SLOVENSKI STANDARD
SIST EN 16354:2019

01-januar-2019

Nadomešča:
SIST-TS CEN/TS 16354:2014

Laminatne talne obloge - Podlage - Specifikacije, zahteve in preskusne metode

Laminate floor coverings - Underlays - Specification, requirements and test methods

Laminatböden - Verlegeunterlage - Spezifikationen, Anforderungen und Prüfverfahren

Revêtements de sol stratifiés - Sous-couches - Spécifications, exigences et méthodes d'essai

Ta slovenski standard je istoveten z: EN 16354:2018

ICS:

97.150	Talne obloge	Floor coverings

SIST EN 16354:2019 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16354

October 2018

ICS 97.150

Supersedes CEN/TS 16354:2013

English Version

Laminate floor coverings - Underlays - Specification, requirements and test methods

Revêtements de sol stratifiés - Sous-couches - Spécifications, exigences et méthodes d'essai

Laminatböden - Verlegeunterlagen - Spezifikationen, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 4 June 2018.

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, 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.

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. EN 16354:2018 E

Contents

Page

European foreword

This document (EN 16354:2018) has been prepared by Technical Committee CEN/TC 134 “Resilient, textile and laminate floor coverings”, the secretariat of which is held by NBN.

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 April 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.

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

This document supersedes CEN/TS 16354:2013.

Overview of major technical changes compared to the previous edition:

— 1. scope: "Underlays for laminate floor coverings intended for use in electrostatically sensitive areas such as computer rooms, etc., are not covered by this document." Has been added

— 3.1 the definition of a "laminate floor" covering has been changed

— 3.2 the definition of an "underlay" has been changed

— 3.4 the definition of a "floor covering system" has been changed

— 4.1 "characteristics" has been replaced by "4.1 general" and "4.2 general requirements"

— Table 1 has been replaced by Table1 – general requirements and Table 2 – additional technical characteristics

— Numbering: 1.2.3 etc. has been replaced by 1-1, 1-2, 1-3 etc. respectively 2-1, 2-2, 2-3 etc.

— In Table1 1-1 "Thickness" subclause 4.4.2 has been added for clarification

— Subclause numbers have been adapted to this new version numbering

— Table 1 – 13 has been updated to EN 16205

— Table 1 – 14.1 and 14.2 has been replaced by Table 2 2-11 and been limited to the "underlay only"

— Table 1 – 16: Electrostatic behaviour has been deleted

— Table 1 – 18 "emission of formaldehyde" is tested according to EN 16516

— In 4.4.1" general": "As result the mean value of the measured single test results shall be calculated." Has been added

— 4.4.3 "punctual conformability": text has been changed

— 4.4.8 "water vapour resistance": a NOTE has been added: "In some installation conditions, an underlay with higher sd-value and visible air gaps underneath could be required."

— 4.4.9 "alkaline resistance": text has been changed

— 4.4.11 "reaction to fire": text has been changed

— 4.4.14 "emission of formaldehyde": text has been changed

— 4.4.15 "emission of VOCs": text has been changed

— 4.4.16 "impact sound" text has been changed

— 4.4.18 "radiated walking sound": text has been changed

— 5 "marking and labelling": "number of pieces and area in the package, as appropriate" has been changed into "area in the package"

— Par 6: "test report" has been added

— A.3.3 "Determination of length" text has been changed

— A.3.4 "Determination of squareness" text has been changed

— A.3.5 "Determination of flatness" text has been changed

— A.3.6 "Determination of punctual conformability" text has been changed

— A.3.7 "Determination of compressive strength" text has been changed

— A.3.8 "Determination of compressive creep (CC) resistance" text has been changed

— A.3.9 "Determination of dynamic load (DL25) resistance" text and figure A.2 has been changed

— A.3.10 "Determination of area weight" text has been changed

— Table B.1: PC0, DL0 has been removed; DL3 has been added. RWS has been removed and RLB has been added

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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 the United Kingdom.

1 Scope

This document specifies test methods for the determination of the technical characteristics of underlays under laminate floor coverings. It includes minimum performance requirements for the underlay-flooring system to give satisfactory service and to encourage the consumer to make an informed choice. It also specifies requirements for marking and packaging.

Underlays pre-attached to the laminate flooring coverings are not covered by this document.

Underlays for laminate floor coverings intended for use in electrostatically sensitive areas such as computer rooms, etc., are not covered by this document.

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 822:2013, *Thermal insulating products for building applications - Determination of length and width*

EN 823, *Thermal insulating products for building applications - Determination of thickness*

EN 824, *Thermal insulating products for building applications - Determination of squareness*

EN 825, *Thermal insulating products for building applications - Determination of flatness*

EN 826, *Thermal insulating products for building applications - Determination of compression behaviour*

EN 1264-3, *Water based surface embedded heating and cooling systems - Part 3: Dimensioning*

EN 1606:2013, *Thermal insulating products for building applications - Determination of compressive creep*

EN 12086, *Thermal insulating products for building applications - Determination of water vapour transmission properties*

EN 12311-2, *Flexible sheets for waterproofing - Determination of tensile properties - Part 2: Plastic and rubber sheets for roof waterproofing*

EN 12664, *Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Dry and moist products of medium and low thermal resistance*

EN 12667, *Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance*

EN 13238, *Reaction to fire tests for building products - Conditioning procedures and general rules for selection of substrates*

EN 13329, *Laminate floor coverings - Elements with a surface layer based on aminoplastic thermosetting resins - Specifications, requirements and test methods*

EN 13501-1:2007+A1:2009, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

EN 13793, *Thermal insulating products for building applications - Determination of behaviour under cyclic loading*

EN 14909:2012, *Flexible sheets for waterproofing - Plastic and rubber damp proof courses - Definitions and characteristics*

EN 16205:2013+A1:2018, *Laboratory measurement of walking noise on floors*

EN 16516, *Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air*

EN ISO 717-1, *Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation (ISO 717-1)*

EN ISO 717-2, *Acoustics - Rating of sound insulation in buildings and of building elements - Part 2: Impact sound insulation (ISO 717-2)*

EN ISO 868:2003, *Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868:2003)*

EN ISO 1923, *Cellular plastics and rubbers - Determination of linear dimensions (ISO 1923)*

EN ISO 10140-2, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation (ISO 10140-2)*

EN ISO 10140-3, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 3: Measurement of impact sound insulation (ISO 10140-3)*

EN ISO 10140-5:2010, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 5: Requirements for test facilities and equipment (ISO 10140-5:2010)*

EN ISO 11925-2:2010, *Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2:2010)*

EN ISO 16000-9, *Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method (ISO 16000-9)*

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
laminate floor covering
rigid floor covering, typically in a plank or tile format, with a multiple layer structure, e.g. backer, substrate, décor and worked edges that allow the product to be joined together to form a larger integral unit

Note 1 to entry: Laminate flooring does not include products having a resilient, stone, textile, wood, leather or metal top surfacing material(s).

Note 2 to entry: Different types of laminate floor coverings are specified in EN 13329, EN 14978 and EN 15468.

3.2
underlay
resilient layer between the substrate and floor covering added to obtain specific properties

Note 1 to entry: It is also possible to have combinations of underlays and underlay materials as underlays, as well as combinations of underlays with films or coatings (e.g. vapour barriers).

Note 2 to entry: The underlay can be profiled or textured.

3.3
vapour control layer
underlay and/or an additional layer that limits the passage of water vapour in the floor covering

3.4
floor covering system
laid floors consisting of laminate floor covering and underlay

3.5
reference floor covering
monolithic seamless panel with no pre-attached underlay, having a nominal thickness of (7,0 ± 0,2) mm and a size of (2,0 ± 0,1) m x (2,4 ± 0,1) m in accordance with EN 13329, class 23/31 and produced by the DPL method with melamine backing, and with an HDF core board with a density of (850 ± 50) kg/m^3

Note 1 to entry: The reference floor covering referred to in this European Standard is identical with the one specified in the reflected walking sound test according to Bibliographical entries [1] and [2]. This reference floor covering can be retrieved from EPLF (http://www.eplf.com).

3.6
substrate
structural layer on which the floor covering system is installed

4 Requirements

4.1 General

The following tables give an overview of the important key characteristics and requirements for the underlay, depending on the exact application and products used. They have been determined for defined scenarios (e.g. dynamic load by walking persons, moving castor chair, structural floor unevenness) and by practical trials and measurements (e.g. 100 Pa is the approximate pressure of an unloaded laminate onto the underlay). Where needed, existing methods have been adapted.

4.2 General requirements

All underlays shall fulfil the requirements of Table 1, if the tests are done by the described test methods.

Table 1 — General requirements

No.	Characteristic	Requirements/Tolerances	Test method	Subclause
1–1	Thickness **(t)**	Measured thickness in mm Tolerance of declared thickness (t_d): ± 15 % or ± 0,5 mm[a]	EN 823 + A.3.1	4.4.2
1–2	Length **(l)**	Measured length Tolerance of declared length (l_d): boards: - 1 % + 5 % rolls: - 0 %	EN 822 + A.3.3	
1–3	Width **(w)**	Measured width Tolerance of declared width (w_d): - 1 % + 2,5 % and of width variation $w_{max} - w_{min} \leq 10$ mm	EN 822 + A.3.2	
1–4	Squareness **(*q*)**	$q_{max} < 5$ mm/m	EN 824 + A.3.4	
1–5	Flatness **(*S*)**	$S_{max} < 2$ mm/m	EN 825 + A.3.5	
1–6	Punctual conformability **(*PC*)**	PC ≥ 0,5 mm	EN ISO 868 + A.3.6	4.4.3
1–7	Compressive strength **(*CS*)**	*CS* ≥ 10 kPa	EN 826 + A.3.7	4.4.4
1–8	Dynamic load **(DL_{25})** resistance	*DL* ≥ 10 000 cycles	EN 13793 + A.3.9	4.4.6
[a] Whichever gives the smallest numerical tolerances.				

4.3 Additional technical requirements

When reference is made to this standard, the characteristics declared shall be determined according to the test methods specified in Table 2.