BS EN ISO 17635:2016

BSI Standards Publication

Non-destructive testing of welds - General rules for metallic materials (ISO 17635:2016)

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National foreword

This British Standard is the UK implementation of EN ISO 17635:2016. It supersedes BS EN ISO 17635:2010 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/46, Non-destructive testing.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Non-destructive testing of welds - General rules for metallic materials (ISO 17635:2016)

Contrôle non destructif des assemblages soudés - Règles générales pour les matériaux métalliques (ISO 17635:2016)

Zerstörungsfreie Prüfung von Schweißverbindungen - Allgemeine Regeln für metallische Werkstoffe (ISO 17635:2016)

This European Standard was approved by CEN on 7 November 2016.

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European foreword

This document (EN ISO 17635:2016) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 “Welding and allied processes” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2017, and conflicting national standards shall be withdrawn at the latest by June 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 17635:2010.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 17635:2016 has been approved by CEN as EN ISO 17635:2016 without any modification.

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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).

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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 5, *Testing and inspection of welds*.

This third edition cancels and replaces the second edition (ISO 17635:2010), which has been technically revised. Notably, it has been changed as follows:

— International Standards have replaced European standards as normative references;

— "examined" has been replaced by "tested" in the whole document;

— important modifications have been made to Annex A, *Rules and standards to be applied*;

— Annex C, *Non-acceptable indications*, has been deleted.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 5 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

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INTERNATIONAL STANDARD ISO 17635:2016(E)

Non-destructive testing of welds — General rules for metallic materials

1 Scope

This document gives guidelines for the choice of non-destructive testing (NDT) methods for welds and evaluation of the results for quality control purposes, based on quality requirements, material, weld thickness, welding process and extent of testing.

This document also specifies general rules and standards to be applied to the different types of testing, for either the methodology or the acceptance levels for metallic materials.

Acceptance levels cannot be a direct interpretation of the quality levels defined in ISO 5817 or ISO 10042. They are linked to the overall quality of the produced batch of welds.

Requirements for acceptance levels for NDT comply with quality levels stated in ISO 5817 or ISO 10042 (moderate, intermediate, stringent) only on a general basis and not in detail for each indication.

Annex A gives correlations between quality, NDT and acceptance level standards.

Annex B gives an overview of the standards linked to quality levels, acceptance levels and NDT methods.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3452-1, *Non-destructive testing — Penetrant testing — Part 1: General principles*

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

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

ISO 10042, *Welding — Arc-welded joints in aluminium and its alloys — Quality levels for imperfections*.

ISO 10675-1, *Non-destructive testing of welds — Acceptance levels for radiographic testing — Part 1: Steel, nickel, titanium and their alloys*

ISO 10675-2, *Non-destructive testing of welds — Acceptance levels for radiographic testing — Part 2: Aluminium and its alloys*

ISO 10863, *Non-destructive testing of welds — Ultrasonic testing — Use of time-of-flight diffraction technique (TOFD)*

ISO 11666, *Non-destructive testing of welds — Ultrasonic testing — Acceptance levels*

ISO 13588, *Non-destructive testing of welds — Ultrasonic testing — Use of automated phased array technology*

ISO 15626, *Non-destructive testing of welds — Time-of-flight diffraction technique (TOFD) — Acceptance levels*

ISO 17636-1:2013, *Non-destructive testing of welds — Radiographic testing — Part 1: X- and gamma-ray techniques with film*

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