

AERONAUTICAL MATERIAL SPECIFICATIONS

AMS 4088E

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

Issued 1-1-42
Revised 1-15-57

ALUMINUM ALLOY TUBING, SEAMLESS, DRAWN 4.5Cu - 1.5Mg - 0.6Mn (2024-T3)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. APPLICATION: Parts and assemblies such as brackets where high strength, non-weldable material is required.

3. COMPOSITION:

Copper	3.8 - 4.9
Magnesium	1.2 - 1.8
Manganese	0.30 - 0.9
Iron	0.50 max
Silicon	0.50 max
Zinc	0.25 max
Chromium	0.10 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

4. CONDITION: Solution heat treated.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties:

Nominal Wall Thickness Inch	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 9,900,000)		Elongation % in 2 in. min	
		psi, min	in. in 2 in.	Strip	Full Section
0.018 to 0.024, incl	64,000	42,000	0.0120	--	10
Over 0.024 to 0.049, incl	64,000	42,000	0.0120	10	12
Over 0.049 to 0.259, incl	64,000	42,000	0.0120	10	14
Over 0.259 to 0.500, incl	64,000	42,000	0.0120	12	16

- 5.1.1 When a dispute occurs between purchaser and vendor over the yield strength value, yield strength determined by the offset method shall apply.

- 5.2 Flattening: Tubing having nominal wall thickness less than 10% of the nominal OD shall be capable of withstanding, without cracking, flattening sideways under a load applied gradually at room temperature until the outside dimension under load is equal to 8 times the nominal wall thickness.