

Non-destructive testing - Magnetic particle testing - Part 3: Equipment

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 9934-3:2002 sisaldab Euroopa standardi EN ISO 9934-3:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 18.10.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 9934-3:2002 consists of the English text of the European standard EN ISO 9934-3:2002. This document is endorsed on 18.10.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This European Standard describes three types of equipment for magnetic particle testing : - portable or transportable equipment ; - fixed installations ; - specialized testing systems for testing components on a continuous basis, comprising a series of processing stations placed in sequence to form a process line	Scope: This European Standard describes three types of equipment for magnetic particle testing : - portable or transportable equipment ; - fixed installations ; - specialized testing systems for testing components on a continuous basis, comprising a series of processing stations placed in sequence to form a process line
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ICS 19.100

Võtmesõnad: basis, equipment, ferromagnetic, instruments, magnetic tests, magnetic-particle flaw, magnetic-particle flaw detection, material tests, non-destructive testing, nondestructive tests, safety requirements, surface inspections, testing conditions, viewing conditions

English version

Non-destructive testing
Magnetic particle testing
Part 3: Equipment
(ISO 9934-3 : 2002)

Essais non destructifs – Magnéto-
scopie – Part 3: Equipement
(ISO 9934-3 : 2002)

Zerstörungsfreie Prüfung – Magnet-
pulverprüfung – Teil 3: Geräte
(ISO 9934-3 : 2002)

This European Standard was approved by CEN on 2001-08-04.

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 Management Centre or to any CEN member.

The European Standards exist 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This document (ISO 9934-3:2002) 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 December 2002, and conflicting national standards shall be withdrawn at the latest by December 2002.

This Standard consists of the following parts :

- | | |
|-----------------|--|
| EN ISO 9934-1 | Non destructive testing - Magnetic particle testing - Part 1 : General rules |
| prEN ISO 9934-2 | Non destructive testing - Magnetic particle testing - Part 2 : Detection media |
| EN ISO 9934-3 | Non destructive testing - Magnetic particle testing - Part 3 : Equipment |

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard describes three types of equipment for magnetic particle testing :

- portable or transportable equipment ;
- fixed installations ;
- specialized testing systems for testing components on a continuous basis, comprising a series of processing stations placed in sequence to form a process line.

Equipment for magnetizing, demagnetizing, illumination, metering and monitoring are also described.

This standard specifies the properties to be provided by the equipment supplier, minimum requirements for application and the method of measuring certain parameters. Where appropriate, measuring and calibration requirements and in-service checks are also specified.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 10084 *Case hardening steels - Technical delivery conditions*

EN ISO 3059:2001 *Non-destructive testing - Penetrant testing and magnetic particle testing - Viewing conditions (ISO 3059:2001)*

EN ISO 9934-1:2001 *Non-destructive testing - Magnetic particle testing - Part 1 : General rules (ISO 9934-1:2001)*

EN 60529 *Degrees of protection provides by enclosures (IP Code) (IEC 60529:1989)*

3 Safety requirements

The equipment design shall take into account of all European, national and local regulations which include health, safety, electrical and environmental requirements.

4 Types of devices

4.1 Portable electromagnets (AC¹⁾)

4.1.1 General

Hand-held portable electromagnets (yokes) produce a magnetic field between the two poles. (When testing according to EN ISO 9934-1, DC electromagnets should only be used if agreed at enquiry and order stages).

Magnetization shall be determined by measuring the tangential field strength H_t at the centre of a line joining the centres of the pole faces of the electromagnet with pole extenders where used. The electromagnet with a pole spacing s is placed on a steel plate as shown in Figure 1. The plate shall have the dimensions (500 ± 25) mm x (250 ± 13) mm x $(10 \pm 0,5)$ mm and shall be of steel conforming to C 22 (EN 10084)..

1) AC = alternative current, and DC = rectified current