


**AWS A5.10/A5.10M:2012**  
**(ISO 18273:2004 MOD)**  
**An American National Standard**



**Welding  
Consumables—  
Wire Electrodes,  
Wires and Rods  
for Welding of  
Aluminum and  
Aluminum-Alloys—  
Classification**



**American Welding Society®**



**AWS A5.10/A5.10M:2012  
(ISO 18273:2004 MOD)  
An American National Standard**

**Approved by the  
American National Standards Institute  
October 4, 2012**

# **Welding Consumables—Wire Electrodes, Wires and Rods for Welding of Aluminum and Aluminum-Alloys—Classification**

**10th Edition**

**Supersedes AWS A5.10/A5.10M:1999**

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 requirements for the classification of bare, wrought and cast aluminum-alloy electrodes and rods for use with the gas metal arc, gas tungsten arc, oxyfuel gas, and plasma arc welding processes.

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



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J. Zhang	<i>Indalco Alloys, Incorporated of Lincoln Electric</i>

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# Welding consumables — Wire electrodes, wires and rods for welding of aluminum and aluminum-alloys — Classification

## 1 Scope

**1.1** This standard specifies requirements for classification of solid wires and rods for fusion welding of aluminum and aluminum alloys. The classification of the solid wires and rods is based on their chemical composition.

**1.2** *Safety and health issues and concerns are beyond the scope of this standard and are therefore not fully addressed herein. Some safety and health information can be found in informative annex Clauses A6 and A12. Safety and health information is available from other sources, including, but not limited to, ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes, and applicable federal and state regulations.*

**1.3** *This specification 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 in any way when referring to weld metal properties. The specification A5.10 uses U.S. Customary Units. The specification with the designation A5.10M uses SI Units. The latter are shown within brackets ([ ]) or in appropriate columns in tables and figures. Standard dimensions based on either system may be used for the sizing of electrodes or packaging or both under specification A5.10 or A5.10M.*

## 2 Normative references

This standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

**2.1** *The following AWS standards<sup>1</sup> are referenced in the mandatory clauses of this document:*

*AWS A1.1, Metric Practice Guide for the Welding Industry*

*AWS A3.0M/A3.0, Standard Welding Terms and Definitions*

*AWS A5.01M/A5.01 (ISO 14344 MOD), Procurement Guidelines for Consumables—Welding and Allied Processes—Flux and Gas Shielded Electrical Welding Processes*

*AWS A5.02/A5.02M:2007, Filler Metal Standard Sizes, Packaging, and Physical Attributes*

**2.2** *The following ANSI standard is referenced in the mandatory clauses of this document:*

*ANSI Z49.1, Safety in Welding, Cutting, and Allied Processes<sup>2</sup>*

<sup>1</sup> AWS standards are published by the American Welding Society, 8669 Doral Blvd., Suite 130, Doral, FL 33166.

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