

Specification for Aluminum and Aluminum-Alloy Electrodes for Shielded Metal Arc Welding



American Welding Society



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Specification for Aluminum and Aluminum-Alloy Electrodes for Shielded Metal 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 requirements for the classification of covered (flux coated) E1100, E3003, and E4043 aluminum-alloy electrodes for shielded metal arc welding. Tests conducted for classification are chemical analysis of the core wire as well as tensile and bend tests from groove weld test assemblies fabricated with each of two sizes of electrode for each classification. Standard electrode sizes, electrode identification, and chemical composition limits are specified.

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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Foreword

This foreword is not part of AWS A5.3/A5.3M:1999 (R2007), *Specification for Aluminum and Aluminum-Alloy Electrodes for Shielded Metal Arc Welding*, but is included for informational purposes only.

This document represents the sixth revision of the first aluminum covered electrode specification issued in 1943. The original document was prepared by a joint AWS/ASTM Committee and published as an ASTM Standard.

During the mid-to-late 1960s, ASTM agreed to accept AWS as the sole agency responsible for the development and publication of filler metal specifications. In recent years, AWS filler metal specifications have been recognized by the American National Standards Institute as shown below:

AWS/ASTM B184-43T	Tentative Specifications for Aluminum and Aluminum-Alloy Metal Arc-Welding Electrodes
AWS A5.3-62T	Tentative Specification for Aluminum and Aluminum-Alloy Arc-Welding Electrodes
ASTM B184-62T	
AWS A5.3-69	Specification for Aluminum and Aluminum-Alloy Arc-Welding Electrodes
ANSI W3.3-1973	
ANSI/AWS A5.3-80	Specification for Aluminum and Aluminum-Alloy Covered Arc-Welding Electrodes
ANSI/AWS A5.3-88	Specification for Aluminum and Aluminum-Alloy Electrodes for Shielded Metal Arc Welding
ANSI/AWS A5.3-91	Specification for Aluminum and Aluminum-Alloy Electrodes for Shielded Metal 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, 550 N.W. LeJeune Road, Miami, FL 33126.

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