

Keevisõmbluste mittepurustav katsetamine. Üldjuhised metalsete materjalide kohta

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 17635:2010 sisaldab Euroopa standardi EN ISO 17635:2010 ingliskeelset teksti.

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English Version

Non-destructive testing of welds - General rules for metallic
materials (ISO 17635:2010)

Contrôle non destructif des assemblages soudés - Règles
générales pour les matériaux métalliques (ISO 17635:2010)

Zerstörungsfreie Prüfung von Schweißverbindungen -
Allgemeine Regeln für metallische Werkstoffe (ISO
17635:2010)

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Foreword

This document (EN ISO 17635:2010) has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 44 "Welding and allied processes".

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of an identical text or by endorsement, at the latest by September 2010, and conflicting national standards shall be withdrawn at the latest by September 2010.

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

1 Scope

This International Standard 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 International Standard also specifies general rules and standards to be applied to the different types of testing, for either the methodology or the acceptance level 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 referenced documents are indispensable for the application 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 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 10863¹⁾, *Welding — Use of time-of-flight diffraction technique (TOFD) for testing of welds*

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

1) To be published.

ISO 17636, *Non-destructive testing of welds — Radiographic testing of fusion-welded joints*

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

ISO 17638, *Non-destructive testing of welds — Magnetic particle testing*

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

ISO 17643, *Non-destructive testing of welds — Eddy current testing of welds by complex-plane analysis*

ISO 19232-5, *Non-destructive testing — Image quality of radiographs — Part 5: Image quality indicators (duplex wire type) — Determination of image unsharpness value*

ISO 23277, *Non-destructive testing of welds — Penetrant testing of welds — Acceptance levels*

ISO 23278, *Non-destructive testing of welds — Magnetic particle testing of welds — Acceptance levels*

ISO 23279, *Non-destructive testing of welds — Ultrasonic testing — Characterization of indications in welds*

EN 473, *Non-destructive testing — Qualification and certification of NDT personnel — General principles*

EN 13068-3, *Non-destructive testing — Radioscopic testing — Part 3: General principles of radioscopic testing of metallic materials by X- and gamma rays*

EN 14784-2, *Non-destructive testing — Industrial computed radiography with storage phosphor imaging plates — Part 2: General principles for testing of metallic materials using X-rays and gamma rays*

EN 15617, *Non-destructive testing of welds — Time-of-flight diffraction technique (TOFD) — Acceptance levels*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 testing level

degree of thoroughness and selection of parameter settings with which a testing method is applied

[ISO/TR 25901:2007 ^[2], 2.376]

NOTE Different levels correspond to different sensitivities and/or probabilities of detection. The selection of testing levels is normally related to the quality requirements.

3.2 testing organization

internal or external organization carrying out non-destructive testing

NOTE Adapted from ISO/TR 25901:2007 ^[2], 2.377.

3.3 indication

⟨non-destructive testing⟩ representation or signal from a discontinuity in the format allowed by the non-destructive testing method used

NOTE Adapted from ISO/TR 25901:2007 ^[2], 2.193.

3.4 internal discontinuity

⟨non-destructive testing of welds⟩ discontinuity that is not open to a surface or not directly accessible