INTERNATIONAL STANDARD

ISO 10595

First edition
2010-09-15

Resilient floor coverings — Semi-flexible/vinylcomposition (VCT) poly(vinyl chloride) floor tiles — Specification

Revêtements de sol résilients — Carreaux semi-flexibles/vinyle (VCT) en poly(chlorure de vinyle) — Spécifications

Reference number
ISO 10595:2010(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10595 was prepared by Technical Committee ISO/TC 219, *Floor coverings*.

Resilient floor coverings — Semi-flexible/vinylcomposition (VCT) poly(vinyl chloride) floor tiles — Specification

1 Scope

This International Standard specifies the characteristics of semi-flexible/vinyl composition floor tiles based on poly(vinyl chloride) (PVC) binder and supplied in tile form. Products may contain a transparent, non-PVC factory finish.

To encourage the consumer to make an informed choice, this International Standard includes a classification system (see ISO 10874) based on the intensity of use, which shows where these floor coverings 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.

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

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

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

ISO 24343-3, *Resilient and laminate floor coverings — Determination of indentation and residual indentation — Part 3: Resilient semi-flexible/vinyl composition tiles: Indentation*

ISO 24344:2008, *Resilient floor coverings — Determination of flexibility and deflection*

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

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

ASTM F1265, *Standard Test Method for Resistance to Impact for Resilient Floor Tile*

3 Terms and definitions

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

3.1
poly(vinyl chloride) floor coverings
floor covering produced using poly(vinyl chloride) as a binder

3.2
semi-flexible floor tiles
rigid tiles made from poly(vinyl chloride) which can only be deflected under specified conditions

3.3
vinyl composition tile
resilient floor covering composed of a poly(vinyl chloride) binder, filler and pigments

NOTE The binder shall consist of one or more resins of poly(vinyl chloride) and/or copolymers of vinyl chloride compounded with suitable plasticizers and stabilizers. Other suitable polymeric resins may be incorporated as part of the binder.

3.4
solid-colour tile
tile with a uniform single colour throughout its entire thickness

3.5
through-pattern tile
tile where either the pattern and colours on the surface of the tile extend entirely through the thickness of the tile without significant change, or the colours appearing on the surface extend throughout the entire thickness of the tile, although the appearance of the pattern created by these colours will change throughout the thickness

3.6
surface-pattern tile
tile where the decoration or pattern need not extend throughout the entire thickness

NOTE The combination of pattern and wear surface must exceed 0,1 mm or as otherwise specified in Table 3.

3.7
factory finish
transparent coating applied during the manufacture

4 Requirements

4.1 Identification requirements

Floor tiles described in this International Standard shall be non-asbestos formulated and identified by construction as shown in Table 1.

Table 1 — Identification by construction

Type	Construction
I	Solid colour
II	Through pattern
III	Surface pattern

4.2 General requirements

Floor tiles described in this International Standard shall conform to the appropriate general requirements specified in Table 2 when tested in accordance with the methods given therein.

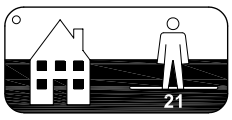
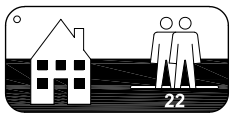
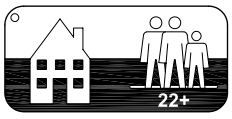
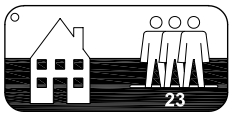
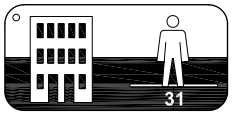
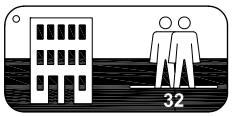
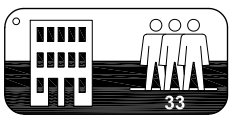
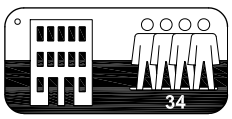
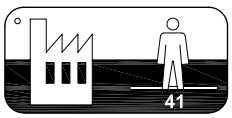
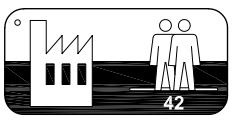
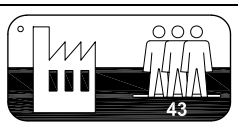
Table 2 — General requirements

Characteristic/Property	Requirement	Test method
Overall thickness mm	Nominal value ±0,13	ISO 24346
Tiles: side length mm squareness and straightness mm for side length ⩽ 305 mm > 305 mm	Deviation ⩽ 0,13 % of nominal length up to 0,4 mm maximum Deviation allowed at any point ⩽ 0,25 ⩽ 0,35	ISO 24342
Dimensional stability after exposure to heat %	⩽ 0,20	ISO 23999
Impact ⩽ 2,5 mm thick 4 drops from 250 mm > 2,5 mm thick 4 drops from 500 mm	No cracks beyond limit	ASTM F1265
Flexibility mm	⩾ 25	ISO 24344:2008, Method B
Indentation resistance mm Indentation, I_R at 25 °C ± 0,25 °C	0,15 < I_R ⩽ 0,40	ISO 24343-3

5 Classification

The classification scheme for resilient floor coverings is described in ISO 10874. The requirements for use of semi-flexible/vinyl composition poly(vinyl chloride) floor tile in accordance with this scheme are specified in Table 3.

Table 3 — Classification requirement for level of use

Class	Symbol	Intensity of use	Overall thickness Minimum nominal value, mm	Thickness of wear layer Minimum nominal value, mm
			All types	**Applies to Type III only**
		Domestic		
21		Moderate/Light	1,5	0,1
22		General/Medium	2,0	0,1
22+		General	2,0	0,1
23		Heavy	2,0	0,25
		Commercial		
31		Moderate	2,0	0,25
32		General	2,5	0,5
33		Heavy	3,0	0,5
34		Very heavy	3,0	0,5
		Light industrial		
41		Moderate	3,0	0,5
42		General	3,0	Not available
43		Heavy	3,0	Not available
Test method			ISO 24346	ISO 24340

6 Marking

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

a) number and date of this International Standard, i.e. ISO 10595:2010;

b) manufacturer's or supplier's identification;

c) product name;

d) colour/pattern and batch number;

e) classes/symbols appropriate for the product;

f) the dimensions of a tile and the area, in square metres, contained in the 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 (ASTM F150, EN 1081, ANSI/ESD S7.1, ANSI/ESD STM 97.1);

— electrical propensity (EN 1815, ANSI/ESD STM 97.2);

— effects of stains (ASTM F925, EN 423, ISO 26987:2008);

— reaction to fire; determination of the burning behaviour using a radiant heat source (ISO 9239-1:2010, ASTM E648);

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

— reaction to fire, specific optical density of smoke generated (ASTM E662);

— resistance to heat (ASTM F1514);

— resistance to light (ASTM F1515, ISO 105-BO2:1994, Method 3).

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 105-BO2:1994, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test* (including Amendment 1:1998)

[4] ISO 26987:2008, *Resilient floor coverings — Determination of staining and resistance to chemicals*

[5] ANSI/ESD S7.1, *Resistive Characterization of Materials — Floor Materials*

[6] ANSI/ESD STM 97.1, *Floor Materials and Footwear — Resistance Measurement in Combination with a Person*

[7] ANSI/ESD STM 97.2, *Floor Materials and Footwear — Voltage Measurement in Combination with a Person*

[8] ASTM F150, *Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring*

[9] ASTM F925, *Standard Test Method for Resistance to Chemicals of Resilient Flooring*

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

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

[12] ASTM F1066, *Standard Specification for Vinyl Composition Floor Tile*

[13] ASTM F1514, *Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color Change*

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

[15] ASTM F1914, *Standard Test Methods for Short-Term Indentation and Residual Indentation of Resilient Floor Covering*

[16] EN 423, *Resilient floor coverings — Determination of the effect of stains*

[17] EN 654, *Resilient floor coverings — Semi-flexible polyvinyl chloride tiles — Specification*

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

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

[20] JIS A 1454, *Test Methods — Resilient Floorcoverings*

[21] JIS A 5705, *Floorcovering — PVC*

ICS 97.150

Price based on 7 pages