



SLOVENSKI STANDARD

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SIST EN 1815:1999

Netekstilne in tekstilne talne obloge - Ocenitev elektrostatičnega obnašanja

Resilient and laminate floor coverings - Assessment of static electrical propensity

Elastische und laminierte Bodenbeläge - Beurteilung des elektrostatistischen Verhaltens

Revêtements de sol résilients et stratifiés - Evaluation de la propension à l'accumulation de charges électrostatiques

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ICS:

97.150 Talne obloge Floor coverings

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EUROPEAN STANDARD

EN 1815

NORME EUROPÉENNE

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English Version

Resilient and laminate floor coverings - Assessment of static electrical propensity

Revêtements de sol résilients et stratifiés - Évaluation à la propulsion à l'accumulation de charges électrostatiques

Elastische und Laminate-Bodenbeläge - Beurteilung des elektrostatischen Verhaltens

This European Standard was approved by CEN on 8 July 2016.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN 1815:2016) has been prepared by Technical Committee CEN/TC 134 “Resilient, textile and laminate floor coverings”, the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by March 2017, and conflicting national standards shall be withdrawn at the latest by March 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1815:1997.

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EN 1815:2016 (E)**1 Scope**

This standard specifies a method for determining the body voltage generated when a person wearing standardized footwear walks on a resilient or laminate floor covering. The test method can be used under laboratory conditions as well as *in situ*.

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.

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

3 Terms and definitions

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

3.1**static electrical propensity**

tendency for charge to be generated by a person walking on the floor covering

3.2**earthed**

connected to a reference earth (part of the Earth considered as conductive, the electric potential of which is conventionally taken as zero)

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4 Principle

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A floor covering is evaluated for static electrical propensity by means of a walking test with an operator using a pair of standard sandals, walking over the floor covering situated over a earthed metal base plate (resilient floor coverings) or over a PE-foam/PE-foil situated over a grounded metal base plate (laminate floor coverings).

5 Apparatus**5.1 Substructure for resilient floor coverings**

A earthed metal base plate shall be used, e.g. a stainless steel plate of approximately (100 × 200) cm and 1 mm thick.

5.2 Substructure for laminate floor coverings**5.2.1 Laminate floor coverings without attached sound absorbing material**

A PE foam sheet of approximately (220 × 120) cm and (3 ± 0,5) mm thick, with a vertical resistance $\geq 10^{13} \Omega$ (measured at 500 V DC according to EN 61340-4-1) shall be used. This PE foam sheet is laid on a earthed metal base plate, as specified in 5.1.

5.2.2 Laminate floor coverings with attached sound absorbing material

A water vapour barrier PE foil of approximately (220 × 120) cm and (0,2 ± 0,1) mm thick is laid on a earthed metal base plate, as specified in 5.1.

NOTE The product Trittex 3 mm made by Selit GmbH is an example of a suitable PE-foam product available commercially. This information is given for the convenience of users of this European standard and does not constitute an endorsement by CEN of this product. Equivalent products may be used if they can be shown to lead to the same results.

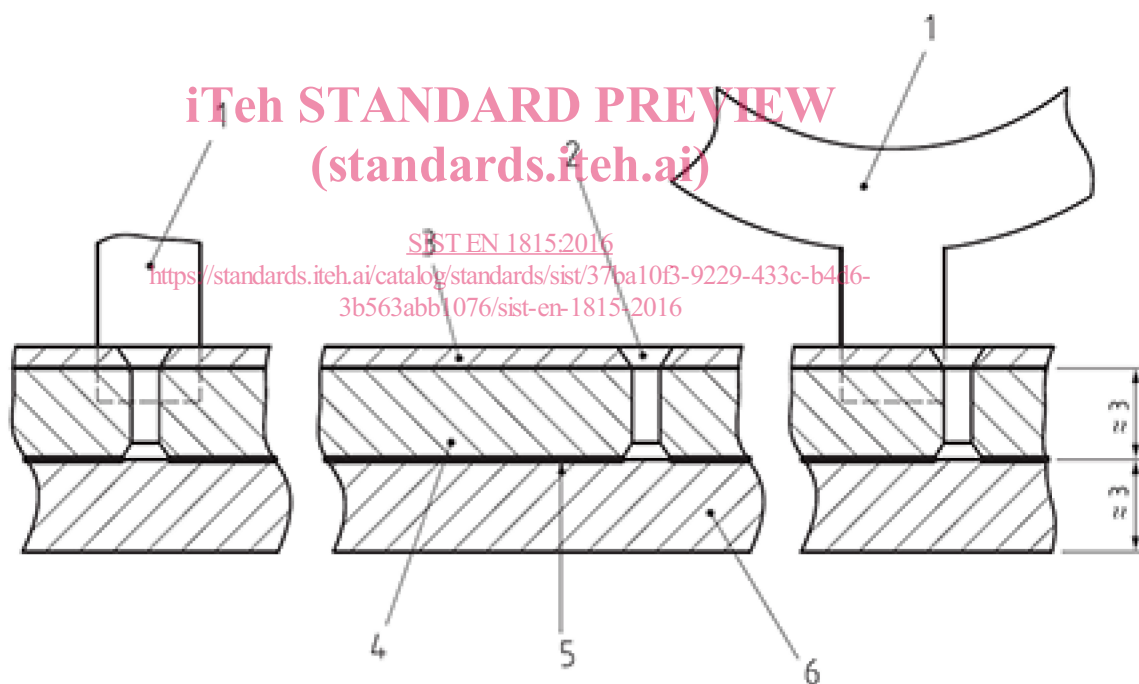
5.3 Test sandals

The test sandals (see Figure 1) shall be reserved exclusively for use in this test method. The test sandals shall be open sandals of European size 42 without heels and with straps mounted to fit various foot sizes. A rubber sole material shall be used. The resistance between the metal plate and the person standing on it wearing the sandals with the soles shall be $(10^8 \text{ to } 10^9) \Omega$.

NOTE 1 For guidance on the possible effect of the operator's clothing and other factors on test results, see informative Annex A.

NOTE 2 The test sandals made by Fetronic GmbH, Ursulaweg 91, 40764 Langenfeld, Germany are an example of a suitable product available commercially. This information is given for the convenience of users of this European standard and does not constitute an endorsement by CEN of this product. Equivalent products may be used if they can be shown to lead to the same results.

Dimensions in mm



Key

- 1 straps
- 2 hollow rivets
- 3 sock lining
- 4 insole, e.g. leather
- 5 adhesive
- 6 outsole of specified material

Figure 1 — Test sandals

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5.4 Means of cleaning the sandals

The following means of cleaning shall be used:

- abrasive paper, P280;
- scoured cotton cloth, free from finish or detergent;
- denatured ethanol or isopropanol.

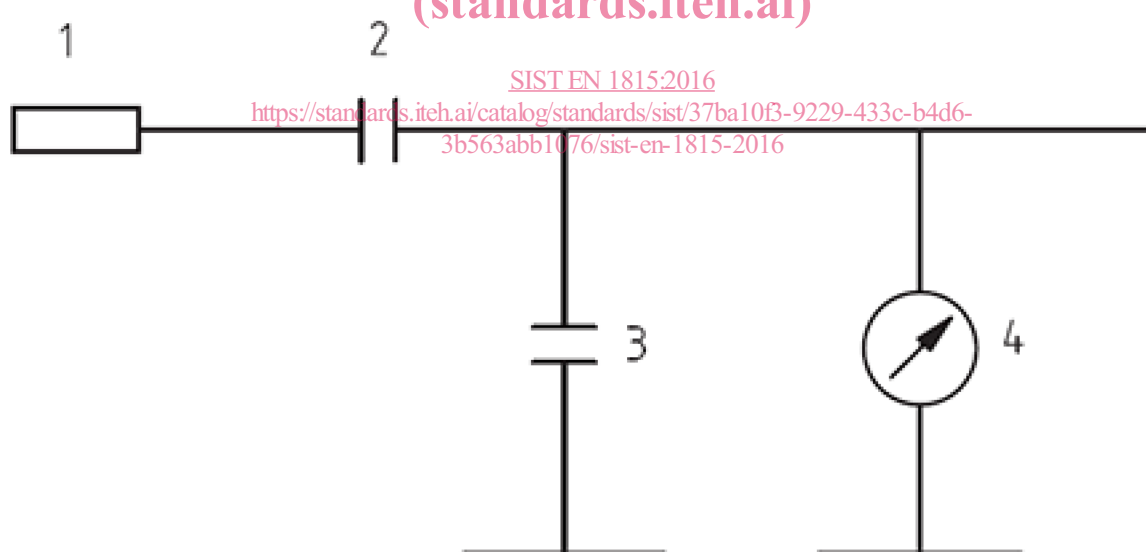
5.5 Ionizing source

An ionizing source shall be used for discharging the test piece and the PE foam.

5.6 Body voltage measuring system

The body voltage measuring system (see Figure 2) consists of a DC static voltmeter, an autographic recorder and a hand electrode (see Figure 3) and shall meet the following requirements:

- input resistance of voltmeter and hand electrode system: $\geq 10^{13} \Omega$;
- input capacitance of hand electrode: $\leq 20 \text{ pF}$;
- response time: $\leq 0,25 \text{ s}$;
- capable of measurements between $(-20 \text{ to } +20) \text{ kV}$.

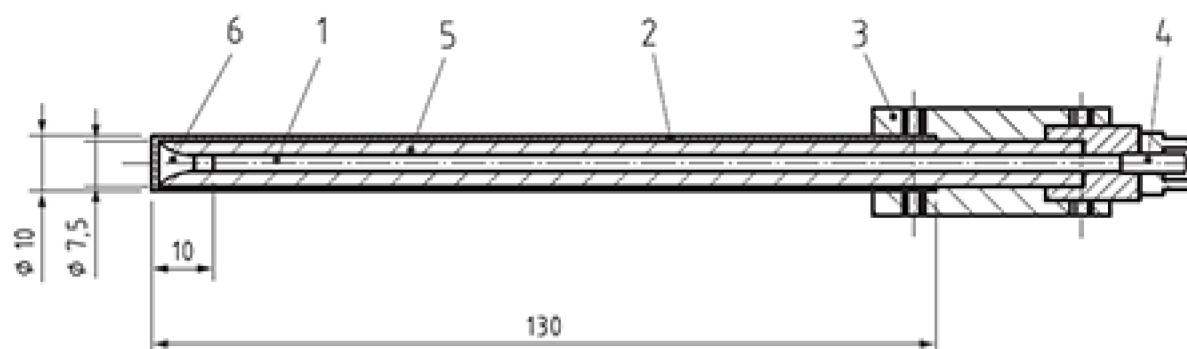


Key

- 1 hand electrode
- 2 hand electrode capacitance ($C1 = 10 \text{ pF}$)
- 3 divider capacitance ($C2$)
- 4 static voltmeter and recorder

Figure 2 — Measuring system

Dimensions in mm

**Key**

- 1 cable core
- 2 metal tubing
- 3 polytetrafluoroethylene (PTFE) sleeve
- 4 BNC plug
- 5 co-axial cable
- 6 polyethylene bung

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Figure 3 – Typical hand electrode

5.7 Thermometer and hygrometer

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Thermometer and hygrometer, with an accuracy of $\pm 3\%$; e.g. a calibrated wet and dry bulb thermometer (psychrometer) with a scale reading to 0,1 °C.

6 Conditioning

Condition the test piece, the PE-foam, the PE-foil (5.2) and the sandals (5.3) at a temperature of (23 ± 2) °C and relative humidity of $(25 \pm 2)\%$ for a minimum of 7 days, and maintain these conditions during testing.

When the test is carried out *in situ*, the ambient temperature and relative humidity shall be recorded.

7 Test procedure**7.1 Cleaning of test sandals**

Before each test series and after each individual test, clean the soles with cotton cloth and ethanol or isopropanol. To roughen the surface, use the abrasive paper and clean again with a clean piece of cloth and ethanol or isopropanol.

Wait at least 5 min and make sure that the soles are completely dry before testing.