heat treated.

5.1 Material shall be stretched in the solution heat treated condition to produce a nominal permanent set of 1-1/2%, but not less than 1% nor more than 3%.

5.2 Material shall receive no further straightening operations after stretching, unless specifically authorized.

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 6.1.1, the following requirements apply to bars 0.500 in. and over in least distance between parallel sides and to rods 0.500 in. and over in diameter.

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