



# SLOVENSKI STANDARD

## SIST EN 663:1999

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### Netekstilne talne obloge - Ugotavljanje dogovorjene globine dekorja

Resilient floor coverings - Determination of conventional pattern depth

Elastische Bodenbeläge - Bestimmung der Dekortiefe

Revetements de sol résilients - Détermination de la profondeur conventionnelle du décor

Ta slovenski standard je istoveten z: EN 663:1994

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#### **ICS:**

97.150      Netekstilne talne obloge      Non-textile floor coverings

**SIST EN 663:1999**

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EUROPEAN STANDARD

EN 663

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 1994

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English version

## Resilient floor coverings - Determination of conventional pattern depth

Revêtements de sol résilients - Détermination de la profondeur conventionnelle du décor  
Elastische Bodenbeläge - Bestimmung der Dekortiefe

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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.

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# CEN

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 was prepared by the 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of an identical text or by endorsement, at the latest by May 1995, and conflicting national standards shall be withdrawn at the latest by May 1995.

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

## 1 Scope

This European Standard specifies three methods for determining conventional pattern depth by change in appearance of the characteristics of the pattern of resilient floor coverings which are grouped as follows:

**Group 1.** Patterns where the different bands (in colour and/or relief) are distributed in a uniform manner, where the ratio of pattern to background in small areas of  $0,01 \text{ m}^2$  to  $0,02 \text{ m}^2$  is not more than 1 : 4;

**Group 2.** Patterns where this ratio varies considerably, where some areas of  $0,01 \text{ m}^2$  to  $0,02 \text{ m}^2$  may contain only one part of the pattern.

## 2 Principle

The change in appearance resulting from abrasion of a known depth is assessed by at least one of the following observation methods:

**2.1 Method A.** The areas of pattern and background in the test area are measured before and after abrasion, using a transparent grid (with squares  $\leq 3 \text{ mm}$ ) or a magnifying glass with a flat face marked with such a grid.

**2.2 Method B.** The areas where the pattern has disappeared completely after testing are detected by means of contour reference lines of a specific unit of area.

**2.3 Method C.** The worn area and the overall decorative pattern are simultaneously observed from eye level.

### 3 General

Method A, which is suitable for a large number of pattern types, should be used on a 'heavy' pattern area i.e. a high value for the pattern : background ratio. It may need to be supplemented by Method C.

Method B is especially suitable for Group 1 patterns where the pattern : background ratio is at least 0,15 and does not vary by more than approximately 1 : 2 on new material. Additional observations by means of Method C may also be required.

Method C, which is suitable for all pattern types, should be used (either on its own or as a supplement to A or B) when the decorative pattern includes one or more elements with relatively small surface areas but which are highly 'visible' and for which selective fading would produce an imbalance in the visual effect of the new material.

### 4 Apparatus

4.1 A machine tool e.g. grinder, milling machine, capable of machining an area of 25 000 mm<sup>2</sup> to within 0,01 mm.

4.2 A device for measuring reduction in thickness on the test piece itself, independently of the vertical pointer on the machine.

4.3 A series of geometric figures of approximately 2500 mm<sup>2</sup>, drawn on transparent film, e.g. a 50 mm square, a 71 mm right angled triangle, a 76 mm equilateral triangle, a 56 mm diameter circle, a hexagon with a 31 mm edge, a rectangle 62 mm x 40 mm, a rhombus 90 mm x 56 mm, an ellipse 70 mm x 46 mm.

4.4 A grid marked out on transparent film or on a flat-faced magnifying glass. Dimensions of square  $\leq$  3 mm; mean thickness of lines  $\leq$  0,15 mm.

### 5 Sampling and preparation of test pieces

Take a representative sample from the available material.

Take two test pieces, sufficiently large to permit the area defined in 4.1 to be machined.

In the case of materials with backing, first level the back of the test pieces by removing the backing (chemically or by stripping) and by rubbing down or machining the back of the upper solid layers in such a way as to give a thickness uniform to  $\pm$  0,02 mm. Stick the test piece down with double-sided tape on to a metal base, straighten to within 0,01 mm and subject it to a pressure of 10 kPa (approximately 25 kg weight) for 24 h.

## 6 Conditioning

Condition the test pieces at a temperature of  $(23 \pm 2)$  °C and relative humidity  $(50 \pm 5)$  % rh for a minimum of 24 h.

Maintain these conditions when carrying out the test.

## 7 Procedure

Measure the initial thickness of the test piece or the depth of cutting in at least eight places. Fit the test piece on to the bed of the machine tool and progressively and uniformly abrade the test area of the test piece to give a reduction in thickness of the order specified in the product standard. Measure the reduction in thickness or the depth of cutting. If it is more than 10 % below the specified value, continue machining until the value is reached and remeasure the cutting depth. Apply a wax emulsion to the worn surface and then polish it.

## 8 Examination

8.1 Method A. Examine the same decorative pattern, both on the worn test piece and on new material, and count the following separately:

a) the 'x' squares, i.e. those where the total area is covered by the pattern (or relief);

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b) the 'y' squares, i.e. those which are partially covered, whatever the size of the square may be;

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c) the 'z' squares, i.e. those on which only the background (or the smooth part of the surface) is visible.

8.2 Method B. Place the transparent film on the test piece and look for an area where only one colour is visible (not including the coloured areas forming part of the 'background') or which is completely smooth, into which at least one of the shapes on the film can be fitted.

8.3 Method C. Place the test piece on the floor near a door, next to an unworn test piece measuring approximately 1 m<sup>2</sup>. Adjust the test piece to coincide with the same section of the decorative pattern of the unworn test piece. Assess whether, when the room is entered, the difference in appearance seems to be 'not very noticeable', 'noticeable' or 'very noticeable attracts immediate attention'.

## 9 Calculation and expression of results

9.1 Method A. Calculate the pattern : background ratio as a percentage from the following formula:

$$\text{Pattern background} = \frac{100 (2x + y)}{(y + 2z)}$$

where

x, y and z are as described in 8.1.

If the difference in the pattern : background ratio, before and after testing is  $\leq 40\%$  and, if, at the same time, the ratio after testing is at least half the ratio before testing, express the result as 'not very noticeable'.

9.2 Method B. If the test does not produce an area which is one colour all over (or smooth in the case of embossed patterns, totally covering one of the reference shapes described in 4.3, express the result as 'not very noticeable'.

9.3 Method C. Express the change as 'not very noticeable', or 'noticeable', or 'very noticeable, attracts immediate attention'.

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### 10 Test report

The test report shall contain the following information:

- a) a reference to this standard and the method used i.e EN 663 : Method A or B or C;  
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- b) a complete identification of the product tested, including type, source and manufacturer's reference numbers;
- c) the previous history of the sample;
- d) the depth of abrasion;
- e) the assessment of change in appearance;
- f) any deviation from this standard which may have affected the results.