

**Non-destructive testing - Equipment for eddy
current examination - Part 2: Probe characteristics
and verification**

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 15548-2:2008 sisaldab Euroopa standardi EN ISO 15548-2:2008 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 15.12.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.09.2008.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 15548-2:2008 consists of the English text of the European standard EN ISO 15548-2:2008.

This standard is ratified with the order of Estonian Centre for Standardisation dated 15.12.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 15.09.2008.

The standard is available from Estonian standardisation organisation.

ICS 19.100

Võtmesõnad: examination, inspection equipm, management, materials testing, non-destructive testing, nondestructive tests, parameters, policy, quality assurance, ratings, sensors, test equipment, test goods, test techniques, testing, testing conditions, trainings, verification

Standardite reprodutseerimis- ja levitamisoigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

EUROPEAN STANDARD

EN ISO 15548-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2008

ICS 19.100

Supersedes EN 13860-2:2003

English Version

**Non-destructive testing - Equipment for eddy current
examination - Part 2: Probe characteristics and verification (ISO
15548-2:2008)**

Essais non destructifs - Appareillage pour examen par
courants de Foucault - Partie 2: Caractéristiques des
capteurs et vérifications (ISO 15548-2:2008)

Zerstörungsfreie Prüfung - Wirbelstromprüfung -
Kenngrößen von Prüfeinrichtungen und deren Verifizierung
- Teil 2: Kenngrößen von Sensoren und deren Verifizierung
(ISO 15548-2:2008)

This European Standard was approved by CEN on 6 September 2008.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, 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 United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 15548-2:2008) has been prepared by Technical Committee CEN/TC 138 "Non-destructive testing", the secretariat of which is held by AFNOR, in collaboration with Technical Committee ISO/TC 135 "Non-destructive testing".

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 March 2009, and conflicting national standards shall be withdrawn at the latest by March 2009.

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 13860-2:2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

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, 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.

Contents

Page

| | |
|---|-----------|
| Foreword..... | iv |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 4 Characteristics of probe and interconnecting elements | 1 |
| 4.1 General characteristics | 1 |
| 4.1.1 Application | 1 |
| 4.1.2 Probe types | 2 |
| 4.1.3 Interconnecting elements | 2 |
| 4.1.4 Physical characteristics | 2 |
| 4.1.5 Safety | 3 |
| 4.1.6 Environmental conditions | 3 |
| 4.2 Electrical characteristics | 3 |
| 4.3 Functional characteristics | 3 |
| 5 Verification | 4 |
| 5.1 General | 4 |
| 5.2 Levels of verification | 4 |
| 5.3 Verification procedure | 5 |
| 5.4 Corrective actions | 5 |
| 6 Measurement of electrical and functional characteristics of a probe | 5 |
| 6.1 Electrical characteristics | 5 |
| 6.1.1 General | 5 |
| 6.1.2 Measurement conditions | 5 |
| 6.1.3 Resonant frequency of the excitation element | 6 |
| 6.1.4 Impedance of the excitation element | 6 |
| 6.1.5 Impedance of the receiving element(s) | 6 |
| 6.2 Functional characteristics | 6 |
| 6.2.1 General | 6 |
| 6.2.2 Measurement conditions | 7 |
| 6.2.3 Surface probes | 8 |
| 6.2.4 Coaxial probes | 19 |
| 6.3 Normalized impedance plane diagram | 25 |
| 7 Influence of interconnecting elements | 25 |
| Annex A (informative) Reference block A6 | 26 |
| Bibliography | 28 |

Non-destructive testing — Equipment for eddy current examination —

Part 2: Probe characteristics and verification

1 Scope

This part of ISO 15548 identifies the functional characteristics of a probe and its interconnecting elements and provides methods for their measurement and verification.

The evaluation of these characteristics permits a well-defined description and comparability of eddy current equipment.

By careful choice of the characteristics, a consistent and effective eddy current examination system can be designed for a specific application.

Where accessories are used, these should be characterised using the principles of this part of ISO 15548.

This part of ISO 15548 does not give the extent of verification nor acceptance criteria for the characteristics. These are given in the application documents.

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.

ISO 12718, *Non-destructive testing — Eddy current testing — Terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12718 apply.

4 Characteristics of probe and interconnecting elements

4.1 General characteristics

4.1.1 Application

Probes and interconnecting elements are selected to satisfy the requirements of the intended application.

The design is influenced by the instrument with which they are used.