



**SLOVENSKI STANDARD**  
**SIST EN 16776:2016**

**01-maj-2016**

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**Netekstilne talne obloge - Homogene in heterogene poliuretanske talne obloge -  
Specifikacija**

Resilient floor coverings - Homogeneous and heterogeneous polyurethane floor  
coverings - Specification

Elastische Bodenbeläge - Homogene und heterogene Polyurethan-Bodenbeläge -  
Spezifikation

**iTeh STANDARD PREVIEW**  
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Revêtements de sol résilients - Revêtements homogènes et hétérogènes en  
polyuréthane - Spécification

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**ICS:**

97.150

Netekstilne talne obloge

Non-textile floor coverings

**SIST EN 16776:2016**

**en,fr,de**

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EUROPEAN STANDARD

EN 16776

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

## Resilient floor coverings - Heterogeneous polyurethane floor coverings - Specification

Revêtements de sol résilients - Revêtements  
hétérogènes en polyuréthane - Spécification

Elastische Bodenbeläge - Homogene und heterogene  
Polyurethan-Bodenbeläge - Spezifikation

This European Standard was approved by CEN on 10 January 2016.

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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: Avenue Marnix 17, B-1000 Brussels**

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## European foreword

This document (EN 16776:2016) 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of an identical text or by endorsement, at the latest by September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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## EN 16776:2016 (E)

## 1 Scope

This European Standard specifies the characteristics of heterogeneous resilient floor coverings based on polyurethane with thermosetting properties supplied in either roll, planks or tile form. This specification does apply for floor covering consisting of a wear layer and other compact layers made from polyurethane which differ in composition, chemical crosslinking and/or design and can contain a decor layer, reinforcement and other backing.

This specification does not apply for floor coverings that are specified in EN ISO 10582, EN ISO 24011, EN 1817 or EN 14565.

To encourage the consumer to make an informed choice, the standard includes a classification system (see EN ISO 10874) based on intensity of use, which shows where these floor coverings should give satisfactory service. It also specifies requirements for marking.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 424, *Resilient floor coverings — Determination of the effect of simulated movement of a furniture leg*

EN 425, *Resilient and laminate floor coverings — Castor chair test*

EN 1471, *Textile floor coverings — Assessment of changes in appearance*

EN ISO 105-B02, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test (ISO 105-B02)*

EN ISO 291, *Plastics — Standard atmospheres for conditioning and testing (ISO 291)*

EN ISO 10874, *Resilient, textile and laminate floor coverings — Classification (ISO 10874)*

EN ISO 23997, *Resilient floor coverings — Determination of mass per unit area (ISO 23997)*

EN ISO 23999, *Resilient floor coverings — Determination of dimensional stability and curling after exposure to heat (ISO 23999)*

EN ISO 24340, *Resilient floor coverings — Determination of thickness of layers (ISO 24340)*

EN ISO 24341, *Resilient and textile floor coverings — Determination of length, width and straightness of sheet (ISO 24341)*

EN ISO 24342, *Resilient and textile floor-coverings — Determination of side length, edge, straightness and squareness of tiles (ISO 24342)*

EN ISO 24343-1, *Resilient and laminate floor coverings — Determination of indentation and residual indentation — Part 1: Residual indentation (ISO 24343-1)*

EN ISO 24344, *Resilient floor coverings — Determination of flexibility and deflection (ISO 24344)*

EN ISO 24346, *Resilient floor coverings — Determination of overall thickness (ISO 24346)*

ISO 11378-1, *Textile floor coverings — Laboratory soiling tests — Part 1: Kappasoil test*

ISO 16581, *Resilient and laminate floor coverings — Determination of the effect of simulated movement of a furniture leg*

ASTM F1515, *Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change*

### 3 Terms and definitions

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

#### 3.1

##### wear layer

layer of the floor covering directly exposed to wear

Note 1 to entry: Binder content should be minimum 80 %. The binder content is consisting of polyurethane resin.

#### 3.2

##### scratch

permanent, visible surface damage of a physical nature

### 4 Requirements

The requirements and test methods for floor coverings made from polyurethane are illustrated in Table 1.

**Table 1 — General requirements**  
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Characteristic	Requirement	Test method
Roll form: length in m width in mm	Not less than nominal values	EN ISO 24341
Tiles: side length in mm Does not apply to planks squareness and straightness for side length: mm ≤ 400 mm > 400 mm	Deviation ≤ 0,15 % of nominal length up to 0,5 mm maximum Deviation allowed at any point ≤ 0,25 ≤ 0,35	EN ISO 24342
Overall thickness in mm - average <sup>a</sup>  - individual results in mm - minimum overall thickness	Nominal value + 0,13 - 0,10 Average value <sup>b</sup> ± 0,15 1,20 mm	EN ISO 24346
Total mass per unit area in g/m <sup>2</sup> (average)	Nominal value + 13 % - 10 %	EN ISO 23997
Determination of thickness of layers Average of the wear layer thickness	Nominal value + 30 % - 10 % and shall not exceed ± 0,03 mm	EN ISO 24340
Residual indentation in mm	≤ 0,10	EN ISO 24343-1

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Dimensional stability after exposure to heat (expansion or shrinkage in %)	≤ 0,15 %	EN ISO 23999
Effect of simulated movement of a furniture leg	welded in accordance with manufacturer's instructions: no damage shall be visible with foot Type 0 (32 kg)	ISO 16581 EN 424
Curling after exposure to heat Rolls and tiles (intended for welding) Tiles (intended for unwelded laying)	≤ 8 mm ≤ 2 mm	EN ISO 23999
Flexibility	Test using a 20 mm mandrel. For products which show signs of cracking, perform a further test using a 50 mm mandrel. If results show no further cracking, record the use of a 50 mm mandrel.	EN ISO 24344 Method A
Evaluation in respect to occurrence of scratches	The load which the first uninterrupted scratches cause on the surface shall be recorded (visible to the naked eye)	Annex A
Colour fastness to artificial light	6 minimum or AE ≤ 8 after 300 h, where E is the irradiance, expressed in watts per square meter	EN ISO 105-B02 Method 3 <sup>c</sup> ASTM F1515
Suitability for castor chair use	After 25 000 cycles, no delamination shall occur. No disturbance to the surface other than a slight change in appearance	EN 425
<sup>a</sup> Average value of the measured values. <sup>b</sup> Average value of the results of the specimens. <sup>c</sup> A full sized test specimen shall be exposed. A further test specimen shall be stored in the dark, which will further serve as a reference standard for evaluation of the colour change.		


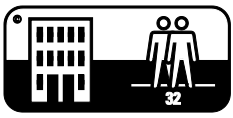


## 5 Use and performance specification

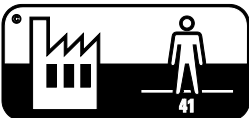
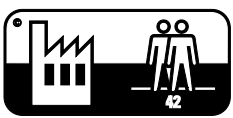
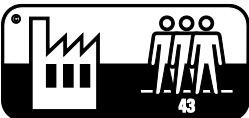
The classification scheme for resilient floor coverings is described in EN ISO 10874. The requirements for heterogeneous polyurethane floor coverings in accordance with this scheme are specified in Table 2.



Table 2 — Classification requirements

Class	Test method	21	22	23
Symbol	EN ISO 10874			
Level of Use		Domestic moderate	Domestic general	Domestic heavy
Furniture leg	ISO 16581 EN 424	Type 3	Type 3	Type 3
Scratch resistance in N	Annex A	≥ 3	≥ 3	≥ 3
Thickness of wear layer	EN ISO 24340	≥ 0,10 mm	≥ 0,10 mm	≥ 0,15 mm

Class	Test method	31	32	33	34
Symbol	EN ISO 10874				
Level of Use		Commercial moderate	Commercial general	Commercial heavy	Commercial very heavy
Furniture leg	ISO 16581 EN 424	Type 3	Type 2	Type 2	Type 2
Scratch resistance in N	Annex A	≥ 5	≥ 5	≥ 6	≥ 6
Thickness of wear layer	EN ISO 24340	≥ 0,15 mm	≥ 0,15 mm	≥ 0,20 mm	≥ 0,20 mm

Class	Test method	41	42	43
Symbol	EN ISO 10874			
Level of Use		Light industrial moderate	Light industrial general	Light industrial heavy
Furniture leg	ISO 16581 EN 424	Type 2	Type 2	Type 2
Scratch resistance in N	Annex A	≥ 6	≥ 7	≥ 7
Thickness of wear layer	EN ISO 24340	≥ 0,20 mm	≥ 0,20 mm	≥ 0,20 mm

## 6 Marking

Floor coverings that are covered by this standard and/or their packaging shall bear the following marking:

- a) number and date of this European standard, i.e.. EN 16776:2016;