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IS 18066 (Part 6):XXXX
ISO 11665-6 : 2020
July 2025

BUREAU OF INDIAN STANDARDS

Draft Indian Standard

Measurement of Radioactivity in the Environment — Air: Radon-222
Part 6 Spot Measurement Methods of the Activity Concentration

भारतीय मानक मसौदा

पर्यावरण में रेडियोधर्मिता का मापन — वायु: रेडॉन-222
भाग 6 सक्रियता सांद्रण के स्पॉट मापन की विधियां

(ICS 17.240, 13.040.01)

Nuclear Energy for Peaceful Applications Sectional Committee, CHD 30	**Last Date for Comments**: 30th September 2025

Nuclear Energy for Peaceful Applications Sectional Committee, CHD 30

NATIONAL FOREWORD

(*Formal clause will be added later*)

The Indian Standards related to the measurement of Radon-222 in the environment are being published in several parts under the general title 'Measurement of radioactivity in the environment- Air: radon-222'.

This part, IS 18066 (Part 6), is an adoption ISO 11665-6: 2020 and describes spot measurement methods for Radon-222. It gives indications for carrying out spot measurements, at the scale of a few minutes at a given place, of the radon activity concentration in open and confined atmospheres.

The other parts in this series are:

Part 1 Origins of radon and its short-lived decay products and associated measurement methods

Part 3 Spot measurement method of the potential alpha energy concentration of its short-lived decay product

Part 4 Integrated measurement method for determining average activity concentration using passive sampling and delayed analysis

Part 8 Methodologies for initial and additional investigations in buildings

Part 12 Determination of the diffusion coefficient in waterproof materials: membrane one-side activity concentration measurement method

Part 13 Determination of the diffusion coefficient in waterproof materials: membrane two-side activity concentration test method

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions and terminologies are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words `International Standard' appear referring to this standard, they should be read as `Indian Standard'

b) Comma (,) has been used as a decimal marker in the International Standard, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

International Standards/ documents	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 11665-1 : 2019 Measurement of radioactivity in the environment- Air : radon-222 Part 1 : Origins of radon and its short-lived decay products and associated measurement methods	IS 18066 (Part 1):2022 Measurement of radioactivity in the environment- Air : radon-222 Part 1 : Origins of radon and its short-lived decay products and associated measurement methods	Identical under dual numbering
ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories	IS/ISO/IEC 17025:2017 Measurement of radioactivity in the environment- Air : radon-222 Part 6: Spot measurement method of the activity concentration	Identical under single numbering

The technical committee has reviewed the provisions of the following International Standards/ documents referred in this adopted standard and has decided that they are acceptable for use in conjunction with this Standard:

International Standards/ documents	*Title*
ISO/IEC Guide 98-3	Uncertainty of measurements – Part 3 : Guide to the expression of uncertainty in measurement (GUM : 1995)
IEC 61577-1	Radiation protection instrumentation — Radon and radon decay product measuring instruments — Part 1: General principles

ISO 11929 (all parts)	Determination of the characteristic limits (decision threshold, detection limit, and limits of the confidence interval) for measurements of ionizing radiation- Fundamentals and application

In this adopted standard, reference appears to certain International Standards/documents where the standard atmospheric conditions to be observed are stipulated which are not applicable to tropical/subtropical countries. The applicable standard atmospheric conditions for Indian conditions are (27 ± 2) °C and (65 ± 5) percent relative humidity and shall be observed while using this standard.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values *(second revision)’*.