

**Non-destructive testing - Characterization and
verification of ultrasonic examination equipment -
Part 2: Probes**

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12668-2:2010 sisaldab Euroopa standardi EN 12668-2:2010 ingliskeelset teksti.

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English Version

Non-destructive testing - Characterization and verification of ultrasonic examination equipment - Part 2: Probes

Essais non destructifs - Caractérisation et vérification de l'appareillage de contrôle par ultrasons - Partie 2:
Traducteurs

Zerstörungsfreie Prüfung - Charakterisierung und Verifizierung der Ultraschall-Prüfausrüstung - Teil 2:
Prüfköpfe

This European Standard was approved by CEN on 25 December 2009.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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Foreword

This document (EN 12668-2:2010) has been prepared by 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of an identical text or by endorsement, at the latest by August 2010, and conflicting national standards shall be withdrawn at the latest by August 2010.

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 12668-2:2001.

EN 12668, *Non-destructive testing — Characterization and verification of ultrasonic examination equipment*, consists of the following parts:

- *Part 1: Instruments*
- *Part 2: Probes*
- *Part 3: Combined equipment*

Annex A is normative. Annex B is informative.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard covers probes used for ultrasonic non-destructive examination in the following categories with centre frequencies in the range 0,5 MHz to 15 MHz, focusing and without focusing means:

- a) single or dual transducer contact probes generating compressional or shear waves;
- b) single transducer immersion probes.

Where material-dependent ultrasonic values are specified in this document they are based on steels having a sound velocity of $(5\,920 \pm 50)$ m/s for longitudinal waves, and $(3\,255 \pm 30)$ m/s for transverse waves.

Periodic tests for probes are not included in this document. Routine tests for the verification of probes using on-site methods are given in EN 12668-3.

If parameters in addition to those specified in EN 12668-3 are to be verified during the probe's life time, as agreed upon by the contracting parties, the methods of verification for these additional parameters should be selected from those given in this document.

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.

EN 1330-4:2010, *Non-destructive testing — Terminology — Part 4: Terms used in ultrasonic testing*

EN 12668-1, *Non-destructive testing — Characterization and verification of ultrasonic examination equipment — Part 1: Instruments*

EN ISO 7963¹⁾, *Non-destructive testing — Ultrasonic testing Specification for calibration block n° 2 (ISO 7963:1985)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1330-4:2010 and the following apply.

3.1

dead zone

depth of the zone immediately beneath the coupling surface of the work piece, in which it is not possible to detect a given reflector

3.2

focal distance

near field length

point on the acoustical axis where the acoustic pressure is at its maximum

3.3

horizontal plane of a sound beam

<angle-beam probes> plane perpendicular to the vertical plane of the sound beam including the acoustical axis in the material

1) Under preparation.