
Radiation protection — Sealed sources — Leakage test methods

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

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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.

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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;