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Tekstilne talne obloge - Razvrġ anje lasastih preprog

Textile floor coverings - Classification of pile carpets

Textile Bodenbeläge - Einstufung von Polteppichen

Revetements de sol textiles - Classement d'usage des moquettes

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English version

Textile floor coverings - Classification of pile carpets

Revêtements de sol textiles - Classement d'usage des moquettes

Textile Bodenbeläge - Einstufung von Polteppichen

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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of an identical text or by endorsement, at the latest by July 1997, and conflicting national standards shall be withdrawn at the latest by July 1997.

Annex A is normative and annex B is normative

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.

1 Scope

This European Standard describes and specifies wall to wall pile carpets and pile carpet tiles including classification into use classes in respect of wear and appearance retention and a classification for luxury rating.

This standard applies to all machine made pile carpets in accordance with ISO 2424 (knitted, tufted, woven and flocked). It does not apply to needled pile carpets.

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

This standard is not applicable to rugs.

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 434	Resilient floor coverings - Determination of dimensional stability and curling after exposure to heat
EN 984	Determination of the mass per unit area of the use surface of needled floor coverings
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	Textile floor coverings - Determination of the side length, squareness and straightness of tiles
EN 995	Textile floor coverings - Assessment of the creep of the backings
EN 1318	Textile floor coverings - Determination of the apparent effective thickness of backing
EN 1471	Textile floor coverings - Assessment of changes in appearance
prEN 1813	Textile floor coverings - Determination of wool fibre integrity using an abrasion machine
prEN 1814	Textile floor coverings - Determination of resistance to fraying of edges using the modified Vettermann drum test
prEN 1815	Resilient and textile floor coverings - Assessment of static electrical propensity

prEN 1963		Textile floor coverings - Testing of wear using the Lisson Tretrad machine
EN ISO 105-A01	1995	Textiles - Tests for colour fastness - Part A01 : General principles of testing (ISO 105-A01:1994)
ISO 105-B02	1994	Textiles - Tests for colour fastness - Part B02 : Colour fastness to artificial light : Xenon arc fading lamp test
EN ISO 105-E01	1996	Textiles - Test for colour fastness - Part E01 : Colour fastness to water (ISO 105-E01:1994)
EN ISO 105-X12	1995	Textiles - Test for colour fastness - Part X12 : Colour fastness to rubbing (ISO 105-X12:1993
ISO 140-8	1996	Acoustics - Measurement of sound insulation in buildings and of buildings elements - Part 8 : Laboratory measurements of the reduction of transmitted impact noise by floor coverings on a standard floor
ISO 354	1985	Acoustics - Measurement of sound absorption in a reverberation room
ISO 717-2		Acoustics - Rating of sound insulation in buildings and of building elements - Part 2 : Impact sound insulation
ISO 845	1988	Cellular plastics and rubbers - Determination of apparent (bulk) density
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 3018		Textile floor coverings - Rectangular textile floor coverings - Determination of dimensions
ISO 8543		Textile floor coverings - Methods for determination of mass
ISO 8302	1991	Thermal insulation - Determination of steady-state thermal resistance and related properties - Guarded hot plate apparatus
ISO/TR 10361		Textile floor coverings - Production of changes in appearance by means of a Vettermann drum and hexapod tumbler testers
ISO/DIS 10965		Textile floor coverings - Determination of electrical resistance

3 Definitions

For the purposes of this standard the definitions given in ISO 2424 apply.

4 Description of categories and levels of use

4.1 Carpet categories

Carpets shall be categorized L, M or N in accordance with table 1

Table 1

Pile thickness in accordance with ISO 1766 mm	Mass of pile per unit area above substratein accordance with ISO 8543 g/m^2			
	< 500	≥ 500 and < 600	≥ 600 and < 900	≥ 900
< 5	N			L
≥ 5 and < 6	N	M		L
≥ 6	N	M	L	

NOTE: Category L is therefore applicable to thick, heavy carpets, category M is an intermediate category and category N describes all other carpets

4.2 Levels of use

Textile floor coverings are classified as suitable for different levels of use in accordance with the performance requirements specified in clause 6

The different levels of use are described in table 2.

Table 2

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 an individual full specification.

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 manufacture and gauge (tufted, woven etc.);
- type of pile (loop,woven, etc.);
- type of backing.

and shall declare the values of the characteristics in table 3.

Table 3

Characteristics	Test methods	Tolerances
Fibre composition of use surface	Directive 71/307/CEE modified	
Dimensions	ISO 3018	
Total thickness mm	ISO 1765	
Thickness of pile above the substrate mm	ISO 1766	
Density of foam backing, if applicable g/cm^3	ISO 845 : 1988	
Number of tufts or loops	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 g/m^2	ISO 8543	nominal + 15 % - 10 %
Surface pile density g/cm^3	ISO 8543	nominal + 10 % - 7,5 %
Apparent thickness of foam backing, if applicable mm	EN 1318	nominal ± 0,5 mm

6 Basic requirements

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

Table 4

Characteristics	Requirements	Test methods
Colour fastness[1] **to**		
. light	≥ 5 Pastel shade[2] ≥ 4	ISO 105-B02 : 1994
. rubbing		EN ISO 105-X12 : 1995
- wet	≥ 3	
- dry	≥ 3-4	
. water		EN ISO 105-E01 : 1996[3]
- plain carpets	≥ 3-4	
- patterned carpets and having "tonal effect"	≥ 4	
Fibre bind for synthetic carpets		
- loop pile carpets	fuzzing below level of references photographs	prEN 1963 test C (400 cycles)
- cut pile carpet	loss of mass ≤ 25 %	prEN 1963 test A number of cycles defined by the calibration
Wool fibre integrity	loss of mass	
- wool	≤ 350 mg	prEN 1813 (5 000 cycles)
- wool/polyamide (80/20)	≤ 225 mg	

[1] Manufacturer shall ensure that the requirements are met for each colour.
[2] Pastel shade : colour corresponding to a standard depth ≤ 1/12 (in accordance with EN ISO 105-A01:1995).
[3] Change in colour.

7 Level of use classification

Pile carpets are classified as to their suitability for use according to different circumstances. The two classification properties, wear and change in appearance, are intended to indicate suitability according to use intensity (level of classes 1 to 4 in increasing order of use intensity). The level of use class allocated to a carpet is the lower of the classes obtained after application of 7.1 and 7.2.

7.1 Classification for wear

There is at present no single method capable of predicting wear properties of pile carpets for all pile materials and all constructions.Therefore, pile carpets have been divided into three categories L, M and N (see table 1) so that the most appropriate method is applied to each category of carpet.

7.1.1 Thick, heavy carpets - category L

The classification for wear of category L carpets is based on the construction formula described as Wear Index (W_I) calculated in accordance with B.1. The Wear Index requirements for each class are specified in table 5.

Table 5

Class	Wear Index
1	> 0,8
2	≥ 1,7
3	≥ 2,5
4	≥ 3,3

7.1.2 Intermediate carpets - category M

For category M carpets the level of use class is the lower of the two results obtained after application of both 7.1.1 and 7.1.3.

7.1.3 Other carpets - category N

The wear specifications for category N carpets are based on a primary classification (7.1.3.1) which applies to all level of use classes and additional requirements (7.1.3.2) which apply to level of use classes 3 and 4. To be classified as level of use class 3 or 4 both the primary classification specifications and the relevant additional requirements shall be met.

Specific requirements for flocked carpets are included in 7.1.3.1 and 7.1.3.2.

7.1.3.1 Primary classification

The primary classification is based on a formula I_{TR}[1)] that combines the mass of pile per unit area above the substrate, m_{AP} and the result of the Lisson test described in prEN 1963 (m_{rv} the relative fibre loss for carpets other than flocked carpets or m_V, the absolute fibre loss for flocked carpets).

All category N carpets shall conform to the primary classification requirements specified in table 6.

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1) $I_{TR} = 0{,}19 \sqrt{m_{AP}} \times \left(\frac{100 - m_{rv}}{100}\right)$ where

m_{AP} is the mass per unit area above the substrate in g/m^2 ;
m_{rv} is the relative fibre loss in percentage.