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| <b>AEROSPACE<br/>MATERIAL SPECIFICATION</b>                            | <b>AMS4350™</b> | <b>REV. N</b> |
|                                                                        | Issued          | 1940-01       |
|                                                                        | Revised         | 2017-10       |
| Superseding AMS4350M                                                   |                 |               |
| Magnesium Alloy, Extrusions<br>6.5A1 - 0.95Zn (AZ61A-F)<br>As Extruded |                 |               |
| UNS M11610                                                             |                 |               |

## RATIONALE

AMS4350N revises Properties (3.3.1.1, Table 2B), Reports (4.4.1), Identification (5.1.1), and Packaging (5.2.1), and is a Five-Year Review and update of this specification.

### 1. SCOPE

#### 1.1 Form

This specification covers a magnesium alloy in the form of extruded bars, rods, wire, tubing, and profiles.

1.1.1 This specification covers products up to 4.999 inches (63.47 mm) in diameter or least thickness (but not over 25 square inches (161 sq cm) and tubing up to 6.000 inches (152.4 mm) diameter with wall thicknesses between 0.28 to 0.75 inches (7.11 to 19.05 mm) (see 8.5).

#### 1.2 Application

These products have been used typically for low-strength parts requiring rigidity and low density, but usage is not limited to such applications. Special care is necessary to prevent corrosion.

### 2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

#### 2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

AMS2355 Quality Assurance Sampling and Testing, Aluminum Alloys and Magnesium Alloys, Wrought Products, Except Forging Stock, and Rolled, Forged, or Flash Welded Rings

ARP1917 Clarification of Terms Used in Aerospace Metals Specifications

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## 2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, [www.astm.org](http://www.astm.org).

ASTM B666/B666M Identification Marking of Aluminum and Magnesium Products  
ASTM E10 Brinell Hardness of Metallic Materials

## 2.3 ANSI Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ANSI H35.2 Dimensional Tolerances for Aluminum Mill Products

ANSI H35.2M Dimensional Tolerances for Aluminum Mill Products (Metric)

## 3. TECHNICAL REQUIREMENTS

### 3.1 Composition

Shall conform to the percentages by weight shown in Table 1, determined in accordance with AMS2355.

**Table 1 - Composition**

| Element                         | Min       | Max   |
|---------------------------------|-----------|-------|
| Aluminum                        | 5.8       | 7.2   |
| Zinc                            | 0.40      | 1.5   |
| Manganese                       | 0.15      | --    |
| Silicon                         | --        | 0.05  |
| Copper                          | --        | 0.05  |
| Nickel                          | --        | 0.005 |
| Iron                            | --        | 0.005 |
| Other Impurities, each (3.1.1)  | --        | 0.10  |
| Other Impurities, total (3.1.1) | --        | 0.3   |
| Magnesium                       | remainder |       |

3.1.1 Determination not required for routine acceptance.

### 3.2 Conditions

As extruded.

3.2.1 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 specified dimensional tolerances.

### 3.3 Properties

Extrusions shall conform to the following, determined in accordance with AMS2355.

#### 3.3.1 Tensile Properties

Shall be as specified in Table 2.

3.3.1.1 Mechanical property requirements for product outside of the range covered by Table 2 shall be agreed upon between purchaser and producer.