

---

---

**Elektrostatika - 4-5. del: Standardne preskusne metode za posebne aplikacije –  
Metode za karakterizacijo elektrostatične zaščite obutve in talnih oblog v  
kombinaciji z osebo**

Electrostatics – Part 4-5: Standard test methods for specific applications – Methods  
for characterizing the electrostatic protection of footwear and flooring in combination  
with a person

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

[SIST EN 61340-4-5:2005](https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005)

[https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-  
1a89b2bf609d/sist-en-61340-4-5-2005](https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005)

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

SIST EN 61340-4-5:2005

<https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005>

English version

**Electrostatics****Part 4-5: Standard test methods for specific applications –  
Methods for characterizing the electrostatic protection  
of footwear and flooring in combination with a person  
(IEC 61340-4-5:2004)**

Electrostatique

Partie 4-5: Méthodes d'essai normalisées  
pour des applications spécifiques -  
Méthodes de caractérisation  
de la protection électrostatique  
des chaussures et des revêtements de sol  
par rapport à une personne  
(CEI 61340-4-5:2004)

Elektrostatik

Teil 4-5: Standard-Prüfverfahren für  
spezielle Anwendungen –  
Verfahren zur Charakterisierung  
der elektrostatischen Schutzwirkung  
von Schuhwerk und Boden  
in Kombination mit einer Person  
(IEC 61340-4-5:2004)

SIST EN 61340-4-5:2005

This European Standard was approved by CENELEC on 2004-09-01. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees 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.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 101/178/FDIS, future edition 1 of IEC 61340-4-5, prepared by IEC TC 101, Electrostatics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61340-4-5 on 2004-09-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-09-01

Annex ZA has been added by CENELEC.

---

## Endorsement notice

The text of the International Standard IEC 61340-4-5:2004 was approved by CENELEC as a European Standard without any modification.

**(standards.iteh.ai)**

SIST EN 61340-4-5:2005

<https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005>

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60093	- <sup>1)</sup>	Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials	HD 429 S1	1983 <sup>2)</sup>
IEC 61340-4-1	- <sup>1)</sup>	Electrostatics Part 4-1: Standard test methods for specific applications - Electrical resistance of floor coverings and installed floors	EN 61340-4-1	2004 <sup>2)</sup>
ISO 1957	- <sup>1)</sup>	Machine-made textile floor coverings - Selection and cutting of specimens for physical tests	-	-

iTech STANDARD PREVIEW  
(standards.iteh.ai)  
SIST EN 61340-4-5:2005  
<https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005>

---

1) Undated reference.

2) Valid edition at date of issue.

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

SIST EN 61340-4-5:2005

<https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005>

NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC

61340-4-5

Première édition  
First edition  
2004-07

---

---

**Electrostatique–**

**Partie 4-5:**

**Méthodes d'essai normalisées**

**pour des applications spécifiques –**

**Méthodes de caractérisation de la protection  
électrostatique des chaussures et des  
revêtements de sol par rapport à une personne**

[SIST EN 61340-4-5:2005](https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-11d1-80c0-2e4271224827/sist-en-61340-4-5-2005)

[https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-](https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-11d1-80c0-2e4271224827/sist-en-61340-4-5-2005)

**Electrostatics –**

**Part 4-5:**

**Standard test methods for specific applications –**

**Methods for characterizing the electrostatic**

**protection of footwear and flooring in**

**combination with a person**

© IEC 2004 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

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 the publisher.

International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland  
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: [inmail@iec.ch](mailto:inmail@iec.ch) Web: [www.iec.ch](http://www.iec.ch)



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

CODE PRIX  
PRICE CODE

P

*Pour prix, voir catalogue en vigueur  
For price, see current catalogue*

## CONTENTS

FOREWORD.....	5
1 Scope .....	9
2 Normative references .....	9
3 Terms and definitions .....	9
4 Principle.....	9
5 Atmosphere for conditioning and testing.....	11
6 Test methods for footwear and flooring in combination with a person .....	11
6.1 Floor covering sampling and specimen preparation for laboratory tests .....	11
6.2 Cleaning of footwear for laboratory evaluations and for test on installed floor coverings .....	13
6.3 Measurement of electrical resistance .....	13
6.4 Measurement of chargeability .....	17
7 Test report .....	19
 Annex A (normative) Method of checking calibration of body voltage measuring system .....	 29
Figure 1 – Set-ups for measuring electrical resistance of footwear and flooring in combination with a person.....	25
Figure 2 – Typical body voltage recordings showing points used in calculating mean values .....	27

[SIST EN 61340-4-5:2005](https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005)

<https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005>

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## ELECTROSTATICS –

**Part 4-5: Standard test methods for specific applications –  
Methods for characterizing the electrostatic protection  
of footwear and flooring in combination with a person**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61340-4-5 has been prepared by IEC technical committee 101: Electrostatics.

The text of this standard is based on the following documents:

FDIS	Report on voting
101/178/FDIS	101/186/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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

[SIST EN 61340-4-5:2005](#)

<https://standards.iteh.ai/catalog/standards/sist/58695024-c67a-49dd-93e0-1a89b2bf609d/sist-en-61340-4-5-2005>

## ELECTROSTATICS –

### Part 4-5: Standard test methods for specific applications – Methods for characterizing the electrostatic protection of footwear and flooring in combination with a person

#### 1 Scope

This part of IEC 61340 specifies test methods for evaluating electrostatic protection provided by a system of footwear and flooring in combination with a person.

The test methods are not intended for individual material or system classification purposes.

#### 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.

IEC 60093, *Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials*

IEC 61340-4-1, *Electrostatics – Part 4-1: Standard test methods for specific applications – Electrostatic resistance of floor coverings and installed floors*

[SIST EN 61340-4-5:2005](#)

ISO 1957, *Machine-made textile floor coverings – Selection and cutting of specimens for physical tests*

[1a89b2bf609d/sist-en-61340-4-5-2005](#)

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61340-1-2 apply.

#### 4 Principle

The characterization of a system is achieved by measuring electrical resistance and chargeability of the footwear and flooring in combination with a person. Chargeability is determined using a walking test.

**WARNING:** Test procedures described in this standard may expose personnel to potentially hazardous electrical conditions. Appropriate electrical hazard reduction practices should be exercised and proper earthing instructions for the equipment used should be followed when performing tests.