AWS A4.5M/A4.5:2020
(ISO 15792-3:2011 MOD)
An American National Standard

Standard Methods for Classification Testing of Positional Capacity and Root Penetration of Welding Consumables in a Fillet Weld

American Welding Society®

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Approved by the
American National Standards Institute
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Standard Methods for Classification Testing of Positional Capacity and Root Penetration of Welding Consumables in a Fillet Weld

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

This standard describes preparation and assessment of a fillet weld test piece.

Test conditions prescribed and results required should not be considered to be requirements or expectations for a procedure qualification.

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 this standard but is included for informational purposes only.

This document is the second adoption of ISO 15792-3:2011 with additional informative annexes.

Please note that ISO uses commas (,) and AWS uses periods (.) for decimals. The ISO decimal commas have been replaced by periods in this document for consistency.

This edition adds a method of measurement using fillet weld gauges and reorganization of the requirements in Clauses 6 and 7.

NOTE: The user's attention is called to the possibility that compliance with this standard may require use of an invention covered by patent rights.

By publication of this standard, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license, then details may be obtained from the standards developer.

Document Development

AWS A4.5M/A4.5:2012 (ISO 15792-3:2011 MOD), *Standard Methods for Classification Testing of Positional Capacity and Root Penetration of Welding Consumables in a Fillet Weld*

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 36 St # 130, Miami, FL 33166.

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Standard Methods for Classification Testing of Positional Capacity and Root Penetration of Welding Consumables in a Fillet Weld

1. Scope

1.1 This standard specifies the preparation and assessment of fillet weld test pieces for conformity assessment of positional usability and root penetration requirements of arc welding consumables classification standards for welding non-alloy and fine grain steels, low alloy steels, stainless steels, and nickel base alloys.

This standard does not specify acceptance requirements.

1.2 Units of Measurement. This standard 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 A4.5M uses SI Units. The specification with the designation A4.5 uses U.S. Customary Units. The latter are shown within brackets [ ], in appropriate columns in tables and figures and in paragraphs.

1.3 Safety. Safety and health issues and concerns are beyond the scope of this standard and therefore are not addressed herein. Safety and health information is available from the following sources:

American Welding Society:

(1) ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*

(2) AWS Safety and Health Fact Sheets

(3) Other safety and health information on the AWS website

Material or Equipment Manufacturers:

(1) Safety Data Sheets supplied by materials manufacturers

(2) Operating Manuals supplied by equipment manufacturers

Applicable Regulatory Agencies

Work performed in accordance with this standard may involve the use of materials that have been deemed hazardous and may involve operations or equipment that may cause injury or death. This standard does not purport to address all safety and health risks that may be encountered. The user of this standard should establish an appropriate safety program to address such risks as well as to meet applicable regulatory requirements. ANSI Z49.1 should be considered when developing the safety program.

2. Normative References

The documents listed below are referenced within this publication and are mandatory to the extent specified herein. For undated references, the latest edition of the referenced standard shall apply. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply.

AWS A3.0M/A3.0, *Standard Welding Terms and Definitions, Including Terms for Adhesive Bonding, Brazing, Soldering, and Thermal Spraying*

ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*