



SLOVENSKI STANDARD
oSIST prEN IEC 62387:2022
01-julij-2022

Instrumenti za zaščito pred sevanjem - Sistemi za dozimetrijo z integriranimi pasivnimi detektorji za posamezno, delovno in okoljsko spremljanje ftonskega in beta sevanja

Radiation protection instrumentation - Dosimetry systems with integrating passive detectors for individual, workplace and environmental monitoring of photon and beta radiation

Strahlenschutz-Messgeräte - Dosimetriesysteme mit integrierenden passiven Detektoren zur Personen-, Arbeitsplatz- und Umgebungsüberwachung auf Photonen- und Betastrahlung

Instrumentation pour la radioprotection - Systèmes dosimétriques avec détecteurs intégrés passifs pour le contrôle radiologique individuel, du lieu de travail et de l'environnement des rayonnements photoniques et bêta

Ta slovenski standard je istoveten z: prEN IEC 62387

ICS:

13.280 Varstvo pred sevanjem Radiation protection

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May 2022

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English Version

**Radiation protection instrumentation - Dosimetry systems with
integrating passive detectors for individual, workplace and
environmental monitoring of photon and beta radiation
(IEC 62387:2020)**

Instrumentation pour la radioprotection - Systèmes
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(IEC 62387:2020)

Strahlenschutz-Messgeräte - Dosimetriesysteme mit
integrierenden passiven Detektoren zur Personen-,
Arbeitsplatz- und Umgebungsüberwachung auf Photonen-
und Betastrahlung
(IEC 62387:2020)

This draft European Standard is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2022-08-05.

The text of this draft consists of the text of IEC 62387:2020.

If this draft becomes a European Standard, CENELEC 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 CENELEC in three official versions (English, French, German).
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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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Europäisches Komitee für Elektrotechnische Normung

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prEN IEC 62387:2022 (E)**European foreword**

This document (prEN IEC 62387:2022) consists of the text of IEC 62387:2020 prepared by IEC/SC 45B "Radiation protection instrumentation" of IEC/TC 45 "Nuclear instrumentation".

This document is currently submitted to the Enquiry.

The following dates are proposed:

- latest date by which the existence of this document (doa) dor + 6 months
has to be announced at national level
- latest date by which this document has to be (dop) dor + 12 months
implemented at national level by publication of an
identical national standard or by endorsement
- latest date by which the national standards (dow) dor + 36 months
conflicting with this document have to be withdrawn (to be confirmed or
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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-
IEC 61000-4-3	-	Electromagnetic compatibility (EMC) - Part 4-3 : Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN IEC 61000-4-3	-
IEC 61000-4-4	-	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	-
IEC 61000-4-5	-	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	-
IEC 61000-4-6	-	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	-
IEC 61000-4-8	-	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	-
IEC 61000-4-11	-	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase	EN IEC 61000-4-11	-
IEC 61000-6-2	-	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments	EN IEC 61000-6-2	-

prEN IEC 62387:2022 (E)

ISO 4037	series	Radiological protection - X and gamma reference radiation for calibrating dosimeters and doserate meters and for determining their response as a function of photon energy	EN ISO 4037	series
ISO 4037-3	2019	Radiological protection - X and gamma reference radiation for calibrating dosimeters and doserate meters and for determining their response as a function of photon energy - Part 3: Calibration of area and personal dosimeters and the measurement of their response as a function of energy and angle of incidence	EN ISO 4037-3	2021
ISO 6980	series	Nuclear energy - Reference beta-particle radiation	-	-
ISO 6980-3	-	Nuclear energy - Reference beta-particle radiation - Part 3: Calibration of area and personal dosimeters and the determination of their response as a function of beta radiation energy and angle of incidence	-	-
ISO 8529	series	Reference neutron radiations – Part 1: Characteristics and methods of production	-	-
ISO/IEC Guide 98-3	2008	Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)	-	-

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iTeh STANDARD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RADIATION PROTECTION INSTRUMENTATION –
DOSIMETRY SYSTEMS WITH INTEGRATING PASSIVE DETECTORS
FOR INDIVIDUAL, WORKPLACE AND ENVIRONMENTAL MONITORING
OF PHOTON AND BETA RADIATION**

FOREWORD

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International Standard IEC 62387 has been prepared by subcommittee 45B: Radiation protection instrumentation, of IEC technical committee 45: Nuclear instrumentation.

This second edition cancels and replaces the first edition of IEC 62387 published in 2012. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- Modification of title.
- Addition of performance requirements for dosimeters to measure $H'(3)$ for both photon and beta radiation.
- Adoption of the cylinder instead of the slab phantom for the quantity $H_p(3)$.
- Correction and clarification of several subclauses to obtain a better applicability.

The text of this standard is based on the following documents:

FDIS	Report on voting
45B/945/FDIS	45B/954/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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INTRODUCTION

A dosimetry system may consist of the following elements:

- a) a passive device, referred to herein as a *detector*, which, after the exposure to radiation, stores a signal for use in measuring one or more quantities of the incident radiation field;
- b) a “dosemeter”, that incorporates some means of identification and contains one or more detectors and may contain electronic components, e.g. for the readout (e.g., in a direct ion storage (DIS) dosimeter);
- c) a “reader” which is used to readout the stored information (signal) from the detector, in order to determine the radiation dose;
- d) a “computer” with appropriate “software” to control the reader, store the signals transmitted from the reader, calculate, display and store the evaluated dose in the form of an electronic file or paper copy;
- e) “additional equipment” and documented procedures (instruction manual) for performing associated processes such as deleting stored dose information, cleaning dosimeters, or those needed to ensure the effectiveness of the whole system.

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