



SLOVENSKI STANDARD

SIST EN 654:2011

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Netekstilne talne obloge - Delno upogibljive polivinilkloridne plošče - Specifikacija

Resilient floor coverings - Semi-flexible polyvinyl chloride tiles - Specification

Elastische Bodenbeläge - Polyvinylchlorid-Flex-Platten - Spezifikation

Revêtements de sol résilients - Dalles semi-flexibles à base de polychlorure de vinyle - Spécifications

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ICS:

97.150

Netekstilne talne obloge

Non-textile floor coverings

SIST EN 654:2011

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EUROPEAN STANDARD

EN 654

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 654:1996

English Version

**Resilient floor coverings - Semi-flexible polyvinyl chloride tiles -
Specification**Revêtements de sol résilients - Dalles semi-flexibles à base
de polychlorure de vinyle - SpécificationsElastische Bodenbeläge - Polyvinylchlorid-Flex-Platten -
Spezifikation

This European Standard was approved by CEN on 10 March 2011.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG**Management Centre: Avenue Marnix 17, B-1000 Brussels**

| Contents | | Page |
|--------------------------------------------------------------|------------------------------------------------------------------------|-----------|
| Foreword..... | | 3 |
| 1 | Scope | 4 |
| 2 | Normative references | 4 |
| 3 | Terms and definitions | 4 |
| 4 | Requirements | 5 |
| 4.1 | General requirements..... | 5 |
| 4.2 | Classification requirements — Level of use classification | 5 |
| 4.3 | Homogeneous products and wear layers | 5 |
| 5 | Marking | 8 |
| Annex A (informative) Optional properties | | 9 |
| Annex B (informative) Additional methods of test..... | | 10 |
| Bibliography | | 11 |

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Foreword

This document (EN 654:2011) 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 October 2011, and conflicting national standards shall be withdrawn at the latest by October 2011.

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

This document supersedes EN 654:1996.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 654:2011 (E)**1 Scope**

This European Standard specifies the characteristics of semi-flexible tiles based on polyvinyl chloride and modifications thereof.

To encourage the consumer to make an informed choice, this European 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 425, *Resilient and laminate floor coverings — Castor chair test*

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

EN 435, *Resilient floor coverings — Determination of flexibility*

EN 436, *Resilient floor coverings — Determination of density*

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

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

EN 663, *Resilient floor coverings — Determination of conventional pattern depth*

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 semi-flexible polyvinyl chloride floor covering
rigid tiles made from polyvinyl chloride (and modifications thereof) which can only be deflected under specified conditions

4 Requirements

4.1 General requirements

Floor coverings described in this European 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 — Level of use classification

Floor coverings described in this European Standard shall be classified as suitable for different levels of use in accordance with the performance requirements specified in Table 2 when tested with the methods given therein. Classification shall conform to the scheme specified in EN 685.

4.3 Homogeneous products and wear layers

A homogeneous product shall retain its wear group classification throughout the thickness of the product if tested.

A wear layer shall retain its wear group classification throughout its thickness if tested.

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EN 654:2011 (E)

Table 1 — General requirements

| Characteristic | | Requirement | Test method |
|------------------------------------------------------------|-------------------|----------------------------------------------------------------------------|-----------------------------------------|
| Side length of tiles | mm | Deviation $\leq 0,13\%$ of nominal length up to 0,5 mm maximum | EN 427 |
| squareness and straightness for side length: | mm | Deviation allowed at any point | |
| ≤ 400 mm | | $\leq 0,25$ | |
| > 400 mm | | $\leq 0,35$ | |
| Overall thickness: | mm | | EN 428 |
| average | | Nominal value + 0,13 - 0,10 | |
| individual results | | Average value $\pm 0,15$ | |
| Total mass per unit area (average) | g/m ² | Nominal value + 13% - 10% | EN 430 |
| Density (average) | kg/m ³ | Nominal value $\pm 0,75$ | EN 436 |
| Products with nominal density ≥ 230 kg/m ³ | | Nominal value $\pm 0,100$ | |
| Dimensional stability after exposure to heat: | % | $\leq 0,25$ | EN 434 |
| Curling on exposure to moisture | mm | $\leq 0,75$ | EN 662 |
| Flexibility | | Shall show no signs of cracking when deflected to a minimum of 15 mm | EN 435 Method B |
| Colour fastness to artificial light | | 6 minimum | EN ISO 105-B02 Method 3 ¹ |











¹ 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 F_v mm ³ | $F_v \leq 2,0^1$ | $2,0 < F_v \leq 4,0$ | $4,0 < F_v \leq 7,5$ | $7,5 < F_v \leq 15,0$ | EN 660-2 |

¹ If tested for verification

Table 3 — Classification requirements for level of use

| Class | Symbol | Level of use | Overall thickness | | Effect of a castor chair* |
|------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | Nominal value ¹ , mm | | |
| | | | Smooth tiles | Special products ² | |
| 21 ³ |  | domestic moderate | Without relief 1,6 | Without relief 1,6 | No requirement |
| 22 ³ |  | domestic general | With relief 2,0 | With relief 2,0 | |
| 22+ ³ |  | domestic general | | | |
| 23 ³ |  | domestic heavy | 2,0 | 2,0 | When tested for verification, no disturbance to the surface other than slight change in appearance and no delamination shall occur |
| 31 ³ |  | commercial moderate | | | |
| 32 |  | commercial general | 2,5 | 2,0 | |
| 41 |  | light industrial moderate | | | |
| 33 |  | commercial heavy | 2,5 | 2,0 | |
| 42 |  | light industrial general | | | |
| 34 |  | commercial very heavy | 3,2 | 2,5 | |