



AEROSPACE MATERIAL SPECIFICATION

AMS4246™**REV. F**

Issued	1986-10
Noncurrent	2008-02
Revised	2021-07

Superseding AMS4246E

Aluminum Alloy, Welding Wire
7.0Si - 0.52Mg (357)
(Composition similar to UNS A03570)

RATIONALE

AMS4246F is the result of a Five-Year Review and update. The revision prohibits unauthorized exceptions (3.2, 4.4.1.1, 5.2.1, 8.5), and allows the use of the immediate prior revision of this specification (8.6).

1. SCOPE

1.1 Form

This specification covers an aluminum alloy in the form of welding wire.

1.2 Application

This wire has been used typically as filler metal for gas-metal-arc and gas-tungsten-arc welding of aluminum alloy castings having similar composition and requiring, in the weld zone, response to heat treatment, properties, and corrosion resistance comparable to those of the castings, 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
AMS2813	Packaging and Marking of Packages of Welding Wire, Standard Method
AMS2814	Packaging and Marking of Packages of Welding Wire, Premium Quality
AMS2816	Identification, Welding Wire, Tab Marking Method

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SAE WEB ADDRESS:

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS4246F>

- AMS2819 Identification, Welding Wire, Direct Color Code System
- ARP1917 Clarification of Terms Used in Aerospace Metals Specifications
- ARP4926 Alloy Verification and Chemical Composition Inspection of Welding Wire

2.2 AWS Publications

Available from American Welding Society, 8669 NW 36 Street, #130, Miami, FL 33166-6672, Tel: 1-800-443-9353 or 305-443-9353, www.aws.org.

- AWS A5.01 Welding Consumables - Procurement of Filler Metals and Fluxes
- AWS A5.10 Welding Consumables - Wire Electrodes, Wires and Rods for Welding of Aluminum and Aluminum-Alloys - Classification

3. TECHNICAL REQUIREMENTS

3.1 Wire shall be in accordance with AWS A5.10 R-357.0 and the following:

3.1.1 Sizes and Tolerances

Wire shall be supplied in the standard sizes and to the tolerances specified in AWS A5.10. When wires are ordered with diameters smaller than the smallest wire diameter specified in the reference specification, the wire shall have the same tolerance as the smallest wire diameter specified in the reference specification.

3.2 Exceptions

Any exceptions shall be authorized by the purchaser and reported as in 4.4.1.1.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

The vendor of wire shall supply all samples for vendors tests and shall be responsible for the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the wire conforms to specified requirements.

4.2 Classification of Tests

4.2.1 Acceptance Tests

Chemical analysis (AWS A5.10), bead-on-plate testing (AWS A5.10), sizes and tolerances (AWS A5.10), and alloy verification (5.1) are acceptance tests and shall be performed on each inspection lot.

4.3 Sampling and Testing

Shall be in accordance with AWS A5.01 Class S4.

4.4 Reports

4.4.1 The vendor of wire shall furnish with each shipment a report stating that the wire conforms to the chemical composition and other technical requirements. This report shall include the purchase order number, inspection lot number, AMS4246F, nominal size, type, and quantity.

4.4.1.1 When material produced to this specification has exceptions taken to the technical requirements listed in Section 3, the report shall contain a statement "This material is certified as AMS4246F(EXC) because of the following exceptions:" and the specific exceptions shall be listed (also see 5.2.1).

4.5 Resampling and Retesting

Shall be in accordance with AMS2355 or AWS A5.01.

5. PREPARATION FOR DELIVERY

5.1 Alloy Verification

Wire on each spool or in each package of cut lengths shall be alloy verified by a method acceptable to purchaser. The alloy verification procedures of ARP4926 are recommended.

5.1.1 An 8 inch (203 mm) length of wire shall be made accessible at one end of each spool for alloy analysis, if required.

5.2 Identification

Shall be by tab marking in accordance with AMS2816 unless color coding in accordance with AMS2819 is specified by purchaser.

5.2.1 When technical exceptions are taken (see 4.4.1.1), the material shall be identified with AMS4246(EXC).

5.3 Packaging and Marking

Shall be by standard method in accordance with AMS2813 unless premium quality method in accordance with AMS2814 or other method is specified by purchaser.

6. ACKNOWLEDGMENT

A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. REJECTIONS

Wire not conforming to this specification, or to modifications authorized by purchaser, will be subject to rejection.

8. NOTES

8.1 Revision Indicator

A change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document, including technical revisions. Change bars and (R) are not used in original publications, nor in documents that contain editorial changes only.

8.2 Terms used in AMS are clarified in ARP1917.

8.3 Dimensions and properties in inch/pound units and the Fahrenheit temperatures are primary; dimensions and properties in SI units and the Celsius temperatures are shown as the approximate equivalents of the primary units and are presented only for information.

8.4 Unless otherwise specified, the material producer shall work to the revision of this specification (AMS4246) in effect on the date of order placement. Unless otherwise specified, material manufactured and certified to the immediately previous revision of this specification (AMS4246) may be procured and used until inventory is depleted.

8.5 It is the purchaser's obligation to ensure that product they procure or resell as AMS4246 has any exceptions approved by the subsequent purchaser.