

Non-destructive testing of welds - Phased array ultrasonic testing (UT-PA) for thin-walled steel components - Acceptance levels (ISO 4761:2022)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 4761:2022 sisaldab Euroopa standardi EN ISO 4761:2022 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 4761:2022 consists of the English text of the European standard EN ISO 4761:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 21.12.2022.	Date of Availability of the European standard is 21.12.2022.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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English Version

Non-destructive testing of welds - Phased array ultrasonic  
testing (UT-PA) for thin-walled steel components -  
Acceptance levels (ISO 4761:2022)

Essais non destructifs des assemblages soudés -  
Technique ultrasons multi-éléments (UT-PA) pour les  
composants en acier à paroi mince - Niveaux  
d'acceptation (ISO 4761:2022)

Zerstörungsfreie Prüfung von Schweißverbindungen -  
Phased-Array-Ultraschallprüfung (UT-PA)  
dünnwandiger Stahlkomponenten -  
Zulässigkeitsgrenzen (ISO 4761:2022)

This European Standard was approved by CEN on 20 December 2022.

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

## European foreword

The text of ISO 4761:2022 has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 4761:2022 by 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of an identical text or by endorsement, at the latest by June 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

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

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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## Endorsement notice

The text of ISO 4761:2022 has been approved by CEN as EN ISO 4761:2022 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](http://www.iso.org/directives)).

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For an explanation of the voluntary nature of standards, 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*.

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Official interpretations of ISO/TC 44 documents, where they exist, are available from this page: <https://committee.iso.org/sites/tc44/home/interpretation.html>.

# Non-destructive testing of welds — Phased array ultrasonic testing (UT-PA) for thin-walled steel components — Acceptance levels

## 1 Scope

This document specifies acceptance levels for the phased array ultrasonic testing technique (UT-PA) of full-penetration welds in low-alloy and/or fine-grained steels in the wall thickness range from 3,2 mm to 8 mm which correspond to the quality levels of ISO 5817.

These acceptance levels are applicable to indications detected according to ISO 20601.

## 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 5577, *Non-destructive testing — Ultrasonic testing — Vocabulary*

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

ISO 23243, *Non-destructive testing — Ultrasonic testing with arrays — Vocabulary*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5577, ISO 20601 and ISO 23243 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/>

## 4 Symbols

$l$	indication length
$l_1, l_2$	length of individual indications
$l_c$	corrected length
$l_{cu}$	cumulative length
$l_w$	weld length
$t$	thickness