

---

---

**Footwear — Test methods for insoles,  
lining and insocks — Perspiration  
resistance**

*Chaussures — Méthodes d'essai relatives aux premières de montage,  
doublures et première de propreté — Résistance à la transpiration*

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[ISO 22652:2002](https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002)

<https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002>



**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO 22652:2002

<https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002>

© ISO 2002

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland

## 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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 22652 was prepared by CEN (as EN 12801:2000) and was adopted, under a special "fast-track procedure", by Technical Committee ISO/TC 216, *Footwear* in parallel with its approval by the ISO member bodies.

For the purposes of international standardization, a list of corresponding International and European Standards for which equivalents are not given in EN 12801 has been listed as annex ZZ.

The version of EN 12801 reproduced in this International Standard incorporates the amendment EN 12801/A1:2001.

<https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002>

**Contents**

	<b>Page</b>
Foreword .....	3
1 Scope .....	4
2 Normative references .....	4
3 Definitions .....	4
4 Apparatus and material .....	4
5 Sampling and conditioning .....	5
6 Test method .....	5
7 Expression of results .....	5
8 Test report .....	6

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[ISO 22652:2002](https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002)

<https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002>

## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 309 "Footwear", the secretariat of which is held by AENOR.

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 2000, and conflicting national standards shall be withdrawn at the latest by August 2000.

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

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO 22652:2002](https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002)

<https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO 22652:2002

<https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002>



## 5 Sampling and conditioning

Cut a test piece of dimensions (60 mm ± 20 mm) x (60 mm ± 20 mm) from the shoe, cut component or component as supplied. According to the given dimensions, cut the test pieces as big as the sample will allow.

Minimum two test pieces are necessary.

If the test piece is taken from the shoe or cut component, sampling shall be done according to prEN 13400:1998.

Condition the test pieces according to EN 12222, for a minimum of 24 h.

## 6 Test method

6.1 On the conditioned test piece parallel lines are traced 5 mm in from each side (see figure 1).

6.2 With a measuring device (see 4.2) measure distances A-B, C-D, E-F and G-H.

6.3 Place the test piece in the container with the artificial sweat solution (see 4.4). The test piece shall be placed so that the sweat solution can reach the upper part of the test piece through the addition of a small weight. Then the whole collection is placed in a drying oven (see 4.1) at 35 °C for 24 hours.

6.4 The test piece is taken out of the sweat solution, washed with distilled water and put in the oven at 40 °C for 24 hours.

6.5 Take the test piece out of the drying oven and leave for 24 hours in a normalized atmosphere according to EN 12222.

6.6 Repeat steps 6.3, 6.4 and 6.5 five times.

6.7 Measure distances A-B, C-D, E-F and G-H.

During measurement unfold test piece, if folded.

6.8 If desired the mechanical strength of the material can be determined (tensile strength or tear resistance) before and after treatment.

## 7 Expression of results

7.1 Calculate the linear shrinking (lengthways and widthways) following the equations:

$$k_a = \frac{L_{1a} - L_{2a}}{L_{1a}} \times 100$$

where:

- $k_a$  is the shrinking in direction  $\underline{a}$ , expressed as a percentage
- $L_{1a}$  is the average initial length of A-B and C-D (see 6.2)
- $L_{2a}$  is the average length of A-B and C-D after treatment described (see 6.7)



and

$$k_b = \frac{L_{1b} - L_{2b}}{L_{1b}} \times 100$$

where:

- $k_b$  is the shrinking in direction  $\underline{b}$ , expressed as a percentage
- $L_{1b}$  is the average initial length of E-F and G-H (see 6.2)
- $L_{2b}$  is the average length of E-F and G-H after treatment described (see 6.7).

Express the results to the nearest 0,5 %.

**7.2** If the test for tensile strength or tear strength has been carried out, express this result in pascals or newtons per square metre for each of the directions.

## 8 Test report

The test report shall include the following information:

- a) the results, expressed in accordance with 7.1 and 7.2;
- b) full description of the samples tested including commercial styles, codes, colours, nature, etc.;
- c) description of sampling procedure, where relevant;
- d) reference to the method of test;
- e) details of any deviation from the standard test procedure;
- f) date of testing.

<https://standards.iteh.ai/catalog/standards/sist/5ed8e43f-4468-4a9a-afd5-587225301df2/iso-22652-2002>