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SIST EN 649:2011

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 649

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English Version

Resilient floor coverings - Homogenous and heterogenous polyvinyl chloride floor coverings - Specification

Revêtements de sol résilients - Revêtements de sol
homogènes et hétérogènes à base de polychlorure de
vinyle - Spécifications

Elastische Bodenbeläge - Homogene und heterogene
Polyvinylchlorid-Bodenbeläge - Spezifikation

This European Standard was approved by CEN on 6 February 2011.

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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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Foreword

This document (EN 649:2011) 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of an identical text or by endorsement, at the latest by September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

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 supersedes EN 649:1996.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 649:2011 (E)**1 Scope**

This European Standard specifies the characteristics of homogeneous and heterogeneous floor coverings, based on polyvinyl chloride and modifications thereof, supplied in either tile or roll form.

To encourage the consumer to make an informed choice, the standard includes a classification system (see EN 685) 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 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 425, *Resilient and laminate floor coverings — Castor chair test*

EN 426, *Resilient floor coverings — Determination of width, length, straightness and flatness of sheet material*

EN 427, *Resilient floor coverings — Determination of the side length, squareness and straightness of tiles*

EN 428, *Resilient floor coverings — Determination of overall thickness*

EN 429, *Resilient floor coverings — Determination of the thickness of layers*

EN 430, *Resilient floor coverings — Determination of mass per unit area*

EN 433, *Resilient floor coverings — Determination of residual indentation after static loading*

EN 434, *Resilient floor coverings — Determination of dimensional stability and curling after exposure to heat*

EN 435, *Resilient floor coverings — Determination of flexibility*

EN 660-2, *Resilient floor coverings — Determination of wear resistance — Part 2: Frick-Taber test*

EN 685, *Resilient, textile and laminate floor coverings — Classification*

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)*

3 Terms and definitions

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

3.1 homogeneous floor covering
floor covering with one or more layers of the same composition and colour, patterned throughout its thickness

3.2 heterogeneous floor covering
floor covering consisting of a wear layer and other compact layers which differ in composition and/or design and can contain a reinforcement

3.3

polyvinyl chloride floor covering

floor covering with surface layers which are produced using polyvinyl chloride (and modifications thereof) as binder

4 Requirements

4.1 General requirements

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

4.2 Classification requirements

4.2.1 Wear group classification

Floor coverings described in this standard shall be classified in the appropriate wear group specified in Table 2, i.e. in group T, P, M or F, when tested in accordance with EN 660-2.

Floor coverings with a transparent wear layer are a priori group T and need not be tested.

4.2.2 Homogeneous products and wear layers

A homogeneous product shall retain its wear group classification throughout the thickness of the product if tested.

A wear layer shall retain its wear group classification throughout its thickness if tested.

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4.2.3 Level of use classification

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Floor coverings described in this standard shall be classified as suitable for different levels of use in accordance with the performance requirements specified in Table 3, when tested with the methods given therein. Classification shall conform to the scheme established in EN 685.

Table 1 — General requirements






Characteristic	Requirement	Test method
Roll form:		EN 426
length width	m mm Not less than the nominal values	
Tiles:		EN 427
side length	mm Deviation $\leq 0,13$ % of nominal length up to 0,5 mm maximum	
squareness and straightness for side length mm	Deviation allowed at any point	
≤ 400 mm > 400 mm	$\leq 0,25$ $\leq 0,35$	
Overall thickness	mm	EN 428
Average	Nominal value + 0,13 Nominal value - 0,10	
individual values	Average value $\pm 0,15$	
Total mass per unit area average	g/m^2 Nominal value + 13% - 10%	EN 430
Residual indentation (average)	mm $\leq 0,1$	EN 433
Dimensional stability after exposure to heat % sheets and tiles (intended for welding) tiles (intended for dry-joint laying)	$\leq 0,4$ $\leq 0,25$	EN 434
Curling after exposure to heat: sheets and tiles (intended for welding) tiles (intended for dry-joint laying)	mm ≤ 8 ≤ 2	EN 434
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 mandrel.	EN 435 Method A
Colour fastness to artificial light	6 minimum	EN ISO 105-B02: Method 3 ^a

^a Expose a full size test specimen. Store a further test specimen in the dark, which will constitute the reference standard for assessment of colour change.

Table 2 — Classification requirements for wear groups

Characteristic	Requirements for wear group				Test method
	T	P	M	F	
volume loss F_v mm ³	$F_v \leq 2,0^a$	$2,0 < F_v \leq 4,0$	$4,0 < F_v \leq 7,5$	$7,5 < F_v \leq 15,0$	EN 660-2
^a The average value shall be the nominal value + 13 % but not more than 0,1 mm. – 10 %. No individual shall vary more than $\pm 0,15$ mm from the average value.					

Table 3 — Classification requirements for level of use

Class	Symbol	Level of use	Overall thickness ^a (homogeneous and heterogeneous) Nominal value, mm				Thickness of wear layer ^a (heterogeneous) Nominal value, mm				Effect of a castor chair ^b	Seam strength N/50 mm
			T	P	M	F	T	P	M	F		
21		domestic moderate	1,0	1,0	1,0	1,0	0,15	0,25	0,40	0,60	No requirement	No requirement
22		domestic general	1,5	1,5	1,5	1,5	0,20	0,35	0,50	0,80		
22+		domestic general										
23		domestic heavy	1,5	1,5	1,5	1,5	0,30	0,45	0,65	1,00		
31		commercial moderate										