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Resilient floor coverings — Expanded (cushioned) poly(vinyl chloride) floor covering — Specification

Revêtements de sol résilients — Revêtements de sol amortis à base de poly(chlorure de vinyle) expansé — Spécifications

Reference number
ISO 26986:2010(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 26986 was prepared by Technical Committee ISO/TC 219, *Floor coverings*.

Resilient floor coverings — Expanded (cushioned) poly(vinyl chloride) floor covering — Specification

1 Scope

This International Standard specifies the characteristics of floor coverings based on expanded (cushioned) poly(vinyl chloride), supplied as either tiles or rolls.

This International Standard includes a classification system based on the intensity of use, which shows where resilient floor coverings give satisfactory service.

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.

ISO 105-B02:—[1)], *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test*

ISO/TR 4918, *Textile floor coverings — Determination of wear — Castor chair test*

ISO 10874, *Resilient, textile and laminate floor coverings — Classification*

ISO 23997, *Resilient floor coverings — Determination of mass per unit area*

ISO 23999, *Resilient floor coverings — Determination of dimensional stability and curling after exposure to heat*

ISO 24340, *Resilient floor coverings — Determination of thickness of layers*

ISO 24341, *Resilient and textile floor coverings — Determination of length, width and straightness of sheet*

ISO 24342, *Resilient and textile floor-coverings — Determination of side length, edge straightness and squareness of tiles*

ISO 24343-1, *Resilient and laminate floor coverings — Determination of indentation and residual indentation — Part 1: Residual indentation*

ISO 24343-2, *Resilient and laminate floor coverings — Determination of indentation and residual indentation — Part 2: Resilient floor covering: Short-term residual indentation*

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

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

EN 424, *Resilient floor coverings — Determination of the effect of simulated movement of a furniture leg*

ASTM F1515, *Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change*

1) To be published. (Revision of ISO 105-B02:1994)

3 Terms and definitions

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

3.1
poly(vinyl chloride) floor covering
floor covering with surface layers produced using poly(vinyl chloride) (or modifications thereof) as a binder

3.2
expanded poly(vinyl chloride) floor covering
floor covering with a transparent wear layer over a layer of foamed poly(vinyl chloride) carrying a printed pattern, which can be embossed in register with the printed pattern

4 General requirements

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

Table 1 — General requirements

Characteristic		Requirement	Test method
Roll form:			ISO 24341
length	m	Not less than the nominal values	
width	m		
Tiles:			ISO 24342
side length	mm	Deviation $\leqslant$ 0,13 % of nominal length up to 0,5 mm maximum	
squareness and straightness	mm	Deviation allowed at any point	
for side length			
$\leqslant$ 400 mm		$\leqslant$ 0,25	
> 400 mm		$\leqslant$ 0,35	
> 400 mm (intended for welding)		$\leqslant$ 0,50	
Overall thickness	mm		ISO 24346
average		Nominal value +0,18/–0,15	
individual values		Nominal value ±0,20	
Wear layer thickness			ISO 24340
Average		Nominal value +13%/–10%	
Individual values		Nominal value ±0,05 mm	
Mass per unit area	g/m^2		ISO 23997
Average		Nominal value +13 %/–10 %	
Dimensional stability after exposure to heat	%		ISO 23999
Sheet and tiles (intended for welding)		$\leqslant$ 0,40	
Tiles (intended for dry-joint laying)		$\leqslant$ 0,25	
Curling after exposure to heat	mm		ISO 23999
Sheet and tiles (intended for welding)		$\leqslant$ 8	
Tiles (intended for dry-joint laying)		$\leqslant$ 2	
Colour fastness to artificial light		6 minimum or Maximum average $-\Delta E \leqslant 8$ where E is the irradiance, expressed in watts per square metre	ISO 105-B02:—[1)], Method 3 ASTM F1515

4.1 Classification requirements

The classification scheme for resilient floor coverings is described in ISO 10874. The requirements for expanded poly(vinyl chloride) floor covering in accordance with this scheme are specified in Table 2.

Table 2 — Classification requirements

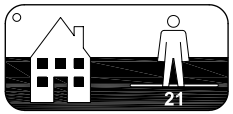
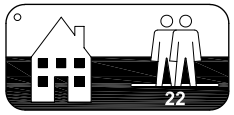
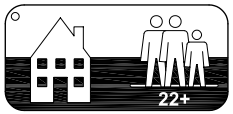
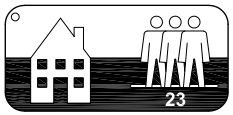
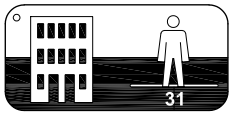
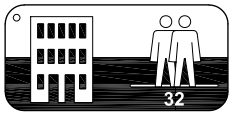
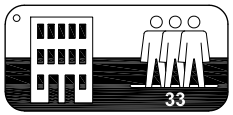
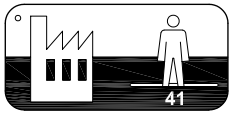
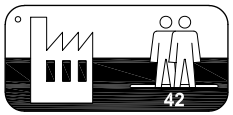
Class	Symbol	Intensity of use	Nominal thickness wear layer mm	Effect of a castor chair	Simulated movement of a furniture leg	Peel strength N/50 mm	Residual indentation after static loading (Method 1) mm	Indentation after 15 s static loading (Method 2) (average) mm	Residual indentation after static loading (Method 2) mm
		Domestic							
21		Moderate/ Light	0,15	No requirement	No requirement	No requirement	No requirement	⩾ 0,40	⩽ 0,35
22		General/ Medium	0,20	No requirement	No requirement	No requirement	No requirement	⩾ 0,40	⩽ 0,35
22+		General	0,20	No requirement	No damage shall be visible with foot 3	No requirement	No requirement	⩾ 0,40	⩽ 0,35
23		Heavy	0,25	No requirement	No damage shall be visible with foot 3	No requirement	No requirement	⩾ 0,40	⩽ 0,35
		Commercial							
31		Moderate	0,25	No requirement	No damage shall be visible with foot 3	No requirement	⩽ 0,35	No requirement	No requirement
32		General	0,35	After 25.000 cycles, no disturbance to the surface other than a slight change in appearance and no delamination shall occur	No damage shall be visible with foot 2	Average ⩾ 50 Individual results ⩾ 40	⩽ 0,20	No requirement	No requirement
33		Heavy	0,50			Average ⩾ 50 Individual results ⩾ 40	⩽ 0,20	No requirement	No requirement

Table 2 (*continued*)

Class	Symbol	Intensity of use	Nominal thickness wear layer mm	Effect of a castor chair	Simulated movement of a furniture leg	Peel strength N/50 mm	Residual indentation after static loading (Method 1) mm	Indentation after 15 s static loading (Method 2) (average) mm	Residual indentation after static loading (Method 2) mm
		Light Industrial							
41		Moderate	0,35	After 25.000 cycles, no disturbance to the surface other than a slight change in appearance and no delamination shall occur	No damage shall be visible with foot 2	Average ⩾ 50 Individual results ⩾ 40	⩽ 0,20	No requirement	No requirement
42		General	0,50			Average ⩾ 50 Individual results ⩾ 40	⩽ 0,20	No requirement	No requirement
Test method			ISO 24340	ISO 4918	EN 424	ISO 24345	ISO 24343-1	ISO 24343-2	ISO 24343-2

5 Marking, labelling and packaging

Expanded poly(vinyl chloride) floor coverings and/or their packaging shall be marked as follows:

a) number and date of this International Standard, i.e. ISO 26986:2010;

b) manufacturer's or supplier's identification;

c) product name;

d) colour/pattern, and batch and roll 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 metres, contained in a package.

Annex A
(informative)

Optional properties

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

— electrical resistance (EN 1081);

— electrostatic propensity/static dissipation (EN 1815);

— effect of stains/resistance to chemicals (ISO 26987);

— reaction to fire; determination of the burning behaviour using a radiant heat source (ISO 9239-1:2010);

— reaction to fire; ignitability when subject to direct impingement of flame (ISO 11925-2:2010);

— reaction to fire (ASTM E648);

— smoke density (ASTM E662);

— mass per unit area of a reinforcement or backing (EN 718).

Bibliography

[1] ISO 9239-1:2010, *Reaction to fire tests for floorings — Part 1: Determination of the burning behaviour using a radiant heat source*

[2] ISO 11925-2:2010, *Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Part 2: Single-flame source test*

[3] ISO 24344, *Resilient floor coverings — Determination of flexibility and deflection*

[4] ISO 26987, *Resilient floor coverings — Determination of staining and resistance to chemicals*

[5] EN 653, *Resilient floor coverings — Expanded (cushioned) polyvinyl chloride floor covering — Specification*

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

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

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

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

[10] ASTM E645, *Standard Test Method for Efficacy of Microbicides Used in Cooling Water Systems*

[11] ASTM E648-9, *Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source*

[12] ASTM E662, *Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials*

[13] ASTM F1303, *Standard Specification for Sheet Vinyl Floor Covering with Backing*

[14] JIS A 5705, *PVC floor covering*

ICS 97.150

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