ICS 19.100 SLOVENSKÁ TECHNICKÁ NORMA September 2020

STN	**Nedeštruktívne skúšanie Meranie a hodnotenie napätia röntgenky Časť 2: Kontrola stálosti metódou pomocou hrubého filtra (ISO 16526-2: 2011)**	**STN EN ISO 16526-2** 01 5004

Non-destructive testing - Measurement and evaluation of the X-ray tube voltage - Part 2: Constancy check by the thick filter method (ISO 16526-2:2011)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/20

Obsahuje: EN ISO 16526-2:2020, ISO 16526-2:2011

Spolu s STN EN ISO 16526-1 ruší
STN EN 12544-2 (01 5004) z novembra 2001

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2020
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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 16526-2

March 2020

ICS 19.100

Supersedes EN 12544-2:2000

English Version

Non-destructive testing - Measurement and evaluation of the X-ray tube voltage - Part 2: Constancy check by the thick filter method (ISO 16526-2:2011)

Essais non destructifs - Mesurage et évaluation de la tension des tubes radiogènes - Partie 2: Contrôle de la constance selon la méthode du filtre épais (ISO 16526-2:2011)

Zerstörungsfreie Prüfung - Messung und Auswertung der Röntgenröhrenspannung - Teil 2: Konstanzprüfung mit dem Dickfilter-Verfahren (ISO 16526-2:2011)

This European Standard was approved by CEN on 6 January 2020.

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Ref. No. EN ISO 16526-2:2020 E

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European foreword

The text of ISO 16526-2:2011 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 16526-2:2020 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of an identical text or by endorsement, at the latest by September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 16526-2:2011 has been approved by CEN as EN ISO 16526-2:2020 without any modification.

INTERNATIONAL STANDARD

ISO 16526-2

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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

Essais non destructifs — Mesurage et évaluation de la tension des tubes radiogènes —

Partie 2: Contrôle de la constance selon la méthode du filtre épais

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 16526-2 was prepared by CEN (as EN 12544-2:2000) and is submitted for approval under a special “fast-track procedure”, by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 5, *Radiation methods*, in parallel with its approval by the ISO member bodies (see the *ISO/IEC Directives*, Part 1, “Fast-track procedure”).

ISO 16526 consists of the following parts, under the general title *Non-destructive testing — Measurement and evaluation of the X-ray tube voltage*:

— *Part 1: Voltage divider method*

— *Part 2: Constancy check by the thick filter method*

— *Part 3: Spectrometric method*

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Introduction

In order to cover the different requirements for the measurement of the X-ray tube voltage, three different methods are described in ISO 16526-1 to ISO 16526-3.

The voltage divider method (ISO 16526-1) 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 (ISO 16526-2) describes a constancy check. This method is recommended for the regular stability check of an X-ray system.

The spectrometric method (ISO 16526-3) 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.

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INTERNATIONAL STANDARD **ISO 16526-2:2011(E)**

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

Part 2:
Constancy check by the thick filter method

1 Scope

This part of ISO 16526 specifies 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 can be changing due to ageing of the tube.

The thick filter method is based on a measurement of the dose rate behind a defined thick filter using defined distances between the X-ray tube, the filter and the measuring device.

This method is very sensitive to changes of the voltage, but it does not provide an absolute value for the X-ray tube voltage. Therefore, a reference value is needed and, it is recommended to find this reference, for example, within the acceptance test of the system.

The thick filter method is a rather simple technique and may be applied by the operator of an X-ray system to perform regularly a constancy check of the system.

The method can also be applied for consistency checks after changing components which may affect the X-ray tube voltage.

This method can be applied for all types of X-ray systems, i. e. for constant potential, half wave and impulse wave generators with a tube current larger than 1 mA.

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

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