



**SLOVENSKI STANDARD**  
**SIST EN 13297:2001**  
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Textile floor coverings - Classification of needled pile floor coverings

Textile Bodenbeläge - Einstufung von Polvlies-Bodenbelägen

Revetements de sol textiles - Classement des moquettes aiguilletées

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**Ta slovenski standard je istoveten z: EN 13297:2000**

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ICS 59.080.60

English version

## Textile floor coverings - Classification of needled pile floor coverings

Revêtements de sol textiles - Classement des moquettes  
aiguilletées

Textile Bodenbeläge - Einstufung von Polvlies-  
Bodenbelägen

This European Standard was approved by CEN on 15 July 2000.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, 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 European Standard has been prepared by Technical Committee CEN/TC 134 "Resilient and textile 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of an identical text or by endorsement, at the latest by February 2001, and conflicting national standards shall be withdrawn at the latest by February 2001.

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

Annex A is normative.

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## 1 Scope

This European Standard describes and specifies needled pile floor coverings in sheet form including use classification according to wear and appearance retention. These floor coverings are intended to be bonded to the substrate.

This standard is also applicable to tiles the additional requirements for which are given in annex A.

## 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 984	<i>Determination of the mass per unit area of the use surface of needled floor coverings</i>
EN 985	<i>Textile floor coverings - Castor chair test</i>
EN 986	<i>Textile floor coverings - Tiles - Determination of dimensional changes due to the effects of varied water and heat conditions, and distortion out of plane</i>
EN 994	<i>Textile floor coverings - Determination of the side length, squareness and straightness of tiles</i>
EN 995	<i>Textile floor coverings - Assessment of the creep of the backings</i>
EN 1269	<i>Textile floor coverings - Assessment of impregnations in needled floor coverings by means of a soiling test</i>
EN 1318	<i>Textile floor coverings - Determination of the apparent effective thickness of backing</i>
EN 1471	<i>Textile floor coverings - Assessment of changes in appearance</i>
EN 1815	<i>Resilient floor coverings - Assessment of static electrical propensity</i>
EN 1963 :1997	<i>Textile floor coverings - Tests using the Lisson Tretrad machine</i>
EN ISO 105-A01 :1995	<i>Textiles - Tests for colour fastness - Part A01 : General principles of testing (ISO 105-A01 :1994)</i>
ISO 105-B02 :1999	<i>Textiles - Tests for colour fastness - Part B02 : Colour fastness to artificial light : Xenon arc fading lamp test (ISO 105-B02 :1994, including amendment 1 :1998)</i>
EN ISO 105-E01 :1996	<i>Textiles - Test for colour fastness - Part E01 : Colour fastness to water (ISO 105-E01 :1994)</i>
EN ISO 105-X12 :1995	<i>Textiles - Test for colour fastness - Part X12 : Colour fastness to rubbing (ISO 105-X12 :1993)</i>
EN ISO 140-8 :1997	<i>Acoustics - Measurement of sound insulation in buildings and of building elements - Part 8 : Laboratory measurements of the reduction of transmitted impact noise by floorcoverings on a heavyweight standard floor (ISO 140-8 :1997)</i>

EN 20354 :1985	<i>Acoustics - Measurement of sound absorption in a reverberation room (ISO 354 :1985)</i>
EN ISO 717-2 :1996	<i>Acoustics - Rating of sound insulation in buildings and of building elements - Part 2 : Impact sound insulation (ISO 717-2 :1996)</i>
ISO 1765	<i>Machine-made textile floor coverings - Determination of thickness</i>
ISO 2424	<i>Textile floor coverings – Vocabulary</i>
ISO 2551	<i>Machine-made textile floor coverings - Determination of dimensional changes due to the effects of varied water and heat conditions</i>
ISO 3018	<i>Rectangular textile floor coverings - Determination of dimensions</i>
ISO 8302 :1991	<i>Thermal insulation - Determination of steady-state thermal resistance and related properties - Guarded hot plate apparatus</i>
ISO 8543	<i>Textile floor coverings - Methods for determination of mass</i>
ISO TR 10361	<i>Textile floor coverings - Production of changes in appearance by means of a Vettermann drum and Hexapod tumbler testers</i>
ISO 10965	<i>Textile floor coverings - Determination of electrical resistance</i>

### 3 Terms and definitions

For the purposes of this standard the terms and definitions given in ISO 2424 and the following apply :

#### 3.1

##### **homogenous needed floor covering**

pile floor covering the whole textile structure of which consists of the same fibre raw material or the same fibre raw material blend and has no support material. It can be partially or fully impregnated.

#### 3.2

##### **heterogeneous needed floor covering**

pile floor covering that consists of at least two layers of different fibre raw materials, different fibre raw material blends or differently coloured fibres and/or has a support material. It can be partially or fully impregnated, with or without backcoating.

NOTE Products with backcoating are considered heterogeneous needed floor coverings.

#### 3.3

##### **back coated needed floor covering**

needed floor covering where the bonding compound is applied to the back of the needed floor covering and does not reach the use surface. The bonding compound is present only in the lower part of the needed floor coverings.

#### 3.4

##### **fully impregnated needed floor covering**

needed floor covering that is totally immersed in the bonding compound so that in the finished product the bonding compound is present throughout the thickness of the needed floor covering.

#### 3.5

##### **hairy needed floor covering**

back coated pile needed floor covering manufactured by means of a needed punching technique. The use surface is a directional pile layer made by mechanically brushing the fleece, resulting in a roughened surface with in general relatively long and coarse protuding fibres.



### 3.6

#### loose lay tile

tile laid such that it can be easily removed by hand (see annex A)

NOTE In some cases, the installation of loose lay tiles can be improved by using an antislip system such as a tackifier.

### 3.7

#### adhered tile

a) tile laid with a permanent bonding system (see annex A)

b) tile fixed with a bonding system according to the manufacturer's recommendation (see annex A)

NOTE This type of bonding can allow tiles to be removed and re-installed.

## 4 Description of levels of use

Needed pile floor coverings are classified as suitable for different levels of use in accordance with the performance requirements specified in clause 7.

The different levels of use are described in table 1.

Table 1

Level of use class	Use intensity	Examples of use	
		Domestic	Commercial
1	light use	light domestic	
2	general use	normal domestic	
3	heavy use	heavy domestic	general contract
4	extra-heavy use		heavy contract

NOTE In very demanding commercial environments, class 4, should be used as the basis to which additional requirements are added to provide individual full specification.

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## 5 Identification requirements

This clause specifies the characteristics for identification of the product and requirements for tolerances for the identifying properties.

The producer shall provide the following information in accordance with the definitions in ISO 2424 :

- commercial references ;
- type of bonding (full impregnation or back coated) ;
- type of backing according to ISO 2424 if applicable ;
- type of manufacture (homogeneous or heterogeneous, see ISO 2424 and EN 984)

and shall declare the values of the characteristics in table 2.

Table 2

Characteristics	Test methods	Tolerances
Fibre composition of use surface 1)	—	—
Dimensions	ISO 3018	
Total thickness mm	ISO 1765	
Total mass per unit area g/m <sup>2</sup>	ISO 8543	nominal mass ± 15 %
Mass per unit area of the use-surface (for heterogeneous product) g/m <sup>2</sup>	EN 984	nominal mass + 15 % - 10 %
Apparent thickness of foam backing mm	EN 1318	nominal ± 0,5 mm
<p>For identification purposes and for all other purposes for which EN 984 is called up in this standard, the method of EN 984 shall be used with the following modifications :</p> <p>a) the end point for shearing shall be a clearly visible different layer forming either the primary or the secondary backing. The primary backing may be a non-woven or woven scrim and the secondary backing may be bitumen back, foam back etc.</p> <p>b) if the coefficient of variation between the five specimens that most closely resemble the specimen produced as a guide is more than 7%, all seven specimens shall be used to calculate the mass of the use-surface.</p>		

## 6 Basic requirements

Needed pile floor coverings shall conform to the basic requirements specified in table 3.

## 7 Level of use classification

Needed pile floor coverings are classified as to their suitability for use in different circumstances. The three classifications properties, wear resistance, general structural integrity and change in appearance are intended to indicate suitability according to use intensity (level of use classes 1 to 4 in increasing order of use intensity).

The level of use class allocated to a needed pile floor covering is the lowest of the classes obtained for the wear, general structural integrity and change of appearance (7.1 to 7.3).

### 7.1 Classification for wear (standards.iteh.ai)

#### 7.1.1 Primary requirements for use-surface

The primary requirements for each class are specified in table 4.

#### 7.1.2 Abrasion resistance - Lisson test

The abrasion resistance is the best result obtained after application of 7.1.2.1 and 7.1.2.2.

##### 7.1.2.1 Absolute mass loss per unit area ( $m_v$ )

The requirements for each class are specified in table 5 ;  $m_v$  is calculated as indicated in EN 1963 Test A.

<sup>1</sup> Attention is drawn to European Directive 96/74 which covers fibre composition of use surface and is reflected in national regulations.



Table 3

Characteristics	Test methods	Requirements
Assessment of impregnations by a soiling test (for fully impregnated only)	EN 1269	≥ 3 <sup>1)</sup>
Colour fastness to <sup>2)</sup> - light - rubbing - wet - dry - water - plain surface - patterned surface and having "tonal effect"	ISO 105-B02 : 1999  EN ISO 105-X12 : 1995   EN ISO 105-E01 : 1994 <sup>4)</sup>	≥ 5 pastel shade <sup>3)</sup> ≥ 4  ≥ 3 ≥ 3 - 4  ≥ 3 - 4 ≥ 4
Hairiness (pilling) <sup>5)</sup>	EN 1963 :1997 - Test D Assess against photoscale after 200 cycles only <sup>6)</sup>	≥ 2,5

1) For class 1 products ≥ 2 is acceptable.  
2) Manufacturer shall ensure that the requirements are met for each colour.  
3) Pastel shade : colour corresponding to a standard depth ≤ 1/12 (ISO 105-A01 : 1995)  
4) Change in colour.  
5) Not applicable for hairy needled floor coverings  
6) Tested production-wise and cross-wise, worst result decisive.

Table 4

Class	Measured total mass per unit area <i>homogeneous</i>  g/m <sup>2</sup>	Measured mass per unit area of the use surface <i>heterogeneous</i>  g/m <sup>2</sup>	
		fully impregnated	back coated
1	≥ 550	≥ 200	≥ 150
2	≥ 700	≥ 300	≥ 225
3	≥ 900	≥ 400	≥ 300
4	≥ 900	≥ 400	≥ 300
Test methods	ISO 8543	EN 984 <sup>1)</sup>	

<sup>1)</sup> See table 2