

**AWS A5.15:1990 (R2016)**  
**An American National Standard**

# Specification for Welding Electrodes and Rods for Cast Iron



**AWS A5.15:1990 (R2016)**  
**An American National Standard**

**Approved by**  
**American National Standards Institute**  
**May 5, 2016**

**Specification for**  
**Welding Electrodes**  
**and Rods for Cast Iron**

**Supersedes AWS A5.15-90 (2006)**

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

Under the Direction of the  
AWS Technical Activities Committee

Approved by the  
AWS Board of Directors

**Abstract**

The chemical composition requirements for electrodes and rods for welding cast iron are specified. Copper-base rods used for braze welding of cast iron are not included. Major topics include general requirements, testing, packaging, and application guidelines.



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## Foreword

This foreword is not part of AWS A5.15:1990 (R2016). *Specification for Welding Electrodes and Rods for Cast Iron*, but is included for informational purposes only.

The first specification for electrodes and rods for welding cast iron was published more than thirty years ago as a joint ASTM/AWS document. The first revision that was exclusively an AWS specification was published in 1969 and revised in 1982.

Significant changes made in this reaffirmed edition are correction of “1/16 (.016) in 0.4 mm” to “1/16 (.062) in 1.6 mm” in the table of Figure 3, updating the addresses of various organizations, and updating the list of “AWS Filler Metal Related Documents.”

Evolution of the document is as shown below:

ASTM A398-56T AWS A5.15-56T	<i>Tentative Specification for Welding Rods and Covered Electrodes for Welding Cast Iron</i>
AWS A5.15-65T ASTM A398-65T	<i>Tentative Specification for Welding Rods and Covered Electrodes for Cast Iron</i>
AWS A5.15-69 ANSI W3.15-1973	<i>Specification for Welding Rods and Covered Electrodes for Welding Cast Iron</i>
ANSI/A WS A5. 15-82	<i>Specification for Welding Rods and Covered Electrodes for Cast Iron</i>
AWS A5.15-90 (R2006)	<i>Specification for Welding Rods and Covered Electrodes for Cast Iron</i>

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 36th ST, Miami, FL 33166.

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# Specification for Welding Electrodes and Rods for Cast Iron

## 1. Scope

This specification prescribes requirements for the classification of the following:

- (1) Rods for oxyfuel gas welding
- (2) Electrodes for gas metal arc welding
- (3) Electrodes for flux cored arc welding
- (4) Electrodes for shielded metal arc welding

These filler metals are suitable for welding gray cast iron, malleable cast iron, nodular cast iron, compacted graphite cast iron, and certain alloy cast irons.<sup>1</sup>

## 2. Classification

**2.1** The electrodes and rods covered by this specification are classified according to chemical composition, as specified in Tables 1A, 1B, and 1C.

**2.2** Electrodes and rods classified under one classification shall not be classified under any other classification in this specification.

**2.3** The electrodes and rods classified under this specification are intended for oxyfuel gas welding, shielded metal arc welding, gas metal arc welding, or flux cored arc welding, as applicable, but that is not to prohibit their use with any other process for which they are found suitable.

## 3. Acceptance

Acceptance<sup>2</sup> of the welding electrodes shall be in accordance with the provisions of ANSI/AWS A5.01. *Filler Metal Procurement Guidelines*.<sup>3</sup>

## 4. Certification

By affixing the AWS specification and classification designations to the packaging, or the classification to the product, the manufacturer certifies that the product meets the requirements of this specification.<sup>4</sup>

<sup>1</sup> Copper-base filler metals frequently used in the braze welding of cast iron are no longer included in this specification. For more information pertaining to these materials see A7.6 in the Annex A.

<sup>2</sup> See section A3 (in the Annex A) for further information concerning acceptance, testing of the material shipped, and ANSI/AWS A5.01. *Filler Metal Procurement Guidelines*.

<sup>3</sup> AWS standards are published by the American Welding Society, 8669 NW 36th ST # 130, Miami, FL 33166.

<sup>4</sup> See section A4 (in the Annex A) for further information concerning certification and the testing called for to meet this requirement.