



SLOVENSKI STANDARD
oSIST prEN ISO 9978:2022
01-oktober-2022

Zaščita pred sevanjem - Zaprti viri - Metode preskušanja prepuščanja (ISO 9978:2020)

Radiation protection - Sealed sources - Leakage test methods (ISO 9978:2020)

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Radioprotection - Sources scellées - Méthodes d'essai d'étanchéité (ISO 9978:2020)

Ta slovenski standard je istoveten z: prEN ISO 9978

ICS:

13.280 Varstvo pred sevanjem Radiation protection

oSIST prEN ISO 9978:2022

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

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ICS 13.280

English Version

Radiation protection - Sealed sources - Leakage test methods (ISO 9978:2020)

Radioprotection - Sources scellées - Méthodes d'essai d'étanchéité (ISO 9978:2020)

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 430.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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European foreword

The text of ISO 9978:2020 has been prepared by Technical Committee ISO/TC 85 "Nuclear energy, nuclear technologies, and radiological protection" of the International Organization for Standardization (ISO) and has been taken over as prEN ISO 9978:2022 by Technical Committee CEN/TC 430 "Nuclear energy, nuclear technologies, and radiological protection" the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

Endorsement notice

The text of ISO 9978:2020 has been approved by CEN as prEN ISO 9978:2022 without any modification.

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Annex 1

A-Deviation for EN ISO 9978 (Germany)

Clause	Deviation
3.9	<p>Germany replaced by Strahlenschutzgesetz, Section 5 (35), reading:</p> <p>(35) Sealed radioactive sources: Radioactive material that is permanently sealed in an all-over tight, solid, not radioactive capsule or material to which it is closely bonded in a way that reliably maintains leak-tightness under the conditions of use for which it was designed; one dimension of the sealed radioactive source shall be at least 0,2 cm. Radioactive sources which are used because of their radioactivity and whose encapsulation can be opened non-destructively are no sealed radioactive sources</p>

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INTERNATIONAL STANDARD

ISO 9978

Second edition
2020-07

Radiation protection — Sealed sources — Leakage test methods

Radioprotection — Sources scellées — Méthodes d'essai d'étanchéité

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 85, *Nuclear energy, nuclear technologies, and radiological protection*, Subcommittee SC 2, *Radiological protection*.

This second edition cancels and replaces the first edition (ISO 9978:1992), which has been technically revised. The main changes compared to the previous edition are as follows:

- [Clause 4](#): Revised to add text specifying factors to be considered in designing an effective leak testing regime for a particular type of sealed source;
- [Clause 4](#): Requirement added that personnel performing leak tests be appropriately trained and qualified, informative reference to ISO 9712 added;
- [Clause 4](#): Requirement added that measurement uncertainty shall be considered in sentencing non-binary test results;
- [Table 1](#) — “Threshold detection values and limiting values for different test methods” has been revised for clarity;
- [5.1](#): Informative reference to suitable assay techniques for immersion test liquid samples added: ISO 19361 and ISO 19581;
- [5.1.1](#), [5.1.2](#), [5.1.4](#): Composition of suitable immersion test liquids clarified;
- [5.3](#): Informative reference to suitable wipe testing techniques (ISO 7503-2) added and clarification that acceptance criteria is absolute without correction for wiping efficiency required;
- [6.1](#): Normative reference to ISO 20485 added for methods of helium leak testing and calculation of acceptance limits;
- [6.2](#): Cautionary text added to state that efficacy of tests assume ideal conditions for vision of bubbles;
- [6.2.1](#): Cautionary text added regarding bubble testing of self-heated sources;

- [A.1](#): Text expanded to clarify which tests to use under given circumstances.

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