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Non-destructive testing - Measurement and evaluation of the X-ray tube voltage - Part 2: Constancy check by the thick filter method

Non-destructive testing - Measurement and evaluation of the X-ray tube voltage - Part 2: Constancy check by the thick filter method

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 12544-2:2000 sisaldab Euroopa standardi EN 12544-2:2000 ingliskeelset teksti. Käesolev dokument on jõustatud 08.08.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 12544-2:2000 consists of the English text of the European standard EN 12544-2:2000. This document is endorsed on 08.08.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This standard describes a constancy check of a X-ray system, where mainly the X-ray voltage is checked and also the tube current and the constitution of the target which may be changing due to ageing of the tube. The thick filter method is based on a measurement of the dose rate behind a defined thich filter using defined distances between the X-ray tube, the filter and the measuring device.	**Scope:** This standard describes a constancy check of a X-ray system, where mainly the X-ray voltage is checked and also the tube current and the constitution of the target which may be changing due to ageing of the tube. The thick filter method is based on a measurement of the dose rate behind a defined thich filter using defined distances between the X-ray tube, the filter and the measuring device.

ICS 19.100

Võtmesõnad:

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12544-2

February 2000

ICS 19.100

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English version

Non-destructive testing – Measurement and evaluation of the X-ray tube voltage

Part 2: Constancy check by the thick filter method

Essais non destructifs – Mesurage et évaluation de la tension des tubes radiogènes – Partie 2: Contrôle de la constance selon la méthode du filtre épais

Zerstörungsfreie Prüfung – Messung und Auswertung der Röntgenröhrenspannung – Teil 2: Konstanzprüfung mit dem Dickfilter-Verfahren

This European Standard was approved by CEN on 1999-12-24.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Ref. No. EN 12544-2 : 2000 E

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Foreword

This European Standard 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 2000, and conflicting national standards shall be withdrawn at the latest by August 2000.

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

In the framework of its scope, Technical Committee CEN/TC 138 entrusted CEN/TC 138/WG 1 "Ionizing Radiation" with preparing the following standard:

EN 12544-2, *Non-destructive testing - Measuremenent and evaluation of the X-ray tube voltage - Part 2: Constancy check by the thick filter method.*

EN 12544-2 is a part of series of European Standards; the other Parts are the following:

EN 12544-1, *Non-destructive testing - Measurement and evaluation of the X-ray tube voltage - Part 1: Voltage divider method.*

EN 12544-3, *Non-destructive testing - Measurement and evaluation of the X-ray tube voltage - Part 3: Spectrometric method.*

Introduction

In order to cover the different requirements for the measurement of the X-ray tube voltage, three different methods are described in EN 12544-1 to EN 12544-3.

The voltage divider method (EN 12544-1) enables a direct and absolute measurement of the average high voltage of constant potential X-ray systems on the secondary side of the high voltage generator.

The thick filter method (EN 12544-2) describes a constancy check. This method is recommended for the regular stability check of an X-ray system.

The spectrometric method (EN 12544-3) is a procedure for non-invasive measurement of the X-ray tube voltage using the energy spectrum of the X-rays. This method can be applied for all X-ray systems and shall be applied whenever the voltage divider method is not applicable, e. g. in case of tank units where it is not possible to connect the voltage divider device.