



AWS User's Guide to Filler Metals



American Welding Society



AWS User's Guide to Filler Metals

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The *AWS User's Guide to Filler Metals* is a collection of commentary information selected from the 30 technical standards written by the AWS Committee on Filler Metal. The User's Guide provides descriptions of specific filler metals and their intended usage, as well as methods for classification, welding procedures, and safety considerations. Although reasonable care has been taken in the compilation and publication of the User's Guide to insure authenticity of the contents, no representation is made as to the accuracy or reliability of this information. The User's Guide is intended solely as a supplement to the *AWS Filler Metal Comparison Charts*, and should not be regarded as a substitute for the various AWS specifications to which it refers. This publication is subject to revision at any time.

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AWS User's Guide to Filler Metals

1. Scope

This document contains information on the many different types of filler materials available to industry. Welding considerations and intended applications for the various materials are provided to assist the user. The information has been extracted directly from 32 AWS filler material standards, and it is recommended that the user reference these documents for additional information.

Part A:

General Information

2. Provisions

Each of the AWS filler material specifications contain sections that establish provisions for material acceptance and certification, as well as safety considerations. Because this information is necessary for the proper application of all filler materials, these sections are included in this guide.

2.1 Acceptance. Acceptance of all welding materials is in accordance with ANSI/AWS A5.01, *Filler Metal Procurement Guidelines*, as the specification states. Any testing a purchaser requires of the supplier, for material shipped in accordance with the specification, shall be clearly stated in the purchase order according to the provisions of ANSI/AWS A5.01. In the absence of any such statement in the purchase order, the supplier may ship the material with whatever testing is normally conducted on material of the same classification, as specified in Schedule F, Table 1, of ANSI/AWS A5.01. Testing in accordance with any other schedule in that table shall be specifically required by the purchase order. In such cases, acceptance of the material shipped shall be in accordance with those requirements.

2.2 Certification. The act of placing the AWS specification and classification designations on the product packaging, or placing the classification on the product itself, constitutes the supplier's (manufacturer's) certification that the product meets all of the requirements of the specification.

The only testing requirement implicit in this certification is that the manufacturer has actually conducted the tests required by the specification on material that is *representative* of that being shipped and that the tested material met the requirements of the specification. Representative material, in this case, is any production run of that classification, using the same formulation.

"Certification" is not to be construed to mean that tests of any kind were necessarily conducted on samples of the specific material shipped. Tests on such material may or may not have been conducted. The basis for the certification required by the specification is the classification test of "representative material" cited above, and the Manufacturer's Quality Assurance Program in ANSI/AWS A5.01, *Filler Metal Procurement Guidelines*.

2.3 Standard Sizes, Packaging, and Physical Attributes. Requirements for standard sizes and packages of welding filler metals and their physical attributes, such as product appearance and identification are prescribed in AWS A5.02/A5.02M:2007, *Specification for Filler Metal Standard Sizes, Packaging, and Physical Attributes*. This specification applies to covered electrodes with both solid and tubular core wires; bare solid and tubular wires on spools, coils, and drums, or in straight lengths; and solid and sintered strip electrodes. It applies to all fusion welding processes, except brazing, braze welding, and thermal spraying, or granular metallic or mineral products, such as submerged arc fluxes, or other such products used in fusion welding processes.