



SLOVENSKI STANDARD SIST EN 1307:2009

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Textile floor coverings - Classification of pile carpets

Textile Bodenbeläge - Einstufung von Polteppichen

Revêtements de sol textiles - Classement d'usage des moquettes
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English Version

Textile floor coverings - Classification of pile carpets

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moquettes

Textile Bodenbeläge - Einstufung von Polteppichen

This European Standard was approved by CEN on 29 February 2008.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 1307:2008) 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of an identical text or by endorsement, at the latest by November 2008, and conflicting national standards shall be withdrawn at the latest by November 2008.

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.

This document will supersede EN 1307:2005.

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EN 1307:2008 (E)**1. Scope**

This European Standard specifies the requirements for classification of all wall-to-wall pile carpets and pile carpet tiles (see ISO 2424) into use classes in respect of wear and appearance retention and classes for luxury rating. This European Standard is also applicable to pile carpet tiles, the additional requirements for which are given in Annex A.

This European Standard is not applicable to needled carpets or to rugs.

This European Standard refers to the classification as defined in EN 685.

2. Normative references

The following referenced documents are indispensable for the application 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 985, *Textile floor coverings — Castor chair test*
- EN 986, *Textile floor coverings — Tiles — Determination of dimensional changes due to the effects of varied water and heat conditions and distortion out of plane*
- EN 994, *Textiles floor coverings — Determination of the side length, squareness and straightness of tiles*
- EN 1269, *Textile floor coverings — Assessment of impregnations in needled floorcoverings by means of a soiling test*
- EN 1318, *Textile floor coverings — Determination of the apparent effective thickness of the backing*
- EN 1471, *Textile floor coverings — Assessment of changes in appearance*
- EN 1814, *Textile floor coverings — Determination of resistance to damage at cut edges using the modified Vettermann drum test*
- EN 1963, *Textile floor coverings — Tests using the Lisson Tretrad Machine*
- EN 14041, *Resilient, textile and laminate floor coverings — Essential characteristics*
- CEN/TS 14159, *Textile floor coverings — Requirements for tolerances on (linear) dimensions of rugs, runners, carpet tiles and wall-to-wall carpet and for tolerances on pattern repeat*
- EN 14499, *Textile floor coverings — Minimum requirements for carpet underlays*
- EN 14900, *Textile floor coverings — Determination of the density of the textile fleece backing*
- EN 15115, *Textile floor coverings — Determination of sensitivity to spilled water*
- CEN/TS 15398, *Resilient, textile and laminate floor coverings — Floor covering standard symbols*
- EN ISO 105-A01, *Textiles — Tests for colour fastness — Part A01: General principles of testing (ISO 105-A01:1994)*
- EN ISO 105-B02, *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)*
- EN ISO 105-E01, *Textiles — Tests for colour fastness — Part E01: Colour fastness to water (ISO 105-E01:1994)*
- EN ISO 105-X12, *Textiles — Test for colour fastness — Part X12: Colour fastness to rubbing (ISO 105-X12:2001)*
- EN ISO 140-8, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 8: Laboratory measurements of the reduction of transmitted impact noise by floor coverings on a heavyweight standard floor (ISO 140-8:1997)*
- EN ISO 354, *Acoustics — Measurement of sound absorption in a reverberation room (ISO 354:2003)*
- EN ISO 845, *Cellular plastics and rubbers — Determination of apparent (bulk) density (ISO 845:1988)*

EN ISO 717-2, *Acoustics — Rating of sound insulation in buildings and of building elements — Part 2: Impact sound insulation (ISO 717-2:1996)*

EN ISO 11378-2, *Textile floor coverings — Laboratory soiling tests — Part 2: Drum test (ISO 11378-2:2001)*

ISO 1763, *Carpets — Determination of number of tufts and/or loops per unit length and per unit area*

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

ISO 1766, *Textile floor coverings — Determination of thickness of pile above the substrate*

ISO 2424, *Textile floor coverings — Vocabulary*

ISO 2551, *Machine-made textile floor coverings — Determination of dimensional changes due to the effects of varied water and heat conditions*

ISO 4919, *Textile floor coverings — Determination of tuft withdrawal force*

ISO 6356, *Textile floor coverings — Assessment of static electrical propensity — Walking test*

ISO 8302, *Thermal insulation — Determination of steady-state thermal resistance and related properties — Guarded hot plate apparatus*

ISO 8543, *Textile floor coverings — Methods for determination of mass*

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

ISO 10965, *Textile floor coverings — Determination of electrical resistance*

3. Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2424:2007 and the following apply.

3.1

non adhered tile (loose laid)

tile installed without any use of a bonding system (see Annex A)

3.2

adhered removable tile

tile installed with a bonding system allowing easy removal and reinstallation (see Annex A)

3.3

permanent adhered tile

tile installed with a permanent bonding system (see Annex A)

4. Description of categories and levels of use

4.1 Carpet categories

Carpets shall be categorised Type 1 or Type 2 in accordance with Table 1.

NOTE 1 There is at present no single method capable of predicting wear properties of pile carpets for all pile materials (fibres) and all constructions. Therefore, pile carpets have been divided into two categories: Type 1 and Type 2, so that the most appropriate method is applied to each category of carpet.

NOTE 2 Type 2 is therefore applicable to thick, heavy carpets (≥ 6 mm pile thickness and ≥ 600 g/m² mass or ≥ 900 g/m² mass pile).

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Table 1 — Carpet categories

Pile thickness in accordance with ISO 1766	Mass of pile per unit area above substrate in accordance with ISO 8543		
mm	g/m ²		
< 6	< 600	≥ 600 and < 900	≥ 900
	Type 1		
≥ 6		Type 2	

4.2 Levels of use

Textile floor coverings shall be classified as suitable for different levels of use in accordance with the performance requirements specified in Clause 7.

The different levels of use shall be as described in Table 2.

Table 2 — Levels of use

Use intensity	
Domestic	
21	Moderate / light
22	General / medium
22+	General
23	Heavy
Commercial ^a	
31	Moderate
32	General
33	Heavy
^a Class 33 should be used as the basis to which additional requirements are added to provide an individual full specification.	

If symbols are to be used for the use classes, luxury rating classes and additional characteristics, the symbols listed in CEN/TS 15398, which can also be found on www.floorsymbols.com, shall be used.

For very specific use such as airports, theatres or industrial use, the technical requirements may exceed the requirements stated in this document.

5. Identification requirements

The following information shall be provided in accordance with the definitions in ISO 2424: commercial references;

- type of manufacture (tufted, woven, flocked, etc.);
- type of pile (loop, cut, etc.);
- type of use surface (plain, patterned, tonal effect);
- type of backing.

The values of the characteristics in Table 3 shall be declared.

Table 3 — Characteristics

Characteristics	Test methods	Tolerances
Fibre composition of use surface	^a	
Dimensions	CEN/TS 14159	CEN/TS 14159
Total thickness mm	ISO 1765	
Thickness of pile above the substrate (SPT)	ISO 1766	
Number of tufts or loops per dm ²	ISO 1763	Nominal + 10 % / - 7,5 %
Total mass per unit area g/m ²	ISO 8543	Nominal ± 15 %
Mass of pile per unit area above the substrate (SPW) g/m ²	ISO 8543	Nominal + 15 % / - 10 %
Surface pile density (SPD) g/cm ³	ISO 8543	Nominal ± 10 %
Foam backing – if applicable		
Apparent thickness mm	EN 1318	Nominal ± 0,5 mm
Density g/cm ³	ISO 845	
Information about felt backing – if applicable		
Apparent thickness mm	EN 1318	
Apparent density g/cm ³	EN 14900	
^a Attention is drawn to the European Directives 96/73 and 96/74 which cover the fibre composition and are reflected in the national regulations.		

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6. Basic requirements

Pile carpets shall conform to the basic requirements specified in Table 4.

Table 4 — Basic requirements

Characteristic	Requirements	Test methods
Colour fastness to Light ^a - General - Pastel shade ^b	≥ 5 ≥ 4	EN ISO 105-B02
Rubbing - Wet - Dry	≥ 3 ≥ 3-4	EN ISO 105-X12
Water (change in colour) - Plain carpets - Other carpets	≥ 3-4 ≥ 4	EN ISO 105-E01
Water (staining) - All carpets	≥ 2-3	
Fibre bind for all carpets < 80% wool - Loop pile carpets - Cut pile carpets	Fuzzing below level of reference Photographs Loss of mass < 25 %	EN 1963:2007, Test C EN 1963:2007, Test A Number of cycles defined by calibration
Colour change ^d - due to spilled water - due to soiling subsequent to spilled water	≥ 4 ≥ 3	EN 15115 Annex G
<p>^a Conformity to be declared by the manufacturer for each colour.</p> <p>^b Pastel shade: colour corresponding to a standard depth ≤ 1/12 (in accordance with EN ISO 105-A01).</p> <p>^c On multi fibre: worst result.</p> <p>^d Conformity to be declared by the manufacturer.</p>		

7. Level of use classification

7.1 General

Pile carpets are classified as to their suitability for use in different circumstances. The two classification properties, wear and change in appearance, are intended to indicate suitability according to use intensity (level of use classes 21-23 and 31-33 in increasing order of use intensity). The level of use class allocated to a carpet is the lowest of the classes obtained after application of 7.2 and 7.3.

7.2 Classification for wear

The primary classification for Type 1 carpets (Table 5) is based on the formula I_{tr} (see Annex C) that combines the mass of pile above the substrate SPW and the result of the Lisson test described in EN 1963.

The classification for wear of Type 2 carpets is based on the construction formula described as wear index ($W I$) calculated in accordance with Annex B. The wear index requirements for each class are specified in Table 5.

Table 5 applies to all level of use classes. Additional requirements (Tables 6 and 7) apply to level of use classes 23/32 and 33. To be classified as level of use class 23/32 or 33, both the primary classification specifications and the relevant additional requirements shall be met.

Table 5 — Primary classification for wear

Class	Type 1	Type 2
	I_{tr}	Wear Index
Domestic		
21	$\geq 0,9$	$\geq 0,8$
22	$\geq 1,7$	$\geq 1,7$
23	$\geq 2,3$	$\geq 2,5$
Commercial		
31	$\geq 2,3$	$\geq 2,5$
32	$\geq 3,0$ ^{ab}	$\geq 2,5$
33	$\geq 3,0$ ^{ab}	$\geq 3,3$

^a For carpets with $SPW < 250 \text{ g/m}^2$ I_{TR} is assigned the value 3,0 if the relative mass loss (m_r) is $< 2 \%$.

^b For flocked carpets there is no requirement for class 21 and 22. For classes 23/32 and 33 I_{tr} is assigned the value $\geq 3,0$ if the loss of mass (m_v) per unit area is $< 35 \text{ g/m}^2$.

To be classified in class 23/32 or 33, carpets shall conform to one of the additional requirements in Table 6.

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Table 6 — Primary classification for wear

	All Type 1 carpets and for Type 2 carpets with use surface < 80 % wool		Type 2 carpets with use surface ≥ 80 % wool	
Class	Requirement	Test method	Requirement	Test method
23	SPW ≥ 310 g/m ² or Tufts ≥ 1100 /dm ² or SPD ≥ 0,09 g/cm ³	ISO 8543 ISO 1763 ISO 8543	Patterned SPD ≥ 0,10 g/cm ³ Plain SPD ≥ 0,12 g/cm ³	ISO 8543 ISO 8543
	For flocked carpets: SPW ≥ 150 g/m ²	ISO 8543		
32	SPW ≥ 310 g/m ² or Tufts ≥ 1100 /dm ² or SPD ≥ 0,09 g/cm ³	ISO 8543 ISO 1763 ISO 8543	Patterned SPD ≥ 0,10 g/cm ³ Plain SPD ≥ 0,12 g/cm ³	ISO 8543 ISO 8543
	For flocked carpets: SPW ≥ 150 g/m ²	ISO 8543		
33	SPW ≥ 310 g/m ² and SPD ≥ 0,10 g/cm ³ and not fraying or Tufts ≥ 1100 /dm ² and SPD ≥ 0,10 g/cm ³ and not fraying	ISO 8543 ISO 8543 EN 1814 ISO 1763 ISO 8543 EN 1814	Patterned SPD ≥ 0,12 g/cm ³ Plain SPD ≥ 0,14 g/cm ³	ISO 8543 ISO 8543
	For flocked carpets: SPW ≥ 165 g/m ²	ISO 8543		

7.3 Classification for change in appearance

Carpets shall be tested in accordance with ISO 10361 in either the Hexapod or the Vettermann apparatus using the number of cycles for short and long term tests specified in Table 7. The tested specimens shall be assessed in accordance with EN 1471 and the median grade for overall change in appearance shall conform to the requirements specified in Table 7. The use of an underlay (according to EN 14499) is optional but shall always be mentioned in reporting.