

BS EN 12199:2010



BSI Standards Publication

Resilient floor coverings — Specifications for homogeneous and heterogeneous relief rubber floor coverings

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National foreword

This British Standard is the UK implementation of EN 12199:2010. It supersedes BS EN 12199:1998 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/3/60, Textile & Resilient Floor Coverings.

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

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Resilient floor coverings - Specifications for homogeneous and heterogeneous relief rubber floor coverings

Revêtements de sol résilients - Spécifications des revêtements de sol homogènes et hétérogènes en caoutchouc à relief

Elastische Bodenbeläge - Spezifikationen für homogene und heterogene profilierte Elastomer-Bodenbeläge

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Foreword

This document (EN 12199:2010) 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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

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1 Scope

This European Standard specifies the characteristics of homogeneous and heterogeneous relief or studded rubber floor coverings, supplied in either tile or roll form.

This European Standard includes a classification system based on intensity of use, which shows where these resilient floor coverings should give satisfactory service (see EN 685). 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 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 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 685, *Resilient, textile and laminate floor coverings – Classification*

EN 12466:1998, *Resilient floor coverings – Vocabulary*

EN ISO 105-B02:1999, *Textiles – Tests for colour fastness – Part B02: Colour fastness to artificial light (Xenon arc fading lamp test) (ISO 105-BO2:1994, including amendment 1:1998)*

ISO 34-1:2004, *Rubber, vulcanized or thermoplastic – Determination of tear strength – Part 1: Trouser, angle and crescent test pieces*

ISO 4649:2002, *Rubber, vulcanized or thermoplastic – Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 7619:2004 (all parts), *Rubber, vulcanized or thermoplastic – Determination of indentation hardness*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12466:1998 and the following apply.

3.1

homogeneous rubber floor covering

floor covering based on natural or synthetic rubber with one or more layers of the same composition and colour, patterned throughout its thickness

3.2

heterogeneous rubber floor covering

floor covering based on natural or synthetic rubber consisting of a wear layer and other compact layers which differ in composition and/or design and can contain a reinforcement

4 General requirements

All homogeneous and heterogeneous relief rubber floor coverings shall conform to the appropriate general requirements specified in Table 1, when tested in accordance with the test methods given therein.

Table 1 — General requirements

Property	Requirements	Test method
Thickness	see Table 2	EN 428
Roll form: length width	not less than the stated nominal values	EN 426
Tiles: side length squareness and straightness for side length ≤ 610 mm > 610 mm	tolerance ± 0,15 % of nominal length tolerance allowed: ± 0,25 mm ± 0,35 mm	EN 427
Dimensional stability	tolerance allowed ± 0,4 %	EN 434
Tear strength	average value ≥ 20 N/mm	ISO 34-1:2004 Method B Procedure A
Flexibility diameter of mandrel 20 mm:	no cracking	EN 435 Method A
Hardness	≥ 70 Shore A	ISO 7619:2004
Residual indentation: (after static loading): nominal thickness: < 3,0 mm ≥ 3,0 mm	average value ≤ 0,20 mm average value ≤ 0,25 mm	EN 433
Abrasion resistance	≤ 250 mm ³	ISO 4649:2002 Method A, vertical load (5 ± 0,1) N
Colour fastness to artificial light ^a	6 minimum on blue wool scale, ≥ 3 on grey scale	EN ISO 105-B02:1999 Method 3

^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.

5 Classification requirements

Homogeneous and heterogeneous relief rubber floor coverings shall be classified in accordance with the requirements for overall thickness and the wear layer thickness specified in Table 2, when tested in accordance with the test methods given therein.

Table 2 — Classification requirements

Class (see EN 685)	Level of use	Minimum overall thickness^a (homogeneous and heterogeneous) mm	Minimum thickness of wear layer^b (heterogeneous) mm
21	domestic moderate	2,5	1,0
22	domestic general/medium	2,5	1,0
22+	domestic general	2,5	1,0
23	domestic heavy	2,5	1,0
31	commercial moderate	2,5	1,0
32	commercial general	2,5	1,0
33	commercial heavy	3,5	1,0
34	commercial very heavy	3,5	1,0
41	light industrial moderate	2,5	1,0
42	light industrial general	3,5	1,0
43	light industrial heavy	3,5	1,0
Test method		EN 428	EN 429
<p>^a The average overall thickness shall have a tolerance of $\pm 0,20$ mm and no individual result shall exceed 0,25 mm from the nominal.</p> <p>^b The average thickness of the wear layer shall have a tolerance of $\pm 0,15$ mm and no individual result shall exceed 0,20 mm from the nominal.</p>			

6 Marking

The floor coverings described in this standard and/or their packaging shall bear the following marking:

- a) a reference to this European Standard, i.e. EN 12199:2010;
- b) the manufacturer's or supplier's identification;
- c) the product name;
- d) the colour/pattern, and batch and roll number if applicable;
- e) the class/symbol, as specified in EN 685;
- f) the dimensions for tiles;
- g) the covered area for rolls.

Annex A (informative)

Optional properties

The following properties are considered important for some specific uses:

- electrical resistance (EN 1081);
- electrostatic propensity (EN 1815);
- effect of stains (EN 423);
- effect of castor chair (EN 425);
- effect of simulated movement of a furniture leg (EN 424);
- cigarette resistance (see EN 1399).

In general use, a rubber floor covering, depending on the colour and/or pattern, is expected to have the following rating when tested in accordance with EN 1399:

Method A, stubbed cigarettes; rating 4 or higher

Method B, burning cigarettes; rating 3 or higher

Bibliography

- [1] EN 423, *Resilient floor coverings – Determination of the resistance to staining*
- [2] EN 424, *Resilient floor coverings – Determination of the effect of simulated movement of a furniture leg*
- [3] EN 425, *Resilient and laminate floor coverings – Castor chair test*
- [4] EN 1081, *Resilient floor coverings – Determination of the electrical resistance*
- [5] EN 1815, *Resilient and textile floor coverings – Determination of static electrical propensity*
- [6] EN 1399, *Resilient floor coverings – Determination of resistance to stubbed and burning cigarettes*

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