



# SLOVENSKI STANDARD

## SIST EN 14565:2019

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Nadomešča:  
SIST EN 14565:2004

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**Elastične talne obloge - Talne obloge na osnovi sintetičnih termoplastičnih polimerov - Specifikacija**

Resilient floor coverings - Floor coverings based upon synthetic thermoplastic polymers - Specification

Elastische Bodenbeläge - Bodenbeläge auf Basis synthetischer Thermoplaste - Spezifikation

Revêtements de sol résilients - Revêtements de sol à base de polymères thermoplastiques synthétiques - Spécification

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**Ta slovenski standard je istoveten z: EN 14565:2019**

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**ICS:**

97.150      Talne obloge      Floor coverings

**SIST EN 14565:2019**      en,fr,de

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EUROPEAN STANDARD

EN 14565

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2019

ICS 97.150

Supersedes EN 14565:2004

English Version

## Resilient floor coverings - Floor coverings based upon synthetic thermoplastic polymers - Specification

Revêtements de sol résilients - Revêtements de sol à base de polymères thermoplastiques synthétiques - Spécification

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This European Standard was approved by CEN on 28 May 2019.

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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: Rue de la Science 23, B-1040 Brussels

## European foreword

This document (EN 14565:2019) 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of an identical text or by endorsement, at the latest by February 2020 and conflicting national standards shall be withdrawn at the latest by February 2020.

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

This document supersedes EN 14565:2004.

In comparison with the previous edition, the following technical modifications have been made:

The normative references in Clause 2 have been updated, as well as the informative references in the Bibliography.

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

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**EN 14565:2019 (E)****1 Scope**

This document specifies the characteristics for resilient floor coverings based upon synthetic thermoplastic polymers, supplied either in roll or tile form.

This specification does not apply to floor coverings specified in one of the following standards: EN ISO 10581, EN ISO 10582, EN ISO 10595, EN ISO 26986, EN 650, EN 651 and EN 652.

**2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1269:2015, *Textile floor coverings — Assessment of impregnations in needed floor coverings by means of a soiling test*

EN 1372, *Adhesives — Test method for adhesives for floor and wall coverings — Peel test*

EN 1373, *Adhesives — Test method for adhesives for floor and wall coverings — Shear test*

EN 1903, *Adhesives — Test method for adhesives for plastic or rubber floor coverings or wall coverings — Determination of dimensional changes after accelerated ageing*

EN 12466:1998, *Resilient floor coverings — Vocabulary*

EN 20105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour (ISO 105-A02:1993)*

EN ISO 105-B02:2014, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test (ISO 105-B02:2014)*

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

EN ISO 9405, *Textile floor coverings — Assessment of changes in appearance (ISO 9405)*

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 24344:2012, *Resilient floor coverings — Determination of flexibility and deflection (ISO 24344:2008)*

EN ISO 24345, *Resilient floor coverings — Determination of peel resistance (ISO 24345)*

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

ISO 4918, *Resilient, textile and laminate floor coverings — Castor chair test*

ISO 10361:2015, *Textile floor coverings — Production of changes in appearance by means of Vettermann drum and hexapod tumbler tester*

ISO 11378-1:2000, *Textile floor coverings — Laboratory soiling tests — Part 1: Kappasoil test*

ISO 16906, *Resilient floor coverings — Determination of seam strength*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12466:1998 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

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#### 3.1

##### product with backing

floor covering consisting of a homogeneous or heterogeneous surface layer and a backing of any material different from the surface layer

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Note 1 to entry: Typical backing materials are cork, foams and jute.

#### 3.2

##### scratch

permanent surface damage of visible physical nature

## 4 Requirements

### 4.1 General requirements

Floor coverings described in this standard shall comply with the appropriate general requirements specified in Table 1, when tested in accordance with the methods given therein.

Optional properties are given in Annex D. Additional test methods are given in Annex E.

Table 1 — Requirements

Characteristic	Requirement		Test method
	For product without backing	For product with backing	
Roll form Length                    m Width                    mm	not less than the nominal value		EN ISO 24341
Tiles Side length                mm Squareness and straightness for side length                    mm ≤ 400 mm > 400 mm > 400 mm (intended for welding)	deviation ± 0,13 % of nominal length up to 0,5 mm maximum  deviation at any point  ≤ 0,25 ≤ 0,35 ≤ 0,50		EN ISO 24342
Overall thickness        mm Average <sup>a</sup> individual results	nominal value + 0,13 - 0,10 average value <sup>b</sup> ± 0,15	nominal value + 0,18 - 0,15 average value <sup>b</sup> ± 0,20	EN ISO 24346
Thickness of wear layer  - average <sup>a</sup> - individual results	nominal value + 13 % - 10 % average value <sup>b</sup> ± 0,15	nominal value + 18 % - 15 % average value <sup>b</sup> ± 0,20	EN ISO 24340
Total mass per unit area g/m <sup>2</sup> (average)	nominal value + 13 % - 10 %		EN ISO 23997
Residual indentation    mm Recovery after indentation                %	≤ 0,10	≥ 80	EN ISO 24343-1 EN ISO 24343-1 <sup>c</sup>
Dimensional stability after exposure to heat Expansion/Shrinkage    %	≤ 0,20		Annex C
Curling under exposure to heat Rolls and tiles            mm (intended for welding) Tiles (intended for dry joint laying)        mm	≤ 8  ≤ 2		EN ISO 23999 (6 h, 50 °C)

Characteristic	Requirement		Test method
	For product without backing	For product with backing	
Flexibility	Test using a 20 mm mandrel. For products which show signs of cracking, perform a further test using a 40 mm mandrel. If results show no further cracking, record the use of a 40 mm diameter mandrel. Cracking when using a 40 mm mandrel is to be recorded. The test shall be repeated with method B. If no cracking occurs the material is semi flexible.		EN ISO 24344:2012 Method A Method B
Colour fastness to artificial light	6 minimum		EN ISO 105-B02:2014 Method 3 <sup>d</sup>
Peel resistance N/50 mm Average Individual results		≥ 50 ≥ 40	EN ISO 24345
Soiling Ease of cleaning	> 2 big grey scale ≥ 4 big grey scale		Annex B
Scratch Appearance Assessment	Record the load which causes the first uninterrupted scratch on the surface (visible with the naked eye)		Annex A
Adhesion and gluing <sup>e</sup> : Peel strength N/mm Shear strength N/mm <sup>2</sup>	SIST EN 14565:2019 > 1,0 ≥ 0,30		EN 1372 EN 1373
Castor chair suitability	For classes 32 and higher – no delamination		ISO 4918
Seam strength N/50 mm	For classes 31 and higher, if welding is required: average ≥ 240 individual values ≥ 180		ISO 16906
<p><sup>a</sup> Average of the batch.</p> <p><sup>b</sup> Average of the results of one sample.</p> <p><sup>c</sup> Carrying out the test under EN ISO 24343-1 the recovery is calculated as shown in 4.2.</p> <p><sup>d</sup> Expose a full size test sample. Store a further test sample in the dark, which will constitute the reference standard for assessment of colour change.</p> <p><sup>e</sup> The requirements given are minimum values. For individual products higher forces could be required and shall be specified by the manufacturer of the floor covering.</p>			



**EN 14565:2019 (E)****4.2 Calculation of recovery after indentation**

The recovery after indentation is calculated from the following formula:

$$recovery = \frac{t_1}{t_0} \times 100 \quad (1)$$

where

$t_0$  is the thickness of the floor covering before applying the load;

$t_1$  is the thickness after recovery for 150 min.

**5 Wear and performance specification**

The manufacturers shall provide a statement regarding the wear performance of the floor coverings, conforming to the classification scheme established in EN ISO 10874 and based on their knowledge of the formulation, physical test results, and extended wear trials carried out on floor coverings.

**NOTE** It is well established that there is little or no correlation if test results from an abrasion test are used to assess how different polymer based floor coverings wear in service. This is particularly true if the floor coverings under test are significantly different in formulation, and product construction.

Only floor coverings of similar composition can be compared for wear and durability using abrasion test equipment.

Since floor coverings covered by this specification can vary significantly in formulation, and can be based upon many different polymers, for floor coverings covered by this standard it is not possible to use the results from laboratory abrasion tests for wear classification purposes.

Therefore, the customer can rely upon the integrity and legal responsibility of manufacturers for meaningful wear performance.

**6 Marking**

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

- a) number and date of this document, i.e. EN 14565:2019;
- b) manufacturer's or supplier's identification;
- c) product name;
- d) colour/pattern and batch and roll / package number if applicable;
- e) classes/symbols appropriate for the product;
- f) for rolls: the length, width and thickness;
- g) for tiles: the dimensions of a tile and the area in square meters contained in a package.

## Annex A (normative)

### Method of test for resistance to scratching

#### A.1 Introduction

This method of test specifies a procedure to assess the appearance of scratches on resilient floor covering surfaces under laboratory conditions.

#### A.2 Principle

A test piece mounted on a horizontal rotating plate is scratched by a defined steel pin. The pin may be loaded with different weights. The load at which the pin causes an uninterrupted scratch of defined characteristics is used for the ranking of the product.

#### A.3 Apparatus and materials

##### A.3.1 General

The item numbers in parentheses in A.3.2.3 to A.3.2.7 refer to Figure A.1.

##### A.3.2 General apparatus and materials

**A.3.2.1 Stand**, with a device to indicate the horizontal, e.g. a spirit level.

**A.3.2.2 Scratch tester (Figure A.1)**, consisting of A.3.2.3 to A.3.2.7.

**A.3.2.3 Turntable (4)**, freely rotating, motor-driven, for supporting the test piece, rotating around its vertical axis at  $(35 \pm 5)$  mm per second at the position where the scratch is made.

**A.3.2.4 Clamping disc (6)**, to keep the test specimen flat.

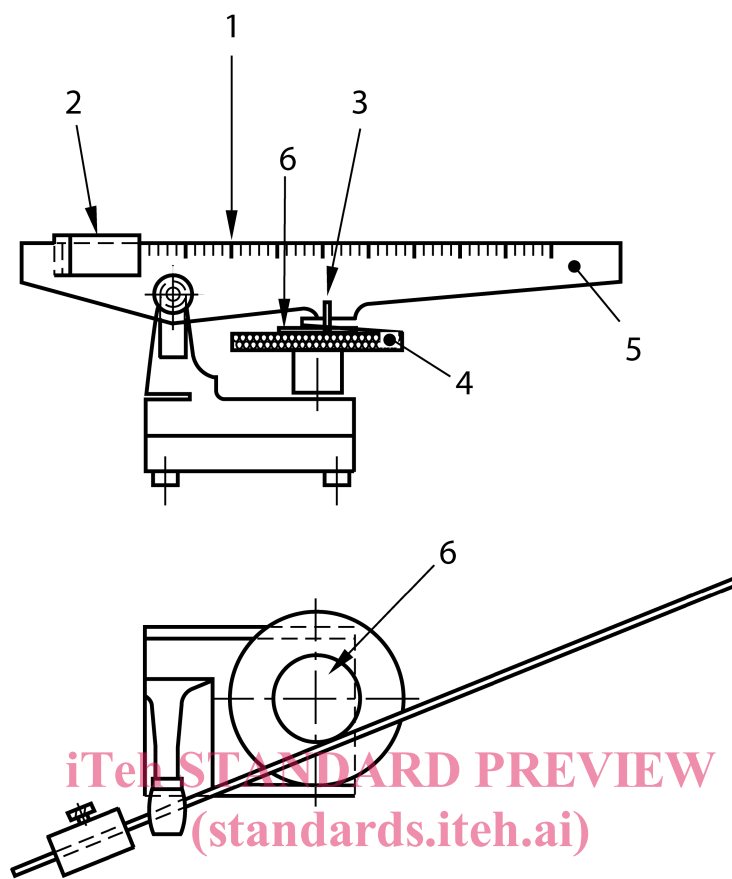
**A.3.2.5 Arm (5)**, with a holder for the steel pin (3), mounted on a ball bearing, with horizontal axis.

This arm is engraved with a scale (1) and is made adjustable in order to ensure that it is always horizontal, independent of the thickness of the test piece, when the steel pin touches the surface of the specimen.

**A.3.2.6 Movable weight (2)** that can be moved along the arm (5). The mass of the weight together with the effective mass of the arm presses the steel pin onto the surface to be tested.

The force exerted on the steel pin shall be accurate to 0,01 N, when measured at the mounting device for the pin.

**A.3.2.7 Steel pin (3)** (also shown in Figure A.2), made from tungsten carbide-cobalt (WC-Co) hard metal, HIP treated (hot isostatic pressed).



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**Key**

- 1 adjustable scale
- 2 movable weight
- 3 steel pin
- 4 turntable
- 5 arm
- 6 clamping disc

**Figure A.1 — Scratch tester**

The thickness of the pin shall be  $3 \text{ mm} \pm 0,02 \text{ mm}$ . The steel pin shall have a conical peak with a radius of  $0,25 \text{ mm} \pm 0,02 \text{ mm}$ .