

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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Revised

ALUMINUM ALLOY EXTRUSIONS

6.8Zn - 2.75Mg - 2Cu - 0.3Cr (X7178-T6)

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

2. FORM: Bars, rods, and shapes.

3. COMPOSITION:

Zinc	6.3 - 7.3
Magnesium	2.4 - 3.1
Copper	1.6 - 2.4
Chromium	0.18 - 0.40
Iron	0.7 max
Silicon	0.50 max
Manganese	0.30 max
Titanium	0.20 max
Other Impurities, each	0.05 max
Other Impurities, total	0.15 max
Aluminum	remainder

4. CONDITION: Solution and precipitation heat treated.

4.1 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.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties:

Nominal Diameter or Least Thickness Inches	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 10,300,000)		Elongation % in 4D min
		psi, min	Extension Under Load in. in 2 in.	
0.25 and under	84,000	76,000	0.0188	5
Over 0.25 to 2.99, incl	86,000	78,000	0.0192	5

5.1.1 The tensile property requirements shall be based on the thickness of the portion of the extrusion from which the test specimens are taken. Specimens from sections over 1.5 in. in diameter or thickness shall be taken midway between center and surface.

5.1.2 If sizes other than those shown above are ordered, tensile properties shall be as agreed upon by purchaser and vendor.

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