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Interested committees:

Title: Draft BS ISO 2528 Sheet materials — Determination of water vapour transmission rate (WVTR) — Gravimetric (dish) method.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 2528

Sheet materials — Determination of water vapour transmission rate (WVTR) — Gravimetric (dish) method

*Matériaux en feuilles — Détermination du coefficient de
transmission de la vapeur d'eau — Méthode (de la capsule) par
gravimétrie*

ICS: 85.060

ISO/TC 6/SC 2

Secretariat: **SIS**

Voting begins on:
2025-11-10

Voting terminates on:
2026-02-02

This document is circulated as received from the committee secretariat.

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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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 6 *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

This fourth edition cancels and replaces the third edition ISO 2528:2017 which has been technically revised.

The main changes are as follows:

- Mechanically-sealed test dishes have been shown to be as satisfactory as wax-sealed test dishes and are included in the material that can be used for the determination of water-vapour transmission rate.
- Wax-sealed test dishes are moved to the normative [Annex A](#).
- Weighing method has been modified, the 15 min temperature equilibrium time has been removed as the temperatures used in the standard are not high (max 38 °C).
- Preparation of test pieces and test dishes with mechanically-sealed upper parts have been added.
- Precision data have been added in [Annex D](#)

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document describes a method which can in theory be applied to any sheet material. In practice its main use is for flat, usually thin, materials that can be processed to form a water vapour-resistant barrier, as used in packaging, such as paper, board, plastics films or laminates of paper with films or metal foils, and for fabrics coated with rubber or plastics.

This test is intended to give reliable values of water vapour transmission rate (WVTR) by means of simple apparatus. The use of the results of any particular application should, however, be based upon experience.

Transmission rate is not a linear function of temperature nor, generally, of relative humidity difference. A determination carried out under certain conditions is not, therefore, necessarily comparable with one carried out under other conditions. The conditions of test should, therefore, be chosen to be as close as possible to the conditions of use.

Sheet materials — Determination of water vapour transmission rate (WVTR) — Gravimetric (dish) method

1 Scope

This document specifies a method for the determination of the water vapour transmission rate (often erroneously called “permeability”) of sheet materials. This method is not generally recommended for use if the transmission rate is expected to be less than 1 g/m² per day or for materials thicker than 3 mm. In such cases the method specified in ISO 9932 is preferred.

The method cannot be applied to materials that change dimensionally (shrink or expand) to an appreciable extent under the test conditions used.

In the case of materials that are damaged by hot wax, only mechanically-sealed test dishes can be used.

For some purposes it may be necessary to determine the transmission rate of creased material; a procedure for this is given in [Annex B](#).

2 Normative references

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.

ISO 186, *Paper and board — Sampling to determine average quality*

ISO 187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples*

ISO 209, *Wrought aluminium and aluminium alloys — Chemical composition*

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

ISO 2231, *Rubber- or plastics-coated fabrics — Standard atmospheres for conditioning and testing*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

Water Vapour Transmission Rate WVTR

mass of water vapour transmitted through a unit area in a unit time under specified conditions of temperature and humidity

Note 1 to entry: Expressed in grams per square metre per day [g/(m² × d)].