



**Specification for
Nickel-Alloy
Electrodes for
Flux Cored
Arc Welding**



American Welding Society®



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An American National Standard**

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American National Standards Institute
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Specification for Nickel-Alloy Electrodes for Flux Cored Arc Welding

2nd Edition

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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

The composition, soundness, and properties of weld metal from ten grades of flux cored electrodes are specified. Standard electrode sizes together with their package forms and package sizes are detailed.

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 A5.34/A5.34M: 2013, *Specification for Nickel-Alloy Electrodes for Flux Cored Arc Welding*, but is included for informational purposes only.

Flux cored arc welding (FCAW) has been a major welding process for the fabrication of carbon, low-alloy, and stainless steel for more than 40 years. Initially, application of the process was limited, to some extent, by: a) the size of the electrode that could be manufactured and b) compositions of weld metal that could be developed using mild steel strip. Manufacturing improvements now permit the manufacture of a much wider range of electrode diameters. Likewise, these improvements permit the use of strip compositions such as stainless steel, aluminum, cobalt, and nickel alloys.

This second edition of nickel-alloy flux cored electrodes specification represents the state-of-the-art. The AWS Subcommittee on Nickel and Nickel-Alloy Filler Metal recognizes that the recent rapid growth and development in nickel-alloy welding will continue. Revision of this specification before the normal five-year period may be necessary to keep abreast of developments.

This document 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 *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, provides for interchangeability of products in both the U.S. Customary and SI units.

Substantive changes in this revision include adding new filler metal classification ENiMo13Tx-y, and updating Clause 6 (Rounding-Off Procedure). These are shown in Italic font.

Comments and suggestions for the improvement of this standard are welcome. They should be sent to the Secretary, A5 Committee on Filler Metals and Allied Materials, American Welding Society, 8669 Doral Blvd., Suite 130, Doral, FL 33166.

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