



AEROSPACE MATERIAL SPECIFICATION

AMS5029™**REV. F**

Issued 1969-05
Reaffirmed 2013-10
Revised 2024-09

Superseding AMS5029E

Steel, Welding Wire
0.78Cr - 1.8Ni - 0.35Mo - 0.20V (0.33 - 0.38C)(4335 Mod)
Vacuum Melted, Environment Controlled Packaging
(Composition similar to UNS K33517)

RATIONALE

AMS5029F is the result of a Five-Year Review and update of the specification. The revision updates composition testing and reporting (see 3.1 and 3.1.3), adds producer country of origin to reports (see 4.4.1), and updates exception requirements (see 8.6).

1. SCOPE

1.1 Form

This specification covers a low-alloy steel in the form of welding wire.

1.2 Application

This wire has been used typically as filler metal for gas-tungsten-arc welding of basis metal of similar composition and quality requiring heat-treatment response in the weld joint approximating strength of the basis metal, 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.

AMS2259 Chemical Check Analysis Limits, Wrought Low-Alloy and Carbon Steels

AMS2370 Quality Assurance Sampling and Testing, Carbon and Low-Alloy Steel Wrought Products and Forging Stock

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SAE WEB ADDRESS:

Full document details: SAE AMS5029F

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS5029F/>

Documents

Standard, visit Sharing Hub

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
AMS2819	Identification, Welding Wire, Direct Color Code System
ARP1876	Weldability Test for Weld Filler Metal Wire
ARP4926	Alloy Verification and Chemical Composition Inspection of Welding Wire
AS7766	Terms Used in Aerospace Metals Specifications

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 A751 Chemical Analysis of Steel Products

ASTM D2650 Chemical Composition of Gases by Mass Spectrometry

2.3 Definitions

Terms used in AMS are defined in AS7766.

3. TECHNICAL REQUIREMENTS

3.1 Composition

Composition shall conform to the percentages by weight shown in Table 1, determined in accordance with ASTM A751 or by other analytical methods acceptable to the purchaser.

Table 1 - Composition

Element	Min	Max
Carbon (see 3.1.2)	0.33	0.38
Manganese	0.60	0.90
Silicon	--	0.25
Phosphorus	--	0.008
Sulfur	--	0.008
Chromium	0.65	0.90
Nickel	1.65	2.00
Molybdenum	0.30	0.40
Vanadium	0.17	0.23
Oxygen (see 3.1.2)	--	0.0025 (25 ppm)
Nitrogen (see 3.1.2)	--	0.0050 (50 ppm)
Hydrogen (see 3.1.2 and 3.1.2.1)	--	0.0010 (10 ppm)

3.1.1 Chemical analysis of initial ingot, bar, or rod stock before drawing, other than those analyses required to be done on the finished wire, is acceptable provided the processes used for drawing or rolling, annealing, and cleaning are controlled to ensure continued conformance to requirements.