

AWS A5.28/A5.28M:2005 (R2015)
An American National Standard

Specification for Low-Alloy Steel Electrodes and Rods for Gas Shielded Arc Welding



**AWS A5.28/A5.28M:2005 (R2015)
An American National Standard**

**Approved by the
American National Standards Institute
July 21, 2015**

Specification for Low-Alloy Steel Electrodes and Rods for Gas Shielded Arc Welding

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Prepared by the
American Welding Society (AWS) A5 Committee on Filler Metals and Allied Materials

Under the Direction of the
AWS Technical Activities Committee

Approved by the
AWS Board of Directors

Abstract

This specification prescribes the requirements for classification of solid low-alloy steel electrodes and rods, composite stranded low-alloy steel electrodes, and composite metal cored low-alloy steel electrodes for gas shielded arc welding. Classification is based on chemical composition of the electrode for solid electrodes and rods, chemical composition of weld metal for composite stranded and composite metal cored electrodes and the as-welded or postweld heat treated mechanical properties of the weld metal for each. Additional requirements are included for manufacture, sizes, lengths, and packaging. A guide is appended to the specification as a source of information concerning the classification system employed and the intended use of the electrodes and rods.

This specification makes use of both U.S. Customary Units and the International System of Units (SI). Since these units are not equivalent, each system must be used independently of the other.



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Foreword

This foreword is not part of AWS A5.28/A5.28M:2005 (R2015), *Specification for Low-Alloy Steel Electrodes and Rods for Gas Shielded Arc Welding*, but is included for informational purposes only.

This document is the first of the A5.28 specifications which makes use of both U.S. Customary Units and the International System of Units (SI). The measurements are not exact equivalents; therefore each system must be used independently of the other, without combining values in any way. In selecting rational metric units, AWS A1.1 *Metric Practice Guide for the Welding Industry* and ISO 544, *Welding consumables—Technical delivery conditions for welding filler materials—Type of product, dimensions, tolerances, and markings*, are used where suitable. Tables and figures make use of both U.S. Customary and SI Units, which, with the application of the specified tolerances, provide for interchangeability of products in both U.S. Customary and SI Units.

The current document is the second revision of the initial AWS document issued in 1979.

The history of A5.28 may be summarized as follows:

AWS A5.28-79 *Specification for Low Alloy Steel Filler Metals for Gas Shielded Metal Arc Welding*

AWS A5.28-96 *Specification for Low-Alloy Steel Electrodes and Rods for Gas Shielded Arc Welding*

Comments and suggestions for the improvement of this standard are welcome. They should be sent to the Secretary, AWS A5 Committee on Filler Metals and Allied Materials, American Welding Society, 8669 NW 36 St, # 130, Miami, FL 33166.

Errata

The following Errata have been identified and incorporated into the current reprint of this document.

Page 26—Figure A2, Optional GTAW Groove Weld Test Assembly for Mechanical Properties and Soundness

Change dimensions in the Dimension table as shown below:

		DIMENSIONS			
		in		mm	
C	Specimen Center	3/8	1/4	9.5	6.5
L	Length, min.	10		250	
P	Point of Temperature Measurement	1		25	
R	Root Opening	1/2	1/4	13	6.5
S	Backup Strip Overlap, min.	1/4	3/8	6	9
T	Thickness	3/4	1/2	19	13
V	Backup Strip Thickness, min.	3/8	1/4	9	6.5
W	Width, min.	5		125	
X	Backup Strip Width, min.	1		25	
Z	Discard, min.	1		25	

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