



SLOVENSKI STANDARD
SIST EN 14900:2006

01-maj-2006

Tekstilne talne obloge - Ugotavljanje gostote temeljne tekstilije

Textile floor coverings - Determination of the density of the textile fleece backing

Textile Bodenbeläge - Bestimmung der Rohdichte des textilen Vliesrückens

Revetements de sols textiles - Détermination de la densité de la sous-couche textile
aiguilletée

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ICS:

59.080.60 Tekstilne talne obloge Textile floor coverings

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EUROPEAN STANDARD

EN 14900

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English Version

Textile floor coverings - Determination of the density of the textile fleece backing

Revêtements de sols textiles - Détermination de la densité de la sous-couche textile aiguilletée

Textile Bodenbeläge - Bestimmung der Rohdichte des textilen Vliesrückens

This European Standard was approved by CEN on 3 February 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN 14900:2006) has been prepared by Technical Committee CEN/TC 134 "Resilient textile and laminate floor coverings", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

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

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EN 14900:2006 (E)**1 Scope**

This document specifies a method for determining the measured density of the fleece backing of textile floor coverings with an apparent effective thickness of the backing larger than 1 mm.

This method is not applicable to foam backings.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1318, *Textile floor coverings – Determination of the apparent effective thickness of the backing*

EN ISO 139 *Textiles - Standard atmospheres for conditioning and testing (ISO 139:2005)*

ISO 1765 *Machine-made textile floor coverings – Determination of thickness*

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

ISO 8543:1998, *Textile floor coverings – Methods for determination of mass*

3 Term and definition

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For the purposes of this document, the following term and definition applies.

3.1**measured density of the backing**

mass per unit volume of the backing
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4 Principle

The backing is shorn at a thickness equal to 50 % of the apparent effective thickness of the backing and the mass and thickness are determined on the shorn backing. The measured density is calculated from the values obtained.

5 Apparatus

5.1 Optical device, as specified in EN 1318.

5.2 Cutting device, as specified in EN 1318.

5.3 Sharp pointed knife.

5.4 Balance, calibrated and capable of measuring to the nearest 0.01 g

5.5 Rule, capable of measuring 300 mm.

5.6 Band-knife machine, press and cutter, as specified in ISO 8543:1998, Clause 8.

5.7 Thickness tester, circular guard ring and straightedge, as described in ISO 1765.

6 Atmosphere for conditioning and testing

The specimens shall be conditioned and the test conducted in one of the standard atmospheres for conditioning and testing textiles specified in EN ISO 139.

7 Test pieces

7.1 Sampling

Select the specimens in accordance with the directions in ISO 1957.

7.2 Number of specimens and dimensions

Cut out at least four specimens using a sharp pointed knife (5.2), each at least 200 mm x 200 mm with the sides parallel with, and at right angles to, the direction of manufacture.

The number of specimens for each determination shall be sufficient to give 95 % confidence limits of $\pm 7\%$ ¹⁾

Four specimens shall be tested initially and if the coefficient of variation (CV) calculated from these tests is $> 5\%$, then further specimens shall be tested as follows:

- if $5\% < CV \leq 7\%$, test a further two samples (total of six);
- if $CV > 7\%$, test a further six samples (total of ten).

8 Procedure

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8.1 Measure the length and width, each in four places, on the back of each specimen to the nearest mm.

8.2 Shear the backing from the specimen at a depth equal to 50 % of the apparent effective thickness, in accordance with EN 1318, using a band-knife machine (5.6). Shear with the backing on top so the backing remains after shearing.

For carpets with a thick pile, first shear a part of the pile to ensure good passing of the sample through the opening of the band-knife machine (5.6).

8.3 Determine the mass of the backing using the same method as described in 8.6.5 and 8.6.6 of ISO 8543:1998 for the determination of the mass of the pile above the substrate.

8.4 Measure the thickness of the backing using the same method as described in ISO 1765 for the determination of the thickness of the carpet.

9 Expression of results

9.1 Calculate the mean thickness of the shorn backing (d_b) using the method specified in ISO 1765, to the nearest 0,1 mm.

9.2 Calculate the mean mass of the shorn backing per unit area (Q_{Ab}), to the nearest gram per square meter, using Equation 1:

$$1) \text{ Confidence limit} = \pm \frac{t \times CV}{\sqrt{n}}$$

where

t is the appropriate value for Student's t-test

n is the number of specimens tested

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$$\frac{10^6 \times m_b}{A} \quad (1)$$

where

m_b is the mass of the shorn backing, in grams;

A is the area of the specimen, in square millimeters.

9.3 Calculate the measured density of the backing under a pressure of 2,0 kPa, in grams per cubic centimeter, using Equation 2:

$$10^{-3} \times \frac{Q_{Ab}}{d_b} \quad (2)$$

10 Precision statement

Results of two round robin tests are given in Annex A.

11 Test report

The test report shall include the following information:

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- a) reference to this European Standard;
- b) identity (source and type) of the sample from which the specimens were taken;
- c) standard atmosphere used for conditioning and testing;
- d) individual test results and mean values for mass per unit area, in grams per square meter, and thickness, in millimeters, of the backing; <https://standards.iteh.ai/catalog/standards/sist/59d5d4b-bd17-40d5-a326-da35387015e2/sist-en-14900-2006>
- e) measured density under a pressure of 2,0 kPa, in grams per cubic centimeter;
- f) any deviation from the procedure specified in this European Standard.