

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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AMS4154 D

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## ALUMINUM ALLOY EXTRUSIONS 5.6Zn - 2.5Mg - 1.6Cu - 0.25Cr (75S-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 shapes.

3. COMPOSITION:

|                         |             |
|-------------------------|-------------|
| Zinc                    | 5.1 - 6.1   |
| Magnesium               | 2.1 - 2.9   |
| Copper                  | 1.2 - 2.0   |
| Chromium                | 0.15 - 0.40 |
| Iron                    | 0.7 max     |
| Silicon                 | 0.5 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.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties:

| Nominal Diameter or<br>Least Thickness<br>or Area<br>Inches | Tensile<br>Strength<br>psi, min | Yield Strength at 0.2% Offset<br>or at Extension Indicated<br>(E = 10,300,000) |                                      | Elongation<br>% in 4D, min |
|-------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------|--------------------------------------|----------------------------|
|                                                             |                                 | psi, min                                                                       | Extension Under Load<br>in. in 2 in. |                            |
| Under 0.25                                                  | 78,000                          | 70,000                                                                         | 0.0176                               | 7                          |
| 0.25 - 2.99, incl                                           | 80,000                          | 72,000                                                                         | 0.0180                               | 7                          |
| Over 2.99 - 4.49, incl                                      |                                 |                                                                                |                                      |                            |
| Area to 20 sq in., incl                                     | 80,000                          | 70,000                                                                         | 0.0176                               | 7                          |
| Area over 20 - 32 sq in.,<br>incl                           | 78,000                          | 70,000                                                                         | 0.0176                               | 6                          |
| Over 4.49 - 5.00, incl                                      |                                 |                                                                                |                                      |                            |
| Area to 32 sq in., incl                                     | 78,000                          | 68,000                                                                         | 0.0172                               | 6                          |

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