



**SLOVENSKI STANDARD
SIST EN ISO 15106-3:2005**

01-maj-2005

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Plastics - Film and sheeting - Determination of water vapour transmission rate - Part 3: Electrolytic detection sensor method (ISO 15106-3:2003)

Kunststoffe - Folien und Flächengebilde - Bestimmung der Wasserdampfdurchlässigkeit - Teil 3: Elektrolytnachweis-Sensorverfahren (ISO 15106-3:2003)

Plastiques - Film et feuille - Détermination du coefficient de transmission de vapeur d'eau - Partie 3: Méthode utilisant un détecteur électrolytique (ISO 15106-3:2003)

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Ta slovenski standard je istoveten z: EN ISO 15106-3:2005

ICS:

83.140.10 Filmi in folije Films and sheets

SIST EN ISO 15106-3:2005 **en,fr,de**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 15106-3

February 2005

ICS 83.140.10

English version

**Plastics - Film and sheeting - Determination of water vapour
transmission rate - Part 3: Electrolytic detection sensor method
(ISO 15106-3:2003)**

Plastiques - Film et feuille - Détermination du coefficient de
transmission de vapeur d'eau - Partie 3: Méthode utilisant
un détecteur électrolytique (ISO 15106-3:2003)

Kunststoffe - Folien und Flächengebilde - Bestimmung der
Wasserdampfdurchlässigkeit - Teil 3: Elektrolytnachweis-
Sensorverfahren (ISO 15106-3:2003)

This European Standard was approved by CEN on 3 February 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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EN ISO 15106-3:2005 (E)**Foreword**

The text of ISO 15106-3:2003 has been prepared by Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 15106-3:2005 by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2005, and conflicting national standards shall be withdrawn at the latest by August 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 15106-3:2003 has been approved by CEN as EN ISO 15106-3:2005 without any modifications.

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INTERNATIONAL
STANDARD

ISO
15106-3

First edition
2003-01-15

**Plastics — Film and sheeting —
Determination of water vapour
transmission rate —**

**Part 3:
Electrolytic detection sensor method**

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*Plastiques — Film et feuille — Détermination du coefficient de
transmission de vapeur d'eau —*

Partie 3: Méthode utilisant un détecteur électrolytique

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ISO 15106-3:2003(E)

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 15106-3 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 11, *Products*.

ISO 15106 consists of the following parts, under the general title *Plastics — Film and sheeting — Determination of water vapour transmission rate*:

— *Part 1: Humidity detection sensor method*

— *Part 2: Infrared detection sensor method* [SIST EN ISO 15106-3:2005](https://standards.iteh.ai/catalog/standards/sist/3d3e1c8d-30ae-4f83-84ff-3a37c28a2252/sist-en-iso-15106-3-2005)

— *Part 3: Electrolytic detection sensor method*

Plastics — Film and sheeting — Determination of water vapour transmission rate —

Part 3: Electrolytic detection sensor method

1 Scope

This part of ISO 15106 specifies an instrumental method for determining the water vapour transmission rate of plastic film, plastic sheeting and multi-layer structures including plastics, using an electrolytic detection sensor.

NOTE The method provides rapid measurement over a wide range of water vapour transmission rates.

2 Normative references

The following referenced documents are indispensable for the application 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 2528:1995, *Sheet materials — Determination of water vapour transmission rate — Gravimetric (dish) method*

ISO 4593:1993, *Plastics — Film and sheeting — Determination of thickness by mechanical scanning*

3 Term and definition

For the purposes of this document, the following term and definition apply.

3.1

water vapour transmission rate

the amount of water vapour transmitted through unit area of test specimen per unit time under specified conditions

NOTE Water vapour transmission rate is expressed in grams per square metre 24 hours [g/(m²·24 h)].

4 Principle

The gas transmission cell is designed in such a way that, with the test specimen inserted, it is divided into a dry chamber and a controlled-humidity chamber. The dry side of the specimen is swept by a flow of dry carrier gas, and water vapour permeating through the specimen from the controlled-humidity chamber is carried by the carrier gas into an electrolytic cell. This cell contains two spiral wire electrodes, coated with a thin layer of phosphorous pentoxide, mounted on the inside wall of a glass capillary. The carrier gas is passed through the capillary where the moisture it holds is quantitatively absorbed by the phosphorous pentoxide and decomposed electrolytically into hydrogen and oxygen by the application of a D.C. voltage of about 70 V to the electrodes. The mass of the moisture which permeates through the specimen and is decomposed per unit time is calculated from the electrolytic current required.