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SIST EN 12199:1999

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EUROPEAN STANDARD

EN 12199

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 97.150

Descriptors: floor coverings, rubber coatings, floor slabs, definitions, classifications, characteristics, tests, marking

English version

## 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 - Spezifikation für homogene und heterogene profilierte Elastomer-Bodenbeläge

This European Standard was approved by CEN on 13 February 1998.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 134 "Resilient and textile 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of an identical text or by endorsement, at the latest by September 1998, and conflicting national standards shall be withdrawn at the latest by September 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Annex A and Annex B are informative.

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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

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to 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 floor coverings - Classification
EN 1399	Resilient floor coverings - Determination of resistance to stubbed and burning cigarettes
EN 12466	Resilient floor coverings - Vocabulary
ISO 34-1:1994	Rubber, vulcanized or thermoplastic - Determination of tear strength - Part 1: Trouser, angle and crescent test pieces
EN 20105-B02:1992	Textiles - Tests for colour fastness - Part B02: Colour fastness to artificial light (Xenon arc fading lamp test) (ISO 105-BO2:1998)
ISO 4649:1985	Rubber - Determination of abrasion resistance using a rotating cylindrical drum device
ISO 7619:1986	Rubber - Determination of indentation hardness by means of pocket hardness meters

## 3 Definitions

For the purposes of this European Standard, the following definitions and the definitions given in EN 12466 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 34-1:1994 Method B Procedure A
Cigarette heat resistance: stubbed burning	Method A ≥ rating 4 Method B ≥ rating 3	EN 1399
Flexibility: diameter of mandrel 20 mm	no cracking	EN 435 Method A
Hardness	≥ 75 Shore A	ISO 7619:1986
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 <sup>3</sup>	ISO 4649:1985 Method A vertical load (5 ± 0,1) N
Colour fastness to artificial light <sup>1)</sup>	6 minimum on blue wool scale ≥ 3 grey scale	7.2.3 of EN 20105-B02:1992: Method 3 test conditions 6.1 a) Normal conditions for use in Europe
<sup>1)</sup> 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 <sup>1)</sup> (homogeneous and heterogeneous) mm	Minimum thickness of wear layer <sup>2)</sup> (heterogeneous) mm
21	domestic moderate	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
<sup>1)</sup> 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. <sup>2)</sup> 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.			

## 6 Marking

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

- reference to this European Standard, i.e. EN 12199:1998;
- manufacturer's or supplier's identification;
- product name;
- colour/pattern, and batch and roll number if applicable;
- class/symbol, as specified in EN 685;
- dimensions for tiles;
- 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).

## Annex B (informative)

### Bibliography

EN 423	Resilient floor coverings - Determination of the effect of stains
EN 424	Resilient floor coverings - Determination of the effect of a simulated movement of a furniture leg
EN 425	Resilient floor coverings - Determination of the effect of a castor chair
EN 1081	Resilient floor coverings - Determination of the electrical resistance
EN 1815	Resilient floor coverings - Determination of static electrical propensity

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