



**SLOVENSKI STANDARD**  
**kSIST FprEN ISO 22649:2016**  
**01-marec-2016**

---

**Obutev - Preskusne metode za notranjike in vložke - Absorpcija in desorpcija vode (ISO/FDIS 22649:2016)**

Footwear - Test methods for insoles and insocks - Water absorption and desorption (ISO/FDIS 22649:2016)

Schuhe - Prüfverfahren für Brandsohlen und Decksohlen - Wasseraufnahme und Wasserabgabe (ISO/FDIS 22649:2016)

Chaussures - Méthodes d'essai applicables aux premières de montage et aux premières de propreté - Absorption et désorption d'eau (ISO/FDIS 22649:2016)

**Ta slovenski standard je istoveten z: FprEN ISO 22649**

---

**ICS:**

61.060      Obuvala      Footwear

**kSIST FprEN ISO 22649:2016**      en



FINAL  
DRAFT

INTERNATIONAL  
STANDARD

ISO/FDIS  
22649

ISO/TC 216

Secretariat: AENOR

Voting begins on:  
**2016-01-14**

Voting terminates on:  
**2016-03-14**

---

---

## Footwear — Test methods for insoles and insocks — Water absorption and desorption

*Chaussures — Méthodes d'essai applicables aux premières de montage  
et aux premières de propreté — Absorption et désorption d'eau*

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

Please see the administrative notes on page iii



Reference number  
ISO/FDIS 22649:2015(E)

© ISO 2015

## ISO/CEN PARALLEL PROCESSING

This final draft has been developed within the European Committee for Standardization (CEN), and processed under the **CEN-lead** mode of collaboration as defined in the Vienna Agreement. The final draft was established on the basis of comments received during a parallel enquiry on the draft.

This final draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel two-month approval vote in ISO and two month formal vote in CEN.

**Positive votes shall not be accompanied by comments.**

**Negative votes shall be accompanied by the relevant technical reasons.**



### **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2015, 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

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Apparatus and material</b> .....	<b>1</b>
4.1 Method A.....	1
4.2 Method B.....	2
<b>5 Sampling and conditioning</b> .....	<b>3</b>
5.1 Method A.....	3
5.2 Method B.....	3
<b>6 Test method</b> .....	<b>4</b>
6.1 Method A.....	4
6.1.1 Determination of the water absorption.....	4
6.1.2 Determination of the water desorption.....	4
6.2 Method B.....	4
6.2.1 Principle.....	4
6.2.2 Determination of the water absorption.....	4
6.2.3 Determination of the water desorption.....	5
<b>7 Expression of results</b> .....	<b>5</b>
7.1 Method A.....	5
7.1.1 Water absorption.....	5
7.1.2 Water desorption.....	5
7.2 Method B.....	6
7.2.1 Water absorption.....	6
7.2.2 Water desorption.....	6
<b>8 Test report</b> .....	<b>6</b>
8.1 Method A.....	6
8.2 Method B.....	7
<b>Bibliography</b> .....	<b>8</b>

## ISO/FDIS 22649:2015(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.

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](http://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](http://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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO 22649 was prepared by the European Committee Standardization (CEN) Technical Committee CEN/TC 309, *Footwear*, in collaboration with ISO Technical Committee TC 216, *Footwear*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 22649:2003), which has been technically revised.

# Footwear — Test methods for insoles and insocks — Water absorption and desorption

## 1 Scope

This International Standard specifies two test methods for determining the water absorption and desorption of insoles and insocks, irrespective of the material.

These methods are as follows.

- Method A: Determination of the static water absorption and desorption of insoles and insocks.
- Method B: Determination of the dynamic water absorption and desorption of insoles.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 17709, *Footwear — Sampling location, preparation and duration of conditioning of samples and test pieces*

ISO 18454, *Footwear — Standard atmospheres for conditioning and testing of footwear and components for footwear*

## 3 Terms and definitions

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

### 3.1

#### **water absorption**

gain in mass per area unit of the test piece due to water absorption during one or more specified periods of time

### 3.2

#### **water desorption**

percentage loss in mass of the test piece, expressed in terms of the mass of water absorbed

### 3.3

#### **surface**

visible site of the material during the use at the shoe

## 4 Apparatus and material

The following apparatus and material shall be used.

### 4.1 Method A

**4.1.1 Laboratory balance**, with an accuracy of 0,01 g.

**ISO/FDIS 22649:2015(E)**

**4.1.2 Square knife**, to cut a test piece of  $(50 \pm 1)$  mm  $\times$   $(50 \pm 1)$  mm. The inner surface of the knife shall be angled outward from the cutting edge at approximately  $5^\circ$  to the vertical so that when the test piece is cut, the knife passes through it without damage to the test piece edge.

**4.1.3 Filter paper**.

**4.1.4 Distilled water**.

**4.1.5 Beaker or recipient**, with flat bottom and suitable dimensions.

**4.1.6 Vernier calipers**, capable of measuring to an accuracy of 0,2 mm.

**4.2 Method B**

**4.2.1 Apparatus** (as indicated in [Figure 1](#)) composed of the following.

**4.2.1.1 Brass roller** (A), of diameter  $(120 \pm 1)$  mm and width  $(50 \pm 1)$  mm, which is placed over the test piece (B).

**4.2.1.2 Platform** (C) is covered, with a roughened upper surface and with sufficient perforations to allow the surface to be kept wet by a flow of water through the platform. The upper surface of the platform (C) is covered, by a strip of cotton gauze.

**4.2.1.3 Clamp** (D), to hold one short side of the test piece (B) in a horizontal position on the platform (C).

**4.2.1.4 Clamp** (E), to attach the other short side of the test piece to the roller with the attached side being parallel to the axis of the roller.

The clamp is held by a weak spring to maintain the sample under slight tension.

**4.2.1.5 Water supply** (F), through the platform (C) and a means of draining away excess water.

**4.2.1.6 Means** of moving the axis of the roller, with a *to-and-fro* motion along the X-X-axis, with an amplitude of  $(50 \pm 2)$  mm about a point directly over the mid point of the test piece and frequency of  $(20 \pm 1)$  cycles per minute.

The movement of the axis causes the roller to move backwards and forwards along the test piece, raising one end and bending it to conform to the shape of the roller.

**4.2.1.7 Means** of pressing the platform, test piece and roller together with a force of  $(80 \pm 5)$  N.