



AEROSPACE MATERIAL SPECIFICATION

AMS5696™**REV. F**

Issued	1984-07
Noncurrent	2008-03
Reaffirmed	2021-05
Revised	2025-10

Superseding AMS5696E

(R) Steel, Corrosion- and Heat-Resistant, Welding Wire,
19Cr - 12.5Ni - 2.5Mo (316L)
(Composition similar to UNS S31683)

RATIONALE

AMS5696F is the result of a Five-Year Review and update of the specification. The revision updates the title to include the trade name (see 8.5), adds country of origin to reporting (see 4.4), allows prior revisions (see 8.3), and prohibits unauthorized exceptions (see 3.4, 4.4.1, 5.3.1, and 8.4).

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 bare wire 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.

1.2.1 The relatively high ferrite content promotes weldability by combating micro-fissuring and minimizing cracking in heavy sections but limits use of the wire to applications not operating in the sigma-forming temperature range.

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 (U.S. and Canada only) or +1 724-776-4970 (outside U.S. and Canada), 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

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 © 2025 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, or used for text and data mining, AI training, or similar technologies, 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 AMS5696F

For more information on this standard, visit <https://www.sae.org/standards/content/AMS5696F/>

Documents

Standard, visit Sharing Hub

AMS2816	Identification, Welding Wire, Tab Marking Method
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
HS-1086	Metals and Alloys in the Unified Numbering System

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

2.3 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Wire shall meet the technical requirements of AWS A5.9/A5.9M ER316L and the following:

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/A5.9M. Smaller diameter wires, when ordered, shall be supplied in sizes and tolerances shown in 3.3.1.

3.3.1 Diameter

Small diameter wire shall be as shown in Table 1.

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

Form	Nominal Diameter Inch	Tolerance Inch Plus and Minus
Cut Lengths	0.030, 0.035	0.001
Spools	0.007, 0.010, 0.015	0.0005

Table 1B - Sizes and diameter tolerances for small wire, SI units

Form	Nominal Diameter Millimeter	Tolerance Millimeter Plus and Minus
Cut Lengths	0.76, 0.89	0.025
Spools	0.18, 0.25, 0.38	0.013

