



**SLOVENSKI STANDARD**  
**SIST EN 13415:2002**

**01-september-2002**

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Adhesives - Test of adhesives for floor coverings - Determination of the electrical resistance of adhesive films

Klebstoffe - Prüfung von Klebstoffen für Bodenbeläge - Bestimmung des elektrischen Widerstandes von Klebstofffilmen

Adhésifs - Essai des adhésifs pour revêtements du sol - Détermination de la résistance électrique des films d'adhésif

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**Ta slovenski standard je istoveten z: EN 13415:2002**

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83.180            Lepila    Adhesives

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 13415**

April 2002

ICS 83.180

English version

## Adhesives - Test of adhesives for floor coverings - Determination of the electrical resistance of adhesive films

Adhésifs - Essai des adhésifs pour revêtements du sol -  
Détermination de résistance électrique des films des  
adhésifs

Klebstoffe - Prüfung von Klebstoffen für Bodenbeläge -  
Bestimmung des elektrischen Widerstandes von  
Klebstofffilmen

This European Standard was approved by CEN on 30 December 2001.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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## Foreword

This document EN 13415:2002 has been prepared by Technical Committee CEN/TC 193 "Adhesives", 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 October 2002, and conflicting national standards shall be withdrawn at the latest by October 2002.

This standard includes a Bibliography.

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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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**EN 13415:2002 (E)****1 Scope**

This European Standard specifies a test method to measure the electrical resistance of an adhesive film without contact to floor coverings. The electrical resistance is reciprocal to the electrical conductivity.

NOTE The determination of the electrical resistance of resilient floor coverings is described in EN 1081.

**2 Normative references**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 923, *Adhesives - Terms and definitions.*

EN 1066, *Adhesives - Sampling.*

EN 1067, *Adhesives - Examination and preparation of samples for testing.*

EN 1081, *Resilient floor coverings - Determination of the electrical resistance.*

ISO 554, *Standard atmospheres for conditioning and/or testing - Specifications.*

**3 Terms and definitions**

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For the purposes of this European Standard the following terms and definitions, and those given in EN 923, apply.

**3.1****electrical resistance  $R$** 

resistance of a cured adhesive film in ohm

**3.2****electrical conductive adhesive**

adhesive with an electrical resistance  $R \leq 3 \cdot 10^5 \Omega$

**4 Principle**

The electrical resistance of a completely cured adhesive film is measured between two inbedded copper strips in a defined distance by means of a resistance meter.

**5 Safety**

Persons using this standard shall be familiar with normal laboratory practice.

This standard does not purport to address all the safety problems, if any, associated with its use.

It is the responsibility of the user to establish safety and health practices and to ensure compliance with any European or national regulatory conditions.

## 6 Apparatus and material

### 6.1 Glass plate

Dimensions: approximately 600 mm × 120 mm × 4 mm.

### 6.2 Adhesive applicator

with a gap depth of  $(1,0 \pm 0,1)$  mm and width of  $(100 \pm 1)$  mm (see Figure 1).

Dimensions in millimetres

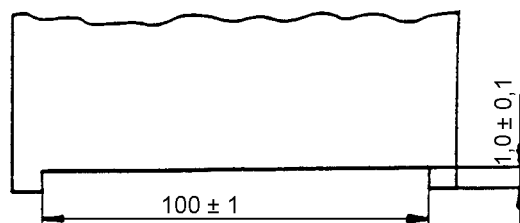


Figure 1 – Opening dimensions of the adhesive applicator

**6.3 Two copper strips**, preferably self adhesive, dimensions approximately 150 mm × 10 mm × 0,08 mm.

**6.4 Resistance meter**, calibrated, to determine the resistance  $R$  of a floor covering to an accuracy of  $\pm 5\%$  in the range  $10^3 \Omega$  to  $10^{10} \Omega$  and an accuracy of  $\pm 10\%$  for greater than  $10^{10} \Omega$ . For resistances less than or equal to  $10^6 \Omega$  the open circuit voltage shall be 100 Volts dc and for resistances greater than  $10^6 \Omega$  it shall be 500 Volts dc (see EN 1081).

NOTE A test instrument with internal resistance of 100 k $\Omega$  and a circuit conforming to IEC 60093 annex A.2.2 and compatible with digital instrument reading of the current is recommended.

**6.5 Ventilated oven**, to maintain a temperature  $(50 \pm 3) ^\circ\text{C}$ .

## 7 Preparation and conditioning of test specimens

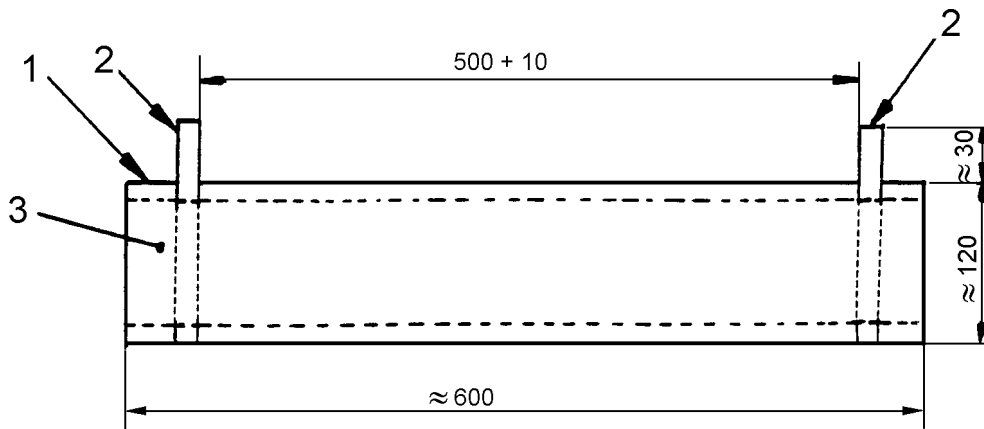
Take a sample of the adhesive to be tested in accordance with EN 1066, examine and prepare it for testing in accordance with EN 1067.

Ensure that the glass plate and the copper strips are clean and free from dust or other contamination.

Place two copper strips (see 6.3)  $(500 + 10)$  mm apart parallel to a smaller edge on the glass plate exceeding the glass plate approximately 30 mm.

Put a sufficient amount of adhesive close to a smaller edge of the glass plate. Spread the adhesive parallel to the longer edge of the glass plate using the adhesive applicator (see 6.2) to provide a uniform adhesive film.

Dimensions in millimetres

**Key**

- 1 Glass plate
- 2 Copper strip
- 3 Adhesive film area

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Figure 2 – Arrangement of the copper strips

Condition the test specimen as follows: [SIST EN 13415:2002](https://standards.iteh.ai/catalog/standards/sist/56e30627-1ec2-414c-ac60-ed4bb6ec35dd/sist-en-13415-2002)  
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- a)  $\geq 4$  h in standard atmosphere 23/50 in accordance with ISO 554;
- b) 12 h to 24 h at  $(50 \pm 3)$  °C in a ventilated oven (see 6.5);
- c)  $\geq 4$  h in standard atmosphere 23/50 in accordance with ISO 554.

**8 Procedure**

Connect copper strips (Figure 2) with the resistance meter (6.4).

Switch on the voltage.

Measure the electrical resistance in ohm 10 s to 15 s after switching on.

Measure three test specimens for each test. Record each value in ohm.

**9 Evaluation and expression of results**

The mean value  $R$  of the three test results shall be recorded as the electrical resistance of the adhesive film in ohm.



## 10 Test report

The test report shall include:

- a) a reference to this European Standard;
- b) the designations of the adhesive and the adhesive batch number;
- c) the conditioning sequences used;
- d) the mean value R and the single values measured in ohm;
- e) any deviation from the specified test method;
- f) date of test.

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