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Qualification testing of welders for underwater welding - Part 1: Hyperbaric wet welding (ISO 15618-1:2016)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/17

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Supersedes EN ISO 15618-1:2001

English Version

Qualification testing of welders for underwater welding - Part 1: Hyperbaric wet welding (ISO 15618-1:2016)

Épreuve de qualification des soudeurs pour le soudage sous l'eau - Partie 1: Soudage hyperbare en pleine eau (ISO 15618-1:2016)

Prüfung von Schweißern für Unterwasserschweißen - Teil 1: Nassschweißen unter Überdruck (ISO 15618-1:2016)

This European Standard was approved by CEN on 8 July 2016.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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ISO 15618-1

Second edition
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Épreuve de qualification des soudeurs pour le soudage sous l'eau —
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html

The committee responsible for this document is ISO/TC 44, *Welding and allied processes*, Subcommittee SC 11, *Qualification requirements for welding and allied processes personnel*.

This second edition cancels and replaces the first edition (ISO 15618-1:2001), which has been technically revised.

ISO 15618 consists of the following parts, under the general title *Qualification testing of welders for underwater welding*:

— *Part 1: Hyperbaric wet welding*

— *Part 2: Diver-welders and welding operators for hyperbaric dry welding*

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 11 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

Introduction

This part of ISO 15618 covers the principles to be observed in the qualification testing of welder-diver performance for the fusion welding of steels in a hyperbaric wet environment.

The ability of the welder-diver to follow verbal or written instructions and testing of his skill are therefore important factors in ensuring the quality of the welded product.

Testing of skill to this part of ISO 15618 depends on welding methods in which uniform rules and test conditions are complied with, and standard test pieces are used.

The principle of this part of ISO 15618 is that a qualification test qualifies a welder-diver not only for the conditions used in the test, but also for all other conditions which are considered easier to weld in accordance with this part of ISO 15618. It is presumed that the welder-diver has received training and/or has industrial practice within the range of qualification.

This part of ISO 15618 is intended to provide the basis for the mutual recognition by examining bodies for qualification relating to the welder-diver's competence in the various fields of application. Tests are to be carried out in accordance with this part of ISO 15618 unless additional tests are specified by the relevant application standard when these should be applied.

The welder-diver's skill and job knowledge continue to be approved only if the welder-diver is working with reasonable continuity on welding work within the extent of qualification.

INTERNATIONAL STANDARD ISO 15618-1:2016(E)

Qualification testing of welders for underwater welding —

Part 1:
Hyperbaric wet welding

1 Scope

This part of ISO 15618 specifies essential requirements, ranges of qualification, test conditions, acceptance requirements and certification for the qualification testing of welder-diver performance.

This part of ISO 15618 is applicable for hyperbaric wet welding on steel.

The recommended format for the certificate of qualification testing is given in Annex A.

During the qualification test, the welder-diver may be required to show adequate job knowledge of the welding processes, materials and safety requirements for which he is to be qualified. Information on these aspects is given in Annex B.

The welding processes referred to in this part of ISO 15618 include those fusion welding processes which are designated as manual or partly mechanised welding. It does not cover fully mechanised and fully automatic processes (see 5.2).

This part of ISO 15618 applies to all new qualifications from the date of issue.

However, this part of ISO 15618 does not invalidate previous welder-diver qualifications made to former national standards or specifications, providing the intent of the technical requirements is satisfied and the previous qualifications are relevant to the application and production work on which they are employed.

The certificate of qualification testing is issued under the sole responsibility of the examiner or examining body.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4063, *Welding and allied processes — Nomenclature of processes and reference numbers*

ISO 5173, *Destructive tests on welds in metallic materials — Bend tests*

ISO 5817, *Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections*

ISO 6947, *Welding and allied processes — Welding positions*

ISO 9017, *Destructive tests on welds in metallic materials — Fracture test*

ISO 15609-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding*

ISO 17636 (all parts), *Non-destructive testing of welds — Radiographic testing*

ISO 17637, *Non-destructive testing of welds — Visual testing of fusion-welded joints*

ISO 17639, *Destructive tests on welds in metallic materials — Macroscopic and microscopic examination of welds*

ISO 17640, *Non-destructive testing of welds — Ultrasonic testing — Techniques, testing levels, and assessment*

ISO/TR 15608, *Welding — Guidelines for a metallic materials grouping system*