AEROSPACE MATERIAL SPECIFICATION

AMS5692™	REV. F

Issued 1982-10
Reaffirmed 2018-05
Revised 2024-03

Superseding AMS5692E

(R) Steel, Corrosion- and Heat-Resistant, Welding Wire
19Cr - 12.5Ni - 2.5Mo
(Composition similar to UNS S31680)

RATIONALE

AMS5692E is the result of a Five-Year Review and update of the specification. The revision adopts the requirements of AWS A5.9 and AWS A5.01, and addresses additional sizes (see 3.3.1), sampling (see 4.3 and 4.5), exception requirements (see 3.4, 4.4.1, and 8.3), reporting (see 4.4) and prior revisions (see 8.4) standard in an AMS document.

1. SCOPE

1.1 Form

This specification covers a corrosion- and heat-resistant steel in the form of welding wire.

1.2 Application

This wire has been used typically as filler metal for gas-tungsten-arc or gas-metal-arc welding of corrosion- and heat-resistant steels and alloys, 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 form a part of this specification to the extent specified herein. The producer 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.

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

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
SAE WEB ADDRESS: **http://www.sae.org**

For more information on this standard, visit
https://www.sae.org/standards/content/AMS5692F

AMS2819 Identification, Welding Wire, Direct Color Code System

ARP4926 Alloy Verification and Chemical Composition, Inspection of Welding Wire

AS7766 Terms Used in Aerospace Metals Specifications

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 A5.01M/A5.01 Welding and Brazing Consumables - Procurement of Filler Metals and Fluxes

AWS A5.9/A5.9M Bare Stainless Steel Welding Electrodes and Rods

2.3 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Composition

Wire shall meet the technical requirements of AWS A5.9/5.9M ER316 with the following additional chemistry controls:

3.1.1 The analysis for carbon shall be determined on finished wire.

3.2 Quality

Wire, as received by the purchaser, shall be uniform in quality and condition, sound, and free from foreign materials and from imperfections detrimental to welding operations, operation of welding equipment, or properties of the deposited weld metal.

3.3 Sizes and Tolerances

Wire shall be supplied in the sizes and to the tolerances specified in AWS A5.9/5.9M. Smaller diameter wires, when ordered, shall be supplied in sizes and tolerances shown in 3.3.1.

3.3.1 Diameter - Small Wire

Wire diameter and tolerances for small wire shall be as shown in Tables 1A and 1B.

Table 1A - Sizes and diameter tolerances, inch/pound units

Form	Nominal Diameter Inches	Tolerance Inches Plus	Tolerance Inches Minus
Spools	0.007, 0.010, 0.015	0.0005	0.0005

Table 1B - Sizes and diameter tolerances, SI units

Form	Nominal Diameter Millimeters	Tolerance Millimeters Plus	Tolerance Millimeters Minus
Spools	0.18, 0.25, 0.38	0.013	0.013

3.4 Any exceptions shall be authorized by the purchaser and reported as in 4.4.1.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

The producer of wire shall supply all samples for producer's tests and shall be responsible for the performance of all required tests. The 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

Composition (see 3.1), sizes and tolerances (see 3.3), and alloy verification (see 5.2.1) are acceptance tests and shall be performed on each heat or lot as applicable.

4.2.1.1 Carbon (see 3.1.1) shall be determined on finished wire from each lot.

4.3 Sampling and Testing

Sampling and testing shall be in accordance with AWS A5.01 S3, testing schedule 5 or J.

4.4 Reports

The producer of wire shall furnish with each shipment a report showing the producer's name, country where the metal was melted (e.g., final melt in the case of metal processed by multiple melting operations), results of tests for the full composition of each heat and for the wire carbon analysis of each lot, and stating that the wire conforms to the other technical requirements. This report shall include the purchase order number, heat and lot numbers, AMS5692F, nominal size, and quantity.

4.4.1 When material produced to this specification has exceptions taken to the technical requirements listed in Section 3 (see 5.3.1), the report shall contain a statement "This material is certified as AMS5692F(EXC) because of the following exceptions:" and the specific exceptions shall be listed.

4.5 Resampling and Retesting

Resampling and retesting shall be in accordance with AWS A5.01.

5. PREPARATION FOR DELIVERY

5.1 Wire shall be supplied either on spools in one continuous length for machine welding or in cut lengths for manual welding, as ordered. Wire on each spool or in each package of cut lengths shall be from the same heat of steel.

5.2 Alloy Verification

5.2.1 Wire from each spool or package of cut lengths shall be alloy verified by a method acceptable to the purchaser and producer. The alloy verification methods of ARP4926 are recommended.

5.2.2 An 8-inch (203-mm) length of wire shall be made accessible at both ends of each spool for alloy verification.

5.3 Identification

Identification shall be in accordance with AMS2816 unless AMS2819 or another method is specified by purchaser.

5.3.1 When technical exceptions are taken (see 4.4.1), the material shall be identified with AMS5692(EXC).

5.4 Packaging and Marking

Packaging and marking shall be in accordance with AMS2813 unless AMS2814 or another method is specified by the purchaser.

6. ACKNOWLEDGMENT

A producer 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 the purchaser, will be subject to rejection.

8. NOTES

8.1 A change bar (l) 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 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.

8.3 It is the purchaser's obligation to ensure that product they procure or resell as AMS5692 has any exceptions approved by their subsequent purchaser.

8.4 Unless otherwise specified, the material producer shall work to the revision of this specification (AMS5692) in effect on the date of order placement. Unless otherwise specified, material manufactured and certified to the immediately previous revision of this specification (AMS5692) may be procured and used until inventory is depleted.