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

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EUROPEAN STANDARD

**EN 16354**

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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.

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## 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of an identical text or by endorsement, at the latest by April 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.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- 4.1 "characteristics" has been replaced by "4.1 general" and "4.2 general requirements"
- Table 1 has been replaced by Table 1 – general requirements and Table 2 – additional technical characteristics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 has been replaced by 1-1, 1-2, 1-3 etc.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 Table 1 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- Table 1 – 14.1 and 14.2 has been replaced by Table 2 2-11 and been limited to the "underlay only"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

##### **laminated 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: Laminated 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 laminated floor coverings are specified in EN 13329, EN 14978 and EN 15468.