

SLOVENSKI STANDARD oSIST prEN 17368:2019

01-marec-2019

Laminatne talne obloge - Ugotavljanje odpornosti proti udarcem z majhno kroglo

Laminate floor coverings - Determination of impact resistance with small ball

Laminatfußböden - Beständigkeit gegen Stossbeanspruchung mit Kleine Kugel

Revêtements de sol tratifié - Détermination de resistance à l'impact à la petite bille

Ta slovenski standard je istoveten z: prEN 17368

https://standards.iteh.ai/catalog/standards/sist/b9f3bb38-7037-44e9-8219-

814f63f373e1/sist-en-17368-202

<u>ICS:</u>

97.150 Talne obloge

Floor coverings

oSIST prEN 17368:2019

en



iTeh STANDARD PREVIEW (standards.iteh.ai)



EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

DRAFT prEN 17368

ICS 97.150

March 2019

English Version

Laminate floor coverings - Determination of impact resistance with small ball

Élément introductif - Élément central - Élément complémentaire

Laminatfußboden - Bestimmung der Stoßfestigkeit mit kleiner Kugel

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 134.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. prEN 17368:2019 E

oSIST prEN 17368:2019

prEN 17368:2019 (E)

Contents

European foreword		
1	Scope	4
2	Normative references	4
3	Terms and definitions	4
4	Principle	4
5	Apparatus	4
6	Preparing of test specimen and Conditioning	6
7	Test procedure	6
8	Calculation and expression of results	7
9	Test report	8
10	Precision	8

iTeh STANDARD PREVIEW (standards.iteh.ai)

European foreword

This document (prEN 17368:2019) has been prepared by Technical Committee CEN/TC 134 "Resilient, textile and laminate floor coverings", the secretariat of which is held by NBN.

This document is currently submitted to the CEN Enquiry.

iTeh STANDARD PREVIEW (standards.iteh.ai)

prEN 17368:2019 (E)

1 Scope

This document specifies a method of assessment of surface resistance to impact with a small ball tester and relates to the surfaces of laminate floor coverings according to EN 13329, EN 14978 or EN 15468. The test is generally carried out on parts of the laminate floor panels with suitable sizes.

Normative references 2

There are no normative references in this document.

3 **Terms and definitions**

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp •

3.1

test panel

laminate panel which is to be tested

3.2 test specimen

part of the test panel used for testing tandards. Iteh. all

3.3

test field the part of test surface affected by the impact stress and evaluated 3bb38-7037-44e9-8219-

Principle 4

The surfaces are tested by application of impacts by means of a defined dropping weight, which has a spherical impact head with a diameter of 10 mm. The points of impacts are visually examined for damage. The test intensity is raised by gradually changing the falling height of the impact head until at least 1 of 5 impacts at the same falling height leads to a surface damage. The impact resistance is the highest falling height without damages.

5 **Apparatus**

5.1 Test apparatus

Test apparatus with the following characteristics and parameters (Figure 1: Example of a suitable version of the test apparatus):

5.1.1 Cylindrical impactor, with φ : (25 ± 1) mm with spherical impact head with (10 ± 0,5) mm diameter of sphere, which is mounted to a dropping weight,

5.1.2 Mass of impactor, including impact head: (100 ± 1) g

5.1.3 Guiding tube, to guide the dropping weight. The tube has a height scale to determine the dropping height and is mounted to the steel base with three feet (\emptyset (20 mm ± 1 mm), thickness

 $(3,0 \text{ mm} \pm 0,1 \text{ mm} - \text{see Figure 2}))$. The total weight of the guiding tube is (3450 ± 50) g, with a marking hole to mark the dropping spot

5.1.4 Adjustable ring, which is guided outside the tube, and which can be fixed by a knurled screw, works as stop for the plug on the side of the dropping weight to adjust the dropping height.



A marking hole

Figure 2 — Steel base with a marking hole

5.2 **Climatic chamber**

Climate chamber or an air-conditioned room, normally conditioned at (23 ± 2) °C and at relative humidity of (50 ± 5) %.

5.3 Steel plate

With minimum dimensions of 300 mm length x 300 mm width x 10 mm thickness.

5.4 Water soluble crayon or waterborne colouring matter

To make cracks on the test area visible.

5.5 Diffuse light source

A light source, providing evenly diffused light, giving an illumination on the test surface of (1200 ± 400) lx. This may either be diffused daylight or diffused artificial daylight.

6 Preparing of test specimen and Conditioning

Prepare for each test at least 5 test specimen cut from 5 test panels of at least 260 mm (length) x minimum 160 mm (panel width) x thickness. In case of smaller panels install a test sample with at least the named dimensions from two parts with a joint in the middle.

Conditioning of test specimen shall begin at least 72 h (before testing and shall be carried out in air at a temperature of (23 ± 2) °C and relative humidity of (50 ± 5) % in a test chamber (5.2.)

7 Test procedure

7.1 General iTeh STANDARD PREVIEW

The test shall be performed immediately after conditioning under laboratory conditions.

It is recommended to perform the testing at standard climatic conditions of (23 ± 2) °C and at relative humidity of (50 ± 5) %.

7.2 Testing https://standards.iteb.ai/stalog/standards/sist/b9f3bb38_7037_4

Put the test specimen with the decor side on top on the steel plate (5.3). Take the test apparatus (5.1) and put it on the test sample.

For the first test specimen, fix the adjustable ring with its upper edge at a falling height of 70 mm and lift the handle of the impactor to the ring. Make five impacts on the sample across to the decor direction or haptic structure. The distance between points of impact shall be at least 20 mm and to the edge or the joint of the test sample at least 30 mm.

At all impacts, the three feet of the steel base (Figure 2) shall be placed on the test sample.

Use a crayon or colouring matter (5.4) to make possible cracks on the test field visible, remove the residues and examine the 5 test fields on the test sample under the diffuse day light source (5.5) without any additional magnification. The visual assessment shall be carried out with a viewing distance of (500 ± 200) mm with different viewings angles by use of diffuse light source (5.5). The time for the assessment shall be \leq 30 s after marking for all 5 test fields. The test specimen fails for this falling height if at least one crack is detected.

In case of passing at the tested height, carry out the next test after moving the specimen 20 mm further (the new line of impacts shall be parallel to the previous one, see Figure 3) with a falling height of 120 mm and repeat the procedure with the 5 impacts per falling height. Depending on the result (pass or fail), go up or down in 10 mm steps until 5 of 5 impacts are without damage.

In case of fail at 70 mm with the first impact, go down in 10 mm steps of falling height and repeat the procedure until 5 of 5 impacts are without damage.

Repeat the test with the other 4 test specimens. The beginning of the test shall be with the determined falling height of the previous test specimen with no damages and shall be continued with increasing or decreasing falling height in 10 mm steps.

Dimensions in millimetres



8 Calculation and expression of results

The impact resistance of the test specimen is the highest value of the falling height [mm] without any damage at none of the 5 impacts. Cracks and delaminations are to be considered as damages but not the dents. Calculate the mean value of the determined impact resistance of the 5 test specimens and round it to the nearest 5 mm.

prEN 17368:2019 (E)

9 Test report

The test report shall contain the following information:

- a) reference to this document;
- b) the test temperature or temperatures;
- c) conditioning time;
- d) the single values of the impact resistance of each test specimen;
- e) the average value of impact resistance (mm);
- f) any deviations from this document;
- g) name and address of the test facility;
- h) date of the test.

10 Precision

In a Round Robin Test carried out on 5 different laminate floor coverings by 5 test laboratories, an average of 20 % of mean coefficient variation related to the average value was detected.

(standards.iteh.ai)