



SLOVENSKI STANDARD

SIST EN 1081:2019

01-februar-2019

Nadomešča:
SIST EN 1081:1999

Netekstilne, laminirane (plastene) in večplastne talne obloge - Ugotavljanje električne upornosti

Resilient, laminate and modular multilayer floor coverings - Determination of the electrical resistance

Elastische, Laminat- und modulare mehrschichtige Bodenbeläge - Bestimmung des elektrischen Widerstandes

Revêtements de sol résilients, stratifiés et multicouches modulaires - Détermination de la résistance électrique

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Ta slovenski standard je istoveten z: **EN 1081:2018**

ICS:

97.150 Talne obloge Floor coverings

SIST EN 1081:2019 **en,fr,de**

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EUROPEAN STANDARD

EN 1081

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2018

ICS 97.150

Supersedes EN 1081:1998

English Version

Resilient, laminate and modular multilayer floor coverings - Determination of the electrical resistance

Revêtements de sol résilients, stratifiés et
multicouches modulaires - Détermination de la
résistance électrique

Elastische, Laminat- und modulare mehrschichtige
Bodenbeläge - Bestimmung des elektrischen
Widerstandes

This European Standard was approved by CEN on 1 July 2018.

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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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 1081:2018) 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of an identical text or by endorsement, at the latest by June 2019, and conflicting national standards shall be withdrawn at the latest by June 2019.

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 1081:1998.

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

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EN 1081:2018 (E)**1 Scope**

This document specifies test methods for determining:

- a) the vertical resistance,
- b) the resistance to earth,
- c) the surface resistance

of a resilient, laminate and modular multilayer floor covering after installation in test piece or after installation.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 62631-3-1, *Dielectric and resistive properties of solid insulating materials - Part 3-1: Determination of resistive properties (DC methods) - Volume resistance and volume resistivity - General method (IEC 62631-3-1)*

ISO 48, *Rubber, vulcanized or thermoplastic - Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1**vertical resistance R1**

electrical resistance measured between a tripod electrode on the surface of a test piece and an electrode attached to the underside of the test piece

Note 1 to entry: See Figure 1 for tripod electrode and see Figure 2 for testing of vertical resistance.

3.2**resistance to earth R2**

electrical resistance measured between a loaded tripod electrode on the surface of a laid floor covering and earth

3.3**surface resistance R3**

electrical resistance measured between two tripod electrodes set up at a fixed distance of 100 mm apart on a laid floor covering

Note 1 to entry: See Figure 4 for the electrical resistance measured between two tripod electrodes and see Figure 3 for distance of 100 mm apart on a laid floor covering.

4 Sampling

For method A or when measurements are done in laboratory, take a representative sample from the whole of the available material. In the case of rolls, take approximately a third of the test pieces from the area close to the edges, the distance between the outer edge of the sample and the nearest edge of the roll being between 50 mm and 100 mm.

5 Apparatus and reagents

5.1 Tripod electrode

The tripod electrode (Figure 1) shall be capable of comprising a triangular aluminium plate with an insulating layer on the upper surface and three cylindrical feet of conductive rubber on the underside at a distance of 180 mm apart.

The rubber feet shall have a hardness in accordance with ISO 48 of 50 IRHD to 70 IRHD, and the electrical resistance of each rubber foot shall be less than 10^3 Ohm when tested between two metal surfaces.

NOTE A “soft electrode” such as that described above is able to provide a more intimate contact with a smooth floor covering and in practice this type of electrode has been found to be the most satisfactory.

5.2 Load

The load (F) shall be capable of exerting a minimum force of 300 N on the tripod electrode.

This can be achieved by using a person's body weight. In method C, one person may stand with a foot on each electrode.

5.3 Power supply

The power supply shall fulfil the requirements given in EN 62631-3-1.

5.4 Resistance meter

The resistance meter shall fulfil the requirements given in EN 62631-3-1. It shall be calibrated to determine the resistance R of a floor covering to an accuracy of $\pm 5\%$ in the range 10^3 Ohm to 10^{10} Ohm and an accuracy of $\pm 10\%$ for greater than 10^{10} Ohm. For resistances less than or equal to 10^6 Ohm the open circuit voltage shall be 10 V dc and for resistances greater than 10^6 Ohm it shall be 100 V dc when possible. If not, 500 V dc shall be used.

Alternatively, an instrument with internal resistance of 100 kOhm and compatible with digital instrument reading of the current can be used.

5.5 Temperature and humidity

The instruments for measuring temperature and humidity shall have an accuracy of $\pm 2^\circ\text{C}$ and of $\pm 5\%$ RH, respectively.

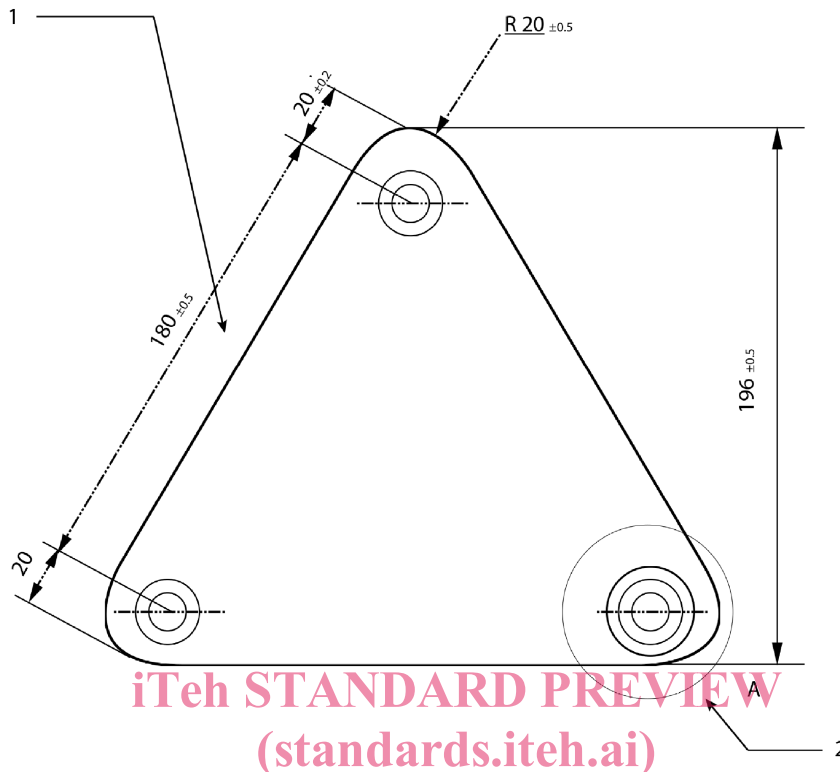
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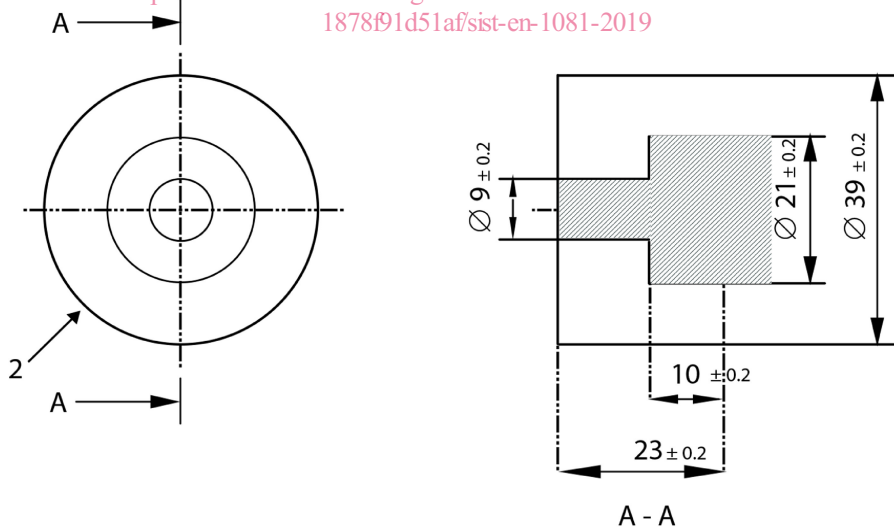
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a) Triangular pitch

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b) Rubber foot

Key

- 1 triangular pitch
- 2 rubber foot

Figure 1 — Tripod electrode

6 Method A — For vertical resistance, R1

6.1 Principle

The vertical resistance between a surface electrode and an electrode attached to the underside of a test piece is measured using a defined voltage and a resistance meter.

6.2 Additional apparatus and reagents

6.2.1 Conductive underlay (base electrode)

The conductive underlay shall act as base electrode, e.g. a metal non-deformable plate, of dimensions larger than the test piece.

6.2.2 Reagents

Cleaning fluid, e.g. ethanol, isopropanol. Clean each rubber foot with cotton cloth and cleaning fluid. Wait at least 5 min and make sure that the feet are completely dry before testing.

6.3 Preparation of test pieces

Take either three tiles from a batch or three test pieces of minimum side length 400 mm from a sheet. Clean the test piece with cleaning fluid. Wait at least 30 min before proceeding to testing.

The test pieces should be placed on the front face of the floor covering during the test.

6.4 Conditioning

Condition the test pieces at a temperature of (23 ± 2) °C and relative humidity of (50 ± 5) % for a minimum of 48 h. Maintain this climate during laboratory testing.

Other climates may be used, if agreed between the parties involved.

6.5 Procedure

Place the cleaned tripod electrode on the surface of the test piece and connect it to the resistance meter. In addition, connect the base electrode to the resistance meter.

Press the tripod electrode to apply a load exerting a minimum force (F) of 300 N on the tripod and switch on the voltage.

NOTE The smooth application of this load helps to ensure a good electrical current.

Take the resistance or current reading 10 s to 15 s after switching on. Repeat this procedure after repositioning the tripod electrode.