



BSI Standards Publication

Adhesives for organic electronic devices — Determination of water vapour transmission rate

Part 1: Adhesive film preparation methods

This is a preview of "BS ISO 21760-1:2019". [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of ISO 21760-1:2019.

The UK participation in its preparation was entrusted to Technical Committee PRI/52, Adhesives.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2019
Published by BSI Standards Limited 2019

ISBN 978 0 580 96118 2

ICS 83.180

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2019.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

This is a preview of "BS ISO 21760-1:2019". [Click here to purchase the full version from the ANSI store.](#)

First edition
2019-05-31

Adhesives for organic electronic devices — Determination of water vapour transmission rate —

Part 1:

Adhesive film preparation methods

Adhésifs pour dispositifs électroniques organiques — Détermination du taux de transmission de vapeur d'eau —

Partie 1: Méthodes de préparation du film adhésif



Reference number
ISO 21760-1:2019(E)

© ISO 2019

This is a preview of "BS ISO 21760-1:2019". [Click here to purchase the full version from the ANSI store.](#)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

This is a preview of "BS ISO 21760-1:2019". [Click here to purchase the full version from the ANSI store.](#)

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Test specimens	2
5.1 Substrate for non-self-supporting adhesives.....	2
5.2 Preparation of test specimens.....	2
5.2.1 Preparation of non-self-supporting adhesives on a substrate.....	2
5.2.2 Test specimen.....	3
5.2.3 Number of specimens.....	3
6 Conditioning	3
7 Determination of the thickness of the adhesive	3
7.1 General.....	3
7.2 Determination of the thickness of the adhesives by calculation.....	3
7.3 Determination of the thickness of the adhesive by optical, mechanical or other suitable methods.....	3
8 Test methods	4
9 Procedure	4
9.1 General.....	4
9.2 Water vapour transmission rate, W_{AS} , of the substrate plus adhesive film.....	4
9.3 Water vapour transmission rate, W_S , of the substrate.....	4
10 Calculation	4
10.1 General.....	4
10.2 Water vapour transmission rate, W_A , of non-self-supporting adhesive films.....	5
11 Test condition	5
12 Test result	5
13 Precision	5
14 Test report	5
Annex A (informative) Spin coating application methods	7
Annex B (informative) Blade coating application methods	8
Annex C (informative) Spray coating application methods	9
Bibliography	10

This is a preview of "BS ISO 21760-1:2019". [Click here to purchase the full version from the ANSI store.](#)

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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.

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 11, *Products*.

A list of all parts in the ISO 21760 series can be found on the ISO website.

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.

This is a preview of "BS ISO 21760-1:2019". Click here to purchase the full version from the ANSI store.

Adhesives for organic electronic devices — Determination of water vapour transmission rate —

Part 1: Adhesive film preparation methods

1 Scope

This document specifies six methods for determining the water vapour transmission rate of adhesive films coated on a plastic substrate.

The adhesive is used in organic electronic devices such as organic light-emitting diodes.

The methods provide rapid measurement over a wide range of water vapour transmission rates.

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 2808, *Paints and varnishes — Determination of film thickness*

ISO 4593, *Plastics — Film and sheeting — Determination of thickness by mechanical scanning*

ISO 15106 (all parts), *Plastics — Film and sheeting — Determination of water vapour transmission rate*

3 Terms and definitions

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

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

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

3.1

water vapour transmission rate

amount of water vapour transmitted per unit area of *test specimen* (3.2) per unit time under specified conditions

Note 1 to entry: It is expressed in grams per square metre per 24 h [g/(m² × 24 h)].

3.2

test specimen

supporting substrate with coating of adhesives applied to it

4 Principle

A test specimen consists of a non-self-supporting adhesive film on a plastic substrate. The test specimen is mounted in a transmission cell forming a sealed barrier between two chambers.