



SLOVENSKI STANDARD
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Tekstilne talne obloge - Razvrščanje podlog za preproge

Textile floor coverings - Classification of carpet underlays

Textile Bodenbeläge - Klassifizierung von Teppichunterlagen

Revêtements de sol textiles - Classification des thibaudes de moquette

Ta slovenski standard je istoveten z: **prEN 14499**

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ICS:

97.150

Talne obloge / Floor coverings

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 14499

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Will supersede EN 14499:2015

English Version

Textile floor coverings - Classification of carpet underlays

Revêtements de sol textiles - Classification des
thibaudes de moquette

Textile Bodenbeläge - Klassifizierung von
Teppichunterlagen

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.

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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.

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

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

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European foreword

This document (prEN 14499:2022) has been prepared by Technical Committee CEN/TC 134 “Resilient, textile, laminate and modular mechanical locked floor coverings”, the secretariat of which is held by NBN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 14499:2015.

In comparison with the previous edition, the following technical modifications have been made:

- Changes to the title;
- Changes to the scope.

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1 Scope

This document specifies minimum performance requirements for fibrous, non-fibrous and combined underlays, together with their classification for five categories of intended use/application.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 ISO 9405, *Textile floor coverings — Assessment of changes in appearance (ISO 9405)*

EN ISO 13934-1, *Textiles — Tensile properties of fabrics — Part 1: Determination of maximum force and elongation at maximum force using the strip method (ISO 13934-1)*

ISO 1765, *Machine-made textile floor coverings — Determination of thickness*

ISO 1957, *Machine-made textile floor coverings — Selection and cutting of specimens for physical tests*

ISO 2094, *Textile floor coverings — Determination of thickness loss under dynamic loading*

ISO 3415, *Textile floor coverings — Determination of thickness loss after brief, moderate static loading*

ISO 3416, *Textile floor coverings — Determination of thickness loss after prolonged, heavy static loading*

ISO 10361, *Textile floor coverings — Production of changes in appearance by means of Vettermann drum and hexapod tumbler tester*

BS 4098, *Method for the determination of thickness, compression and recovery characteristics of textile floor coverings*

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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 <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

needlefelt fibrous underlay

material made wholly of fibres entangled or matted together by needling of a fibre batt

3.2

impregnated fibrous underlay

material made of fibres consolidated by impregnation with a binding agent

Note 1 to entry: A woven, nonwoven or film scrim may be included in a fibrous underlay for support during manufacture.

3.3**cellular rubber underlay**

material formed of a vulcanized rubber foam, with or without a carrier or backing material bonded thereto

3.4**cellular plastics underlay**

material formed of a polymeric foam, e.g. polyurethane, with or without a carrier or backing material bonded thereto

3.5**rubber crumb underlay**

material formed of crumb vulcanized rubber with or without a carrier or backing material bonded thereto

3.6**combined underlay**

material composed of one or more layers of any fibrous underlay combined with one or more layers of any non-fibrous (rubber or plastics) underlay

3.7**initial thickness**

thickness measured under a pressure of 2 kPa

3.8**compression**

change in thickness of the underlay when the pressure is increased from 2 kPa to 100 kPa (see Annex B)

4 Sampling

Sampling shall be carried out in accordance with ISO 1957. A full-width sample 1 m in length in the machine production direction shall be taken. For non-fibrous underlays, a minimum period of 3 days shall be allowed between manufacture and testing.

5 Performance

All underlays shall conform to the minimum performance requirements specified in Table 1.

Table 1 — Minimum requirements

Characteristic	Requirement	Test method
Breaking Strength (maximum force)	≥ 30 N in each direction	EN ISO 13934-1 ^a
Elongation	≤ 15% for applied force of 30 N	EN ISO 13934-1
Thickness loss of static loading long term after 24 h recovery		
Fibrous underlay	≤ 40 %	ISO 3416
Non-fibrous underlay	≤ 15 %	
Combined underlay	≤ 40 %	

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Characteristic	Requirement	Test method
Thickness loss of static loading short term after 1 h recovery Fibrous underlay Non-fibrous underlay Combined underlay	$\leq 40\%$ $\leq 15\%$ $\leq 40\%$	ISO 3415
Thickness loss of dynamic loading Fibrous underlay Non-fibrous underlay Combined underlay	$\leq 40\%$ $\leq 15\%$ $\leq 20\%$	ISO 2094
Thickness	$\geq 4,0$ mm	ISO 1765 ^b
Thickness deviation a) mean from nominal Fibrous or combined underlay Non-fibrous underlay b) from max to min Fibrous or combined underlay Non-fibrous Underlay	$\leq 15\%$ $\leq 12\%$ ≤ 4 mm ≤ 3 mm	ISO 1765
Resistance to breaking or cracking	No cracks greater than 50 mm along the fold No cracks in backing	Annex A
Compression after dynamic loading Work of compression after dynamic loading Retention of original work of compression	Minimum 2 mm, maximum 8 mm Minimum 50 J/m ² , maximum 200 J/m ² $\geq 40\%$	ISO 2094 ^c and BS 4098
Appearance/use	No negative effect ^d	ISO 10361
<p>^a The requirement in EN ISO 13934-1 to include at least 20 threads in the test specimen need not be met.</p> <p>^b Thickness is measured in accordance with ISO 1765 at 10 equally spaced intervals across the full width of the underlay, using a presser foot area between 700 mm² and 1 000 mm².</p> <p>^c Compression and work of compression are determined in accordance with Annex B.</p> <p>^d A carpet is tested, with and without the underlay in a Vettermann Drum for 20 000 cycles (or Hexapod Tumbler Tester for 12 000 cycles) according to ISO 10361 and subsequently assessed according to EN ISO 9405. There should not be a negative effect of the specimen tested over underlay compared to the specimen without underlay.</p>		

6 Classification

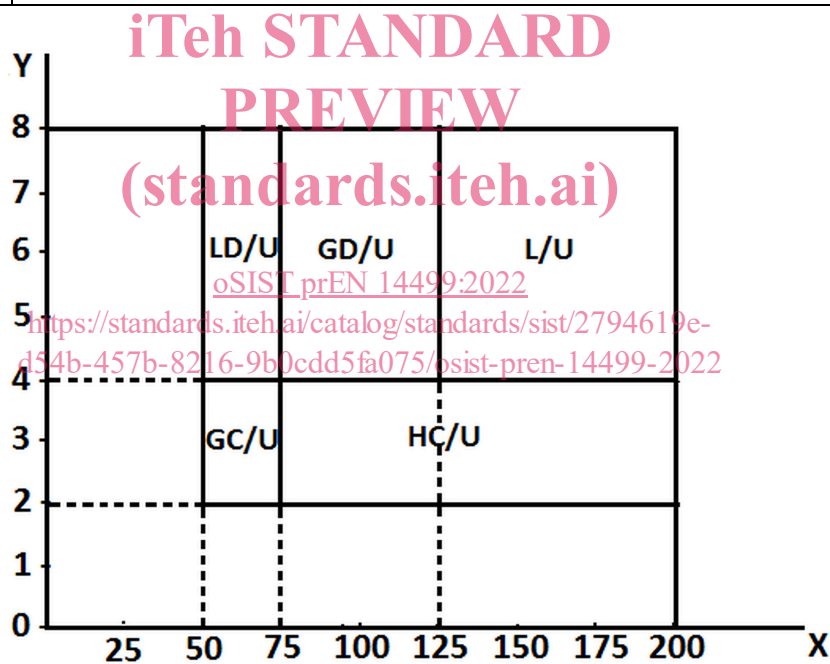
All underlays shall be classified as suitable for different intended use/applications in accordance with the performance levels shown in Figure 1 for work of compression after dynamic loading versus compression after dynamic loading.

The designations and the descriptions of intended use/application are described in Table 2.

Underlays should initially be specified for that particular application.

Table 2 — Designation and description of intended use/application

Designation	Description of intended use/application
21/U	Light domestic use, not suitable for stairs
22/U	General domestic use
L/U	Luxury use, domestic locations, where high energy absorption is desirable
32/U	General contract use, suitable for normal foot and wheel traffic
33/U	Heavy contract use, suitable for heavy foot and wheel traffic and castor chairs



Key

X-axis work of compression (in J/m²)

Y-axis compression (in mm)

For a description of each designation, see Table 2. Designations on Figure 1 need to be changed as per Table 2.

Figure 1 — Classification of underlays (work of compression after dynamic loading, versus compression after dynamic loading, in accordance with Annex B)

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7 Marking

Underlays shall be provided with a label or other means giving at least the following information:

- a) number and date of this document;
- b) manufacturer's or supplier's identification or trade mark;
- c) classification of underlay.

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