



# AEROSPACE MATERIAL SPECIFICATION

AMS4476™

REV. A

Issued 2013-11  
Revised 2021-02

Superseding AMS4476

Aluminum Alloy, Extrusions  
5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-O)  
Annealed  
(Composition similar to UNS A97075)

## RATIONALE

AMS4476A prohibits unauthorized exceptions (1.1, 3.7, 4.4.1, 5.1.1, 8.5, 8.6), revises condition reference (3.2, 3.3.2.1, 3.3.3), eliminates weight restriction on UT testing (3.4.1), allows prior revisions (8.4), adds AS6279 as a requirement (3.6), and results from a Five-Year Review and update of this specification.

### 1. SCOPE

#### 1.1 Form

This specification covers an aluminum alloy in the form of extruded bars, rods, wire, profiles, and tubing up to 5.000 inches (127.00 mm), inclusive in nominal diameter or least thickness (bars, rods, wire, profiles) or nominal wall thickness (tubing) (see 8.6).

1.1.1 Tubing shall be additionally classified as follows:

Type I: Tubing extruded from hollow billets using die and mandrel

Type II: Tubing extruded from solid billets using porthole or spider die or similar tooling

When no Type is specified, Type I shall apply.

#### 1.2 Application

These products have been used typically for parts requiring high strength after heat treatment (see 3.3.2) and whose fabrication does not involve welding or forming, but usage is not limited to such applications.

1.2.1 Certain design and processing procedures may cause these extrusions to become susceptible to stress-corrosion cracking; ARP823 recommends practices to minimize such conditions.

### 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.

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2021 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

**TO PLACE A DOCUMENT ORDER:** Tel: 877-606-7323 (inside USA and Canada)  
Tel: +1 724-776-4970 (outside USA)  
Fax: 724-776-0790  
Email: CustomerService@sae.org  
http://www.sae.org

SAE WEB ADDRESS:

**For more information on this standard, visit**

<https://www.sae.org/standards/content/AMS4476A/>

## 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 Alloy, Wrought Products (Except Forging Stock), and Rolled, Forged, or Flash Welded Rings

AMS2772 Heat Treatment of Aluminum Alloy Raw Materials

ARP823 Minimizing Stress-Corrosion Cracking in Wrought High-Strength Aluminum Alloy Products

ARP1917 Clarification of Terms Used in Aerospace Metals Specifications

AS6279 Standard Practice for Production, Distribution, and Procurement of Metal Stock

## 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 B594 Ultrasonic Inspection of Aluminum-Alloy Wrought Products for Aerospace Applications

ASTM B660 Packaging/Packing of Aluminum and Magnesium Products

ASTM B666/B666M Identification Marking of Aluminum and Magnesium Products

## 2.3 ANSI Accredited Publications

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

ANSI H35.1/H35.1M Standard Alloy and Temper Designation System for Aluminum

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
Silicon	--	0.40
Iron	--	0.50
Copper	1.2	2.0
Manganese	--	0.30
Magnesium	2.1	2.9
Chromium	0.18	0.28
Zinc	5.1	6.1
Titanium	--	0.20
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	