

**Mittepurustav kontrollimine. Pöörisvooluurimine.
Üldised põhimõtted (ISO 15549:2008)**

Non-destructive testing - Eddy current testing - General principles (ISO 15549:2008)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 15549:2011 sisaldab Euroopa standardi EN ISO 15549:2010 ingliskeelset teksti.

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English Version

Non-destructive testing - Eddy current testing - General
principles (ISO 15549:2008)

Essais non destructifs - Contrôle par courants de Foucault -
Principes généraux (ISO 15549:2008)

Zerstörungsfreie Prüfung - Wirbelstromprüfung -
Allgemeine Grundlagen (ISO 15549:2008)

This European Standard was approved by CEN on 28 November 2010.

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Foreword

The text of ISO 15549:2008 has been prepared by Technical Committee ISO/TC 135 “Non-destructive testing” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 15549:2010 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of an identical text or by endorsement, at the latest by June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

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Endorsement notice

The text of ISO 15549:2008 has been approved by CEN as a EN ISO 15549:2010 without any modification.

Contents

Page

1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	General principles	1
5	Qualification of personnel	2
6	Purpose of examination and products to be tested	2
7	Measurement techniques	2
8	Equipment	3
9	Preparation of equipment	4
10	Verification of equipment	4
11	Preparation of the product to be tested	5
12	Examination	5
13	Documentation	6

Non-destructive testing — Eddy current testing — General principles

1 Scope

This International Standard defines the general principles to be applied to non-destructive eddy current examination of products and materials in order to ensure defined and repeatable performance.

It includes guidelines for the preparation of application documents which describe the specific requirements for the application of the eddy current method to a particular type of product.

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

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 General principles

The eddy current examination is based upon the induction of an electric current in a conducting material. The quantity measured and analysed is related to the distribution of the induced currents. For alternating excitation, it is represented by a vector in the complex plane.

The distribution of eddy currents in a material according to depth is governed by physical laws, the density of the currents decreasing drastically with increasing depth. For high-frequency excitation, this decrease is an exponential function of depth.

The following properties, alone or in combination, of the product to be tested influence the measured quantity:

- the conductivity of the material;
- the magnetic permeability of the material;
- the size and geometry of the product to be tested;
- the geometrical relationship between the eddy current probe and the product to be tested.

More detailed information is obtained when the measured quantity is displayed in the complex plane.