

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

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भारतीय मानक मसौदा
दृढ़ जालीदार तापीय ऊष्मारोधी सामग्री की परीक्षण पद्धति
भाग 4 जलवाष्प संचरण दर

[IS 11239 (भाग 4) का दूसरा पुनरीक्षण]

Draft Indian Standard

**Method of Test for Rigid Cellular
Thermal Insulation Materials
Part 4 Water Vapour Transmission Rate**
[Second Revision of IS 11239 (Part 4)]

(ICS 83.100)

Thermal Insulation Materials Sectional Committee, CHD 27

Last Date for Comments: 15 March 2025

Thermal Insulation Materials Sectional Committee, CHD 27

NATIONAL FOREWORD

(Formal clauses will be added later)

This standard specifies a method of determining the water vapour transmission rate, water vapour permeance, water vapour permeability and water vapour diffusion resistance index for rigid cellular plastics.

This method is applicable for the testing of rigid cellular materials that have thicknesses from 10 mm upwards and can, as an integral part of the material, contain natural skins or adhered facings of some different material.

This standard was originally published in 1985 and subsequently revised in 2014 by adopting the ISO 1663: 2007 under dual numbering system. However while reviewing the ISO 1663: 2007 version by the

committee, it was observed that ISO 1663 has been revised as ISO 1663 : 2023. This revision has been taken up in order to align the standard with the latest version of ISO 1663.

The main changes in the revision are as follows:

- in the Scope (Clause 1):
- the unit ng has been changed to µg;
- the upper limit has been changed from 200 µg/(m²-s) to 1 400 µg/(m²-s);
- Clause 9 has been modified as follows:
 - 9.1.2, "Blank specimen" has been added;
 - 9.3.2 "Corrections" has been added;
- in 9.5, Formula (8) has been modified;
- in Clause 11, a new item (k) has been added;
- Formula (in equation B.8) has been modified.

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

- a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, the 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:

<i>International Standards/ documents</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 1923 — Cellular plastics and rubbers — Determination of linear dimensions	IS 11239 (Part 1) : 2009 — Methods of test for rigid cellular thermal insulation materials: Part 1 dimensions	Identical

In this adopted standard, reference appears to certain International Standards for which Indian Standards do not exist. So, 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:

<i>International Standards/ documents</i>	<i>Title</i>
ISO 291	Plastics — Standard atmospheres for conditioning and testing

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.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2: 2022 'Rules for rounding off numerical values (*second revision*)'.