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OSA 3: KOMBINEERITUD SEADMED

Non-destructive testing - Characterization and
verification of ultrasonic test equipment - Part 3:
Combined equipment (ISO 22232-3:2020)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 22232-3:2020 sisaldab Euroopa standardi EN ISO 22232-3:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 22232-3:2020 consists of the English text of the European standard EN ISO 22232-3:2020.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 28.10.2020.	Date of Availability of the European standard is 28.10.2020.
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English Version

**Non-destructive testing - Characterization and verification
of ultrasonic test equipment - Part 3: Combined equipment
(ISO 22232-3:2020)**

Essais non destructifs - Caractérisation et vérification
de l'appareillage de contrôle par ultrasons - Partie 3:
Équipement complet (ISO 22232-3:2020)

Zerstörungsfreie Prüfung - Charakterisierung und
Verifizierung der Ultraschall-Prüfausrüstung - Teil 3:
Komplette Prüfausrüstung (ISO 22232-3:2020)

This European Standard was approved by CEN on 9 October 2020.

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

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

European foreword

This document (EN ISO 22232-3:2020) has been prepared by Technical Committee ISO/TC 135 "Non-destructive testing" in collaboration with Technical Committee CEN/TC 138 "Non-destructive testing" 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of an identical text or by endorsement, at the latest by April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.

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.

This document supersedes EN 12668-3:2013.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 22232-3:2020 has been approved by CEN as EN ISO 22232-3:2020 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 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.

This document was prepared by ISO/TC 135, *Non-destructive testing*, Subcommittee SC 3, *Ultrasonic testing*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 138, *Non-destructive testing*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 22232 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Non-destructive testing — Characterization and verification of ultrasonic test equipment —

Part 3: Combined equipment

1 Scope

This document specifies methods, tolerances and acceptance criteria for verifying the performance of combined ultrasonic test equipment (i.e. instrument, probes and cables connected) by the use of appropriate standard calibration blocks.

These methods are specifically intended for manual test equipment, i.e. ultrasonic instruments according to ISO 22232-1, and for manual ultrasonic non-destructive testing with single- or dual-transducer probes according to ISO 22232-2. This document is also applicable for multi-channel instruments. For automated test equipment, different tests can be needed to ensure satisfactory performance.

The specified methods are intended for the use by operators working under site or shop floor conditions.

These methods are not intended to prove the suitability of the equipment for particular applications.

This document excludes ultrasonic instruments for continuous waves.

This document also excludes ultrasonic phased array systems, see e. g. ISO 18563-3. If a phased array instrument is used in combination with single- or dual-transducer probes, this document is applicable to this combination.

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 2400, *Non-destructive testing — Ultrasonic testing — Specification for calibration block No. 1*

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

ISO 7963, *Non-destructive testing — Ultrasonic testing — Specification for calibration block No. 2*

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

ISO 22232-1, *Non-destructive testing — Characterization and verification of ultrasonic test equipment — Part 1: Instruments*

ISO 22232-2, *Non-destructive testing — Characterization and verification of ultrasonic test equipment — Part 2: Probes*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 5577 apply.