

KEEVISÕMBLUSTE MITTEPURUSTAV KATSETAMINE.  
ÜLDJUHISED METALSETE MATERJALIDE KOHTA

Non-destructive testing of welds - General rules for  
metallic materials (ISO 17635:2025)

## EESTI STANDARDI EESSÕNA

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<p>See Eesti standard EVS-EN ISO 17635:2025 sisaldab Euroopa standardi EN ISO 17635:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.04.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 17635:2025 consists of the English text of the European standard EN ISO 17635:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 16.04.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EN ISO 17635

NORME EUROPÉENNE

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English Version

## Non-destructive testing of welds - General rules for metallic materials (ISO 17635:2025)

Essais non destructifs des assemblages soudés - Règles  
générales pour les matériaux métalliques (ISO  
17635:2025)

Zerstörungsfreie Prüfung von Schweißverbindungen -  
Allgemeine Regeln für metallische Werkstoffe (ISO  
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## European foreword

This document (EN ISO 17635:2025) 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 AFNOR.

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of an identical text or by endorsement, at the latest by October 2025, and conflicting national standards shall be withdrawn at the latest by October 2025.

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## Endorsement notice

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# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>2</b>
<b>4 Abbreviated terms</b> .....	<b>3</b>
<b>5 Limitations</b> .....	<b>3</b>
5.1 Stage of manufacture.....	3
5.2 Extent of testing.....	4
5.3 Materials.....	4
<b>6 Personnel qualification</b> .....	<b>4</b>
<b>7 Testing organization</b> .....	<b>4</b>
<b>8 Documentation</b> .....	<b>4</b>
8.1 Documentation prior to testing.....	4
8.1.1 General.....	4
8.1.2 Written procedure.....	4
8.1.3 Testing plan.....	4
8.2 Documentation of testing.....	5
8.2.1 Documentation of individual testing.....	5
8.2.2 Test report.....	5
<b>9 Selection of testing method(s)</b> .....	<b>5</b>
9.1 General.....	5
9.2 Butt- and T-joints with full penetration.....	6
9.3 Butt- and T-joints without full penetration and fillet welds.....	6
<b>10 Performance of testing</b> .....	<b>7</b>
10.1 Determination of standards to be applied.....	7
10.2 Conditions for testing.....	7
10.3 Time of testing.....	7
10.4 Non-acceptable indications.....	7
10.5 Repaired welds.....	7
<b>Annex A (normative) Rules and standards to be applied</b> .....	<b>8</b>
<b>Annex B (informative) Overview of welding quality standards and NDT-standards</b> .....	<b>12</b>
<b>Annex C (informative) Non-acceptable indications in case of partial testing</b> .....	<b>14</b>
<b>Bibliography</b> .....	<b>15</b>

## Foreword

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This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding and allied processes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 17635:2016), which has been technically revised.

The main changes are as follows:

- references updated;
- phased-array ultrasonic technique (UT-PA) for thin-walled steel components added;
- ultrasonic technique using total focusing technique (UT-TFM) added;
- [Table 1](#) and [Table 3](#) modified;
- [Annex C](#) reintroduced based on a version in ISO 17635:2010 and a flowchart added.

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# 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 in metals and for the 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 the selection of the method, the techniques and the acceptance levels.

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.

The requirements specified in this document for acceptance levels for NDT conform 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 levels, testing levels and acceptance levels for specific testing techniques.

[Annex B](#) gives an overview on specific testing techniques of standards linked to quality levels, acceptance levels and testing 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 4761:2021, *Non-destructive testing of welds — Phased array ultrasonic testing (UT-PA) for thin-walled steel components — Acceptance levels*

ISO 5817:2023, *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 10042:2018, *Welding — Arc-welded joints in aluminium and its alloys — Quality levels for imperfections*

ISO 10675-1:2021, *Non-destructive testing of welds — Acceptance levels for radiographic testing — Part 1: Steel, nickel, titanium and their alloys*

ISO 10675-2:2021, *Non-destructive testing of welds — Acceptance levels for radiographic testing — Part 2: Aluminium and its alloys*

ISO 10863:2020, *Non-destructive testing of welds — Ultrasonic testing — Use of time-of-flight diffraction technique (TOFD)*

ISO 11666:2018, *Non-destructive testing of welds — Ultrasonic testing — Acceptance levels*

ISO 13588:2019, *Non-destructive testing of welds — Ultrasonic testing — Use of automated phased array technology*

ISO 15626:2018, *Non-destructive testing of welds — Time-of-flight diffraction technique (TOFD) — Acceptance levels*

ISO 17636-1:2022, *Non-destructive testing of welds — Radiographic testing — Part 1: X- and gamma-ray techniques with film*

ISO 17636-2:2022, *Non-destructive testing of welds — Radiographic testing — Part 2: X- and gamma-ray techniques with digital detectors*

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

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

ISO 17640:2018, *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 19285:2017, *Non-destructive testing of welds — Phased array ultrasonic testing (PAUT) — Acceptance levels*

ISO 20601:2018, *Non-destructive testing of welds — Ultrasonic testing — Use of automated phased array technology for thin-walled steel components*

ISO 23277:2015, *Non-destructive testing of welds — Penetrant testing — Acceptance levels*

ISO 23278:2015, *Non-destructive testing of welds — Magnetic particle testing — Acceptance levels*

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

ISO 23864:2021, *Non-destructive testing of welds — Ultrasonic testing — Use of automated total focusing technique (TFM) and related technologies*

### 3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

#### 3.1

##### **testing level**

##### **testing class**

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

Note 1 to entry: Different levels correspond to different sensitivities and/or probabilities of detection. The selection of testing levels is normally related to the quality requirements.

Note 2 to entry: The term testing level includes testing class and is used as a synonym.

[SOURCE: ISO/TR 25901-1:2016, 2.2.4.5, modified — “non-destructive” was deleted from the definition.]

#### 3.2

##### **testing organization**

internal or external organization carrying out the testing

[SOURCE: ISO/TR 25901-1:2016, 2.2.1.7, modified — “destructive testing or non-destructive” was deleted from the definition.]