



AEROSPACE MATERIAL SPECIFICATION

AMS4182™**REV. J**

Issued 1948-09
Reaffirmed 2006-10
Revised 2021-12

Superseding AMS4182H

Aluminum Alloy, Wire
5.0Mg - 0.12Mn - 0.12Cr (5056-O)
Annealed
(Composition similar to UNS A95056)

RATIONALE

AMS4182J results from a Five-Year Review and update of this specification with changes to prohibit unauthorized exceptions (3.3.1.1, 3.6, 4.4.1, 5.1.1, 8.6), updates applicable documents (2.1), and allows the use of the immediate prior specification revision (8.5).

1. SCOPE

1.1 Form

This specification covers an aluminum alloy in the form of wire (see 8.7).

1.2 Application

This wire has been used typically for the manufacture of screen for reinforcement of, and to provide electrical conductivity through, rubber gaskets, but usage is not limited to such applications.

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.

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

ARP1917 Clarification of Terms Used in Aerospace Metals Specifications

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:

Full document details: SAE AMS4182J

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS4182J/>

Documents

Document Sharing Hub

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.

ASTM B660 Packaging/Packing of Aluminum and Magnesium Products

2.3 ANSI Accredited 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
Silicon	--	0.30
Iron	--	0.40
Copper	--	0.10
Manganese	0.05	0.20
Magnesium	4.5	5.6
Chromium	0.05	0.20
Zinc	--	0.10
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	

3.2 Condition

Annealed.

3.3 Properties

Wire shall conform to the following requirements; tensile properties shall be determined in accordance with AMS2355 on the mill produced size.

3.3.1 Tensile Properties

Shall be shown in Table 2.

3.3.1.1 Mechanical properties for product outside the range covered by Table 2 shall be agreed upon between purchaser and producer and reported in 4.4.1.

Table 2 - Tensile properties

Nominal Diameter	Property	Value
Up to 0.375 inch (9.52 mm), excl	Tensile Strength, max	46.0 ksi (317 MPa)
Up to 0.125 inch (3.18 mm), excl	Elongation in 2 Inches (50.8 mm) or 4D, min	Not required
0.125 to 0.375 inch (3.18 to 9.52 mm), excl	Elongation in 2 Inches (50.8 mm) or 4D, min	20%