



SLOVENSKI STANDARD

SIST EN 1269:1999

01-marec-1999

Tekstilne talne obloge - Ocenitev impregnacij iglanih talnih oblog s preskusom zamazanja

Textile floorcoverings - Assessment of impregnations in needled floorcoverings by means of a soiling test

Textile Bodenbeläge - Beurteilung von Ausrüstungsmitteln in Nadelvliesbelägen durch die Anschmutzneigung

Revetements de sol textiles - Evaluation des imprégnations des revêtements de sol aiguilletés au moyen d'un essai d'encrassement

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Ta slovenski standard je istoveten z: EN 1269:1997

ICS:

59.080.60 Tekstilne talne obloge Textile floor coverings

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

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English version

**Textile floorcoverings - Assessment of
impregnations in needled floorcoverings by means
of a soiling test**

Revêtements de sol textiles - Evaluation des
imprégnations des revêtements de sol
aiguilletés au moyen d'un essai d'encrassement

Textile Bodenbeläge - Beurteilung von
Ausrüstungsmitteln in Nadelvliesbelägen durch
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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.

The European Standards exist 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.

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CEN

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 134 "Resilient and textile floorcoverings", 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of an identical text or by endorsement, at the latest by August 1997, and conflicting national standards shall be withdrawn at the latest by August 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European Standard specifies two methods for the evaluation of impregnations or other treatments in needed floorcoverings by means of a soiling test.

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.

EN 985	1995	Textile floorcoverings - Castor chair test
EN 20139	1992	Textiles - Standard atmospheres for conditioning and testing
prEN 1471		Textile floorcoverings - Assessment of changes in appearance
ISO 565	1990	Test sieves - Metal wire cloth, perforated metal plate and electroformed sheet - Nominal sizes of openings
ISO 1957	1986	Machine-made textile floorcoverings - Sampling and cutting specimens for physical tests

3 Principle

In both tests a fixed quantity of standard artificial soil is scattered over the surface of the specimens which is also subjected to the rolling action of castors or of Tetrapod feet for a specified time. After vacuum cleaning, the degree of colour change is assessed by comparing the contrast between treated and untreated test specimens with the contrast of the grey scale.

Depending on the type of apparatus available, either method A or method B can be used.

4 Apparatus

4.1 Method A

4.1.1 Castor chair apparatus as described in EN 985, with a total load of 60 daN.

4.1.2 Soil distributor :The soil distributor uses two sieves, one inside and resting on the other to distribute the soil evenly on the part of the circular specimen that is subjected to the wear action of the castors. The whole distributor is placed vertically above the specimen with the sieves in the horizontal position.

The soil is placed in the inner sieve which is vibrated relative to the larger outer sieve thereby achieving even distribution of the soil on the specimen below the two sieves.

The mesh size of both sieves is 0,5 mm (module 31 of ISO 565). The base of each sieve (each of which has walls) is in the shape of a regular trapezium in order to correspond to a sector of the treated area of the test specimen.

The outer (lower) sieve has base dimensions thus :

- distance between the parallel sides : 220 mm
 - lengths of the parallel sides : 100 mm, 45 mm.
- Its underside is 40 mm above the specimen.

The dimensions of the inner (upper) sieve are not specified but must be smaller than the base sieve to permit movement relative to the lower sieve.

4.2 Method B

4.2.1 Drum : A rigid cylindrical drum with bottom and lid. The inner diameter is (205 ± 5) mm and the inner height of the drum is (200 ± 10) mm.

The drum is made of polyvinylchloride (PVC), with a thickness of at least 6 mm. The bottom and lid are attached to the wall by appropriate means. The lid of the drum is preferably made of transparent material (e.g. Perspex).

4.2.2 Tetrapod : A tumbler consisting of a central metal sphere with four outer feet arranged in the shape of a regular tetrahedron. Each foot is covered with a spherical polyurethane cap. In operation the Tetrapod tumbles inside the rotating drum so that the feet impact on the test specimen lining the drum.

Tetrapod specifications :

- | | |
|------------------------------------|--------------------------|
| - total mass | $(1\ 000 \pm 25)$ g ; |
| - angle between any two legs | $109,5^\circ$; |
| - length of the foot | (62 ± 2) mm ; |
| - diameter of the foot | (47 ± 2) mm ; |
| - length of the metal leg | 32 mm ; |
| - diameter of the metal leg | 25 mm ; |
| - socket depth of the foot | 20 mm ; |
| - free standing height to Tetrapod | (124 ± 2) mm ; |
| - material of the feet | polyurethane elastomer ; |
| - hardness of the foot top | (75 ± 5) shore. |

4.2.3 Driving system : the drum lies loose on rollers mounted on a support and drive shaft. The drum is prevented from moving in its axial direction by smooth running wheels fixed between the shafts or by a suitable profile on the rollers. It is important that the axis of the drum rotation is horizontal, which should be checked by placing a spirit level along the upper surface of the drum when in position. The rotational frequency of the drum shall be (50 ± 2) cycles/ min⁻¹.

A counter is incorporated in the system, so that the number of rotations of the drum can be recorded. The counter may be preset to stop the apparatus after a given number of revolutions.

NOTE : Longer driving rollers may be used to rotate a number of drums at the same time provided that all the requirements of this standard are met.

4.3 For both methods

4.3.1 Standard soil having the following composition (% by mass) ¹⁾ :

Quartz silica : 88,30 % ;

Kaolin : 9,35 % ;

Yellow ferrous oxide : 0,20 % ;

Black ferrous oxide : 0,60 % ;

Paraffin oil : 1,55 % ;

Colorimetric characteristics : [SIST EN 1269:1999](https://standards.iteh.ai/catalog/standards/sist/d2452367-52e9-4cf5-a2b5-cd284616d715/sist-en-1269-1999)

L : $46,5 \pm 1,5$;

a : $4,2 \pm 0,3$;

b : $11,5 \pm 0,5$.

Since the soil L,a,b values change with time and exposure to light, the soil shall be kept in the dark and the co-ordinates L,a,b shall be checked every 6 months against the specified tolerances.

4.3.2 Vacuum cleaner : household type apparatus equipped with a smooth, approximately 2 500 mm² section nozzle having the following characteristics :

- partial vacuum = 1 900 mm \pm 10 % on the water column;
- air flow rate = 30 dm³/s \pm 10 %.

4.3.3 A range of large dimension grey scales including half degrees in accordance with pr EN 1471.

4.3.4 Observation device as defined in pr EN 1471.

¹⁾ The standard soil is available from CTTN, Avenue Guy de Collongue, BP 41 - 69131 Ecully Cédex - France - Fax : 04 78.43.34.12

5 Sampling and preparation of the specimens

5.1 Sampling and selection of the specimens

Take a representative sample of four different coloured samples from the commercial range of the floor covering in accordance with the methods given in standard ISO 1957.

5.2 Preparation of the specimen

5.2.1 Method A

From each sample to be examined, cut two test specimens in the shape of a quadrant having a radius of 350 mm. The edges of the quadrant are cut parallel with and at right angles to the direction of manufacture. One of the two specimens is kept as a reference specimen for the evaluation. Mark the two specimens with an arrow on the back (for example, the direction of production) to permit alignment in the same direction for assessment.

The quadrants are fixed onto the support (dimensionally stable flat plastic disk) using two strips of double-sided adhesive tape laid overlapping the joints.

In the case of self-adhesive tiles place them on the support without any additional adhesive.

5.2.2 Method B

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From each sample to be examined, cut two test specimens of (640 x 190) mm. The length is taken in the direction of production. One of the two specimens is kept as a reference specimen for assessment the other one is used for the soiling test in the tetrapod-drum. Cover the long sides of this specimen with a 20 mm wide tape.

6 Conditioning

Condition the test specimens in the standard atmosphere specified in EN 20139, for at least 24 h.

7 Procedure

7.1 Method A

- a) Clean the specimens using the vacuum cleaner (4.3.2) before placing them onto the castor chair apparatus. Place the soil distributor above the specimen.
- b) Weigh out 10 g of standard soil (4.3.1); rotate the support plate of the apparatus without lowering the castor device; carefully put the standard soil into the inner sieve by means of a spatula, so that it is evenly distributed over the whole surface of the sieve.
- c) Vibrate the sieve so as to spread out the soil evenly over the whole surface of the specimen.
- d) Lower the castor apparatus with a total loading of 60 daN until it rests on the support and then rotate the plate 100 cycles without reversal so as to spread out the soil and make it penetrate.
- e) Raise the castors and remove the specimen support from the apparatus.

- f) Clean the specimen with the vacuum cleaner (4.3.2) using a forwards and backwards motion for five seconds in each direction. Repeat this ten times. Examine the treated specimen and if the soil is not distributed evenly on the specimen repeat the test with a new specimen.
- g) On the same specimens a second soil treatment has to be applied. Repeat all of the operation b) to f) by using the opposite direction of rotation in d).
- h) Remove the specimens from the support and assess the colour change grade using the large grey scale (4.3.3) according to 7.3 of Pr EN 1471.

7.2 Method B

Weigh 10 g of standard soil. The test specimens may be soiled before or after they have been placed in the drum :

- a) distribution of soil before placing in the drum :

Spread the standard soil over the specimen, so that it is equally distributed over the whole surface of the specimen. Put the drum on its side and carefully place the soiled test specimen in the drum¹⁾. Keep the drum in the horizontal position to prevent uneven distribution of the soil from edge to edge.

- b) distribution of soil after placing in the drum :

Put the drum on its side and place the specimen in the drum. Keep the drum in the horizontal position to prevent uneven distribution of the soil from edge to edge. Distribute the soil homogeneously over the test specimen, by rolling the drum forwards and backwards on a level table.

- c) test

Mount the drum on the drive mechanism and set the number of revolutions at 3 000. After 3 000 cycles, take the specimen out of the drum. Clean the specimen with the vacuum cleaner (4.3.2) using a forwards and backwards motion for five seconds in each direction. Repeat this ten times. Examine the treated specimen and if the soil is not distributed homogeneously on the specimen repeat the test until a homogeneous distribution is achieved.

- d) assessment

Remove the specimens and assess the colour change grade using the large grey scale (4.3.3) according to 7.3 of Pr EN 1471.

¹⁾ In the case of textile floorcoverings with pile, the pile lay should be placed in opposite direction of rotation.