BS EN 652:2011

BSI Standards Publication

Resilient floor coverings — Polyvinyl chloride floor coverings with cork-based backing — Specification

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National foreword

This British Standard is the UK implementation of EN 652:2011. It supersedes BS EN 652:1997, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/60, Resilient floor coverings.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Resilient floor coverings - Polyvinyl chloride floor coverings with cork-based backing - Specification

Revêtements de sol résilients - Revêtements de sol à base de polychlorure de vinyle sur support à base de liège - Spécifications

Elastische Bodenbeläge - Polyvinylchlorid-Bodenbeläge mit einem Rücken auf Korkbasis - Spezifikation

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Foreword

This document (EN 652:2011) has been prepared by Technical Committee CEN/TC 134 “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of an identical text or by endorsement, at the latest by September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

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1 Scope

This European Standard specifies the characteristics of floor coverings based on polyvinyl chloride and modifications thereof with a cork-based backing, 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 424, *Resilient floor coverings — Determination of the effect of the simulated movement of a furniture leg*

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 431, *Resilient floor coverings — Determination of peel resistance*

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 436, *Resilient floor coverings — Determination of density*

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

EN 684, *Resilient floor coverings — Determination of seam strength*

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

3.2
polyvinyl chloride floor covering with cork-based backing
floor covering with a homogeneous or heterogeneous polyvinyl chloride surface layer over a layer of corkment or of cork with a polyvinyl chloride binder

4 Requirement

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 groups classification

Floor coverings described in this standard shall be classified in the appropriate wear group i.e. group T, P, M or F specified in Table 2, 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 Level of use classification

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

Table 1 — General requirements

Characteristic	Requirement	Test method
Roll form: length m width mm	Not less than the nominal values	EN 426
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 allowed at any point ≤ 0,25 ≤ 0,35 ≤ 0,50	EN 427
Overall thickness: mm average individual results	 Nominal value + 0,18 - 0,15 Average value ± 0,20	EN 428
Thickness of cork-based backing mm	Nominal thickness shall be stated	EN 429
Total mass per unit area g/m² (average)	Nominal value + 13% - 10%	EN 430
Density of the wear layer (average) kg/m³	Nominal value ± 0,50	EN 436
Residual indention after static loading mm (average)	≤ 0,40	EN 433
Dimensional stability after exposure to heat: % sheets and tiles intended for welding tiles intended for dry-joint laying	 ≤ 0,4 ≤ 0,25	EN 434
Curling after exposure to heat: mm sheets and tiles (intended for welding) tiles (intended for dry-joint laying)	 ≤ 8 ≤ 2	EN 434
Colour fastness to artificial light	6 minimum	EN ISO 105-B02 Method 3[a]
Peel resistance N/50mm average individual results	 ≥ 50 ≥ 40	EN 431

[a] Expose a full size of 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 *Fv* mm³	*Fv* ≤ 2,0[a]	2,0 < *Fv* ≤ 4,0	4,0 < *Fv* ≤ 7,5	7,5 < *Fv* ≤ 15,0	EN 660-2
[a] If tested for verification					

Table 3 - Classification requirements for level of use

Class	Symbol	Level of use	Thickness of wear layer. Nominal value[a], mm				Effect of castor chair	Simulated movement of a furniture leg		Seam strength when welded in accordance with manufacturer's instructions N/50mm
			T	P	M	F				
21		domestic moderate	0,15	0,20	0,30	0,40	No requirement	-	No requirement	No requirement
22		domestic general	0,20	0,30	0,45	0,60		No damage shall be visible after testing with a type 3 foot		
22+		domestic general	0,20	0,30	0,45	0,60				
23		domestic heavy	0,25	0,40	0,60	0,80				
31		commercial moderate								

Table 3 *(continued)*

Class	Symbol	Level of use	Thickness of wear layer. Nominal value[a], mm				Effect of castor chair	Simulated movement of a furniture leg		Seam strength when welded in accordance with manufacturer's instructions N/50mm
			T	P	M	F				
32		commercial general	0,35	0,50	0,75	1,00	No disturbance to the surface other than slight change in appearance and no delamination shall occur	No damage shall be visible after testing with a type 2 foot	When welded in accordance with manufacturer's instructions: no damage shall be visible to the seams, when tested with a type 0 foot	Average ≥ 240 Individual values > 180
41		light industrial moderate								
33		commercial heavy	0,50	0,65	1,00	1,30				
42		light industrial general								
34		commercial very heavy	0,65	1,00	1,50	2,00				
Test method			EN 429				EN 425	EN 424		EN 684

[a] The average value shall be the nominal value with a tolerance of + 13 % but not more than 0,1 mm.
- 10 %

Individual values shall not vary more than 0,05 mm or 15 % below the average, whichever is the greater.

Where this requirement is not met by only one individual value, however, the test shall be repeated once more.

5 Marking

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

a) number and date of this European Standard, i.e. EN 652:2011;

b) manufacturer's or supplier's identification;

c) product name;

d) colour/pattern, and batch number and, if applicable, roll number;

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 metres contained in a package.

Annex A
(informative)

Optional properties

Where the following properties are required for specific applications, the floor covering should be tested in accordance with the appropriate methods:

— electrical resistance (see EN 1081);

— electrostatic propensity (see EN 1815);

— effect of stains (see EN 423).

Annex B
(informative)

Additional methods of test

The following test methods are also available for this type of product but do not form part of the specification:

- curling on exposure to moisture (EN 662);
- volatile loss (EN 664);
- exudation of plasticizers (EN 665);
- gelling (EN 666);
- mass per unit area of a reinforcement or backing (EN 718).

Bibliography

[1] EN 423, *Resilient floor coverings — Determination of resistance to staining*

[2] EN 662, *Resilient floor coverings — Determination of curling exposure to moisture*

[3] EN 664, *Resilient floor coverings — Determination of volatile loss*

[4] EN 665, *Resilient floor coverings — Determination of exudation of plasticizers*

[5] EN 666, *Resilient floor coverings — Determination of gelling*

[6] EN 718, *Resilient floor coverings — Determination of mass per unit area of a reinforcement or a backing of polyvinyl chloride floor coverings*

[7] EN 1081, *Resilient floor coverings — Determination of the electrical resistance*

[8] EN 1815, *Resilient and textile floor coverings — Assessment of static electrical propensity*

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