

**Non-destructive testing - Characterisation and
verification of ultrasonic phased array equipment - Part
2: Probes**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16392-2:2014 sisaldab Euroopa standardi EN 16392-2:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 16392-2:2014 consists of the English text of the European standard EN 16392-2:2014.
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 26.03.2014.	Date of Availability of the European standard is 26.03.2014.
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English Version

Non-destructive testing - Characterisation and verification of ultrasonic phased array equipment - Part 2: Probes

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

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

This European Standard was approved by CEN on 6 February 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 16392-2:2014) 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 September 2014 and conflicting national standards shall be withdrawn at the latest by September 2014.

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.

EN 16392 consists of the following parts, under the general title *Non-destructive testing — Characterisation and verification of ultrasonic phased array equipment*:

— *Part 2: Probes;*

and

prEN ISO 18563

— *Part 1: Instruments;*

— *Part 3: Combined systems.*

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

1 Scope

This European Standard covers linear phased array probes used for ultrasonic non-destructive testing in contact technique (with or without a wedge) or in immersion technique, with centre frequencies in the range 0,5 MHz – 10 MHz.

This European Standard specifies the characterisation tests that have to be done at the end of the fabrication of a phased array probe. It defines both methodology and acceptance criteria.

This document does not describe methods and acceptance criteria to characterise the performance of an ultrasonic phased array instrument or the performance of a combined system. These are described in prEN ISO 18563-1 and in prEN ISO 18563-3.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 16018, *Non-destructive testing - Terminology - Terms used in ultrasonic testing with phased arrays*

EN 1330-2, *Non-destructive testing - Terminology - Part 2: Terms common to the non-destructive testing methods.*

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

EN ISO 2400, *Non-destructive testing - Ultrasonic testing - Specification for calibration block No. 1 (ISO 2400:2012)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1330-2, EN 1330-4, EN 16018 and the following apply.

3.1

phased array probe data sheet

document describing the general characteristics of the same type of phased array probes

3.2

phased array probe certificate

document showing compliance with this European Standard giving the measured values of the required parameters of one specific phased array probe

4 General requirements for compliance

An ultrasonic phased array probe complies with this document if it satisfies the following conditions:

- a) the probe shall comply with Clause 7;
- b) a declaration of conformity is issued: