



SLOVENSKI STANDARD

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Lesene talne obloge - Lastnosti, ovrednotenje skladnosti in označevanje

Wood flooring - Characteristics, evaluation of conformity and marking

Parkett und Holzfußböden - Eigenschaften, Bewertung der Konformität und Kennzeichnung

Planchers et parquets en bois - Caractéristiques, évaluation de conformité et marquage

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79.080	Polizdelki iz lesa	Semi-manufactures of timber
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EUROPEAN STANDARD

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May 2008

ICS 79.080

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English Version

Wood flooring - Characteristics, evaluation of conformity and marking

Planchers et parquets en bois - Caractéristiques, évaluation de conformité et marquage

Parkett und Holzfußböden - Eigenschaften, Bewertung der Konformität und Kennzeichnung

This European Standard was approved by CEN on 8 August 2004 and includes Amendment 1 approved by CEN on 12 April 2008 and the Corrigendum issued by CEN on 25 July 2007.

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 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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 14342:2005+A1:2008) has been prepared by Technical Committee CEN/TC 175 "Round and sawn timber", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by November 2008, and conflicting national standards shall be withdrawn at the latest by February 2010.

This document supersedes EN 14342:2005.

This document includes Amendment 1, approved by CEN on 2008-04-12 and the Corrigendum issued on 2007-07-25.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags **AC** **AC**.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

A1 This European Standard defines and specifies for wood and parquet flooring products the relevant characteristics, requirements and appropriate test methods to determine these characteristics when used as internal flooring, including enclosed public transport premises **A1**. It also applies to wood veneer floor coverings.

This document covers flooring defined in EN 13226, EN 13227, EN 13228, EN 13488, EN 13489, EN 13990, EN 13629, **A1** EN 14761 **A1** and EN 14354. It does not specify dimensional limits or tolerances, which are given by these same standards.

A1 This European Standard provides also for the evaluation of conformity and the requirements for marking these products. **A1**

A1 This document covers also the wood and parquet flooring products which may be treated to improve their reaction to fire performance. **A1**

A1 This European Standard does not apply to the wood and parquet flooring products with tactile surfaces or to aid visibility, e.g. products with tactile or visible strip applied. **A1**

EN 14342:2005+A1:2008 (E)**2 Normative references**

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including amendments) applies.

EN 120, *Wood based panels – Determination of formaldehyde content – Extraction method called the perforator method*

EN 335-1, *Durability of wood and wood-based products - Definition of use classes - Part 1: General*

A1 EN 335-2:2006, *Durability of wood and wood-based products - Definition of use classes - Part 2: Application to solid wood* **A1**

A1 EN 350-2, *Durability of wood and wood-based products - Natural durability of solid wood - Part 2: Guide to natural durability and treatability of selected wood species of importance in Europe* **A1**

EN 717-1, *Wood based panels – Determination of formaldehyde release – Part 1: Formaldehyde emission by the chamber method*

EN 717-2, *Wood based panels – Determination of formaldehyde release – Part 2: Formaldehyde release by the gas analysis method*

EN 844-9:1997, *Round and sawn timber – Terminology – Part 9: Terms relating to features of sawn timber*

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EN 1533, *Wood and parquet flooring – Determination of bending properties – Test methods*

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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 13226:2002, *Wood flooring – Solid parquet elements with grooves and/or tongues*

EN 13227:2002, *Wood flooring – Solid lamparquet products*

EN 13228:2002, *Wood flooring – Solid wood overlay flooring elements including blocks with an interlocking system*

EN 13488:2002, *Wood flooring – Mosaic parquet elements*

EN 13489:2002, *Wood flooring – Multi-layer parquet elements*

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

EN 13629:2002, *Wood flooring – Solid pre-assembled hardwood board*

EN 13756:2002, *Wood flooring – Terminology*

EN 13986, *Wood-based panels for use in construction – Characteristics, evaluation of conformity and marking*

EN 13990:2004, *Wood flooring – Solid softwood floor boards*

EN 14354:2004, *Wood-based panels – Wood veneer floor covering*

EN 14761:2006, *Wood flooring – Solid wood parquet – Vertical finger, wide finger and module brick*

CEN/TS 15676, *Wood flooring - Slip resistance - Pendulum test*

EN ISO 9001:2000, *Quality management systems – Requirements (ISO 9001:2000)*

EN ISO 10456:2007, *Building materials and products - Hygrothermal properties - Tabulated design values and procedures for determining declared and design thermal values (ISO 10456:2007)*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13756:2002, EN 844-9:1997 and those in the product standards EN 13226:2002, EN 13227:2002, EN 13228:2002, EN 13488:2002, EN 13489:2002, EN 13990:2004, EN 13629:2002, EN 14761:2006 and EN 14354:2004 apply.

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4 Performance characteristics required for wood and parquet flooring products

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4.1 General

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The equilibrium of the moisture content in the wood and parquet flooring products depends on the surrounding temperature and relative humidity of the site before installation and on the service conditions.

Dimensional characteristics of the wood and parquet flooring products shall be respected in accordance with those defined in the product standard to which the product belongs. Furthermore the type of laying may limit the use of the product. Consequently, indications of use linked to the type of laying (nailed, glued, floating) shall be indicated and linked to the type of use.

NOTE The following characteristics, mentioned in the mandate issued to CEN by the European Commission and the European Free Trade Association, under the EU Construction Products Directive (see Annex ZA), listed hereafter are not relevant to wood and parquet flooring products used for internal floorings: release of asbestos, water tightness and tactility/visibility.

4.2 List of performance characteristics required for wood and parquet flooring products

The following performance characteristics of a wood or parquet flooring product shall be determined and declared, taking into account whether such characteristics are relevant for the intended use of the product, which is subject to regulatory requirements:

- reaction to fire: see 5.1;
- release of formaldehyde: see 5.2;
- emission of pentachlorophenol: see 5.3;
- breaking strength: see 5.4 (does not apply to veneer floor coverings);

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- slipperiness: see 5.5;
- thermal conductivity: see 5.6;
- durability (biological): see 4.3.

4.3 Biological durability

A1 The biological durability of the wood and parquet flooring products shall be classified using EN 335-1 and EN 335-2.

NOTE 1 Guidance on the relationship between penetration, retention (of the treatment product) and the application of the product into a particular Use Class is given in national documents which cross reference the appropriate European Standards (see EN 351-1, and National documents made specific for the biological agents found in the different Members states). Guidance on the relationship between natural durability and the application of the product into a particular Use Class is given in EN 460.

NOTE 2 For construction precautions as regard durability of wood and parquet flooring products see EN 335-2:2006, Annexes 3 and 4. **A1**

5 **A1 Determination and declaration of the performance characteristics **A1******5.1 Reaction to fire**

A1 The reaction to fire performance of a wood and parquet flooring product shall either be tested and classified in accordance with EN 13501-1 or, in case the product meets the requirements given in Table 1¹, may be classified without further testing (i.e. CWFT) in the appropriate classes shown therein.

When tested the product shall be mounted and fixed, in addition to any other specific provisions on this given in the test standards, also in a manner representative of its intended end use conditions.

The reaction to fire classes shall be declared, together with the mounting and fixing conditions when the product is tested and with the linked minimum mean density and the minimum overall thickness of the product, which is CWFT. **A1**

¹ **A1** This table is the same as Table 1 in the Commission's Decision 2006/213/EC of 2006-03-06 (see OJEC L79 of 2006-03-16). **A1**

Table 1 – Classes of reaction to fire performance for wood flooring

Product ^{1,7)}	Product detail ⁴⁾	Minimum mean density ⁵⁾ (kg/m ³)	Minimum overall thickness (mm)	End use condition	Class ³⁾ for floorings
Wood flooring and parquet	Solid flooring of oak or beech with surface coating	Beech: 680 Oak: 650	8	Glued to substrate ⁶⁾	C _{fl} -s1
-"	Solid flooring of oak, beech or spruce and with surface coating	Beech: 680 Oak: 650 Spruce: 450	20	With or without air gap underneath	C _{fl} -s1
-"	Solid wood flooring with surface coating and not specified above	390	8	Without air gap underneath	D _{fl} -s1
-"	-"	390	20	With or without air gap underneath	D _{fl} -s1
Wood parquet	Multilayer parquet with a top layer of oak of at least 5 mm thickness and with surface coating	650 (top layer)	10	Glued to substrate ⁶⁾	C _{fl} -s1
-"	-"	650 (top layer)	14 ²⁾	With or without air gap underneath	C _{fl} -s1
-"	Multilayer parquet with surface coating and not specified above	500	8	Glued to substrate	D _{fl} -s1
-"	-"	500	10	Without air gap underneath	D _{fl} -s1
-"	-"	500	14 ²⁾	With or without air gap underneath	D _{fl} -s1
Veneered floor covering	Veneered floor covering with surface coating	800	6 ²⁾	Without air gap underneath	D _{fl} -s1

- 1) Mounted in accordance with EN ISO 9239-1, on a substrate of at least Class D-s2,d0 and with minimum density of 400 kg/m³ or with an air gap underneath.
- 2) An interlayer of at least Class E and with maximum thickness 3 mm may be included in applications without an air gap, for parquet products with 14 mm thickness or more and for veneered floor coverings.
- 3) Class as provided for in Commission Decision 2000/147/EC Annex Table 2.
- 4) Type and quantity of surface coatings included are acrylic, polyurethane or soap, 50-100 g/m², and oil, 20-60 g/m².
- 5) Conditioned according to EN 13238 (50 % RH 23 °C)
- 6) Substrate at least Class A2-s1,d0.
- 7) Applies also to steps of stairs.

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5.2 Release of formaldehyde^{AC} ² ^{AC}

A1 The formaldehyde release of the wood and parquet flooring product shall be determined and classified according to Annex A. **A1**

The declared values are expressed in term of classes.

Solid wood as such, without chemical treatment, without adhesive, without coating or finishing, has no formaldehyde release of significance.

5.3 Content of pentachlorophenol

A1 Wood and parquet flooring products **A1** normally contain less than 5 ppm of pentachlorophenol (PCP). If the product contains raw materials that include PCP (may concern soft wood treated against blue stain), then the product shall be tested according to methods valid **A1** in the Member State(s) of intended use of the product **A1**. In case the value of 5 ppm is exceeded, the indication "PCP > 5 ppm" shall be added to the marking.

NOTE **A1** CEN/TR 14823 may be used to determine the content of PCP **A1**.

5.4 Breaking strength

A1 If breaking strength of the wood and parquet flooring product is required, it shall be tested for the installation required according to EN 1533 depending on the risk, if any. The result shall be expressed and declared in terms of maximum load characteristic value determined by using a static point load. The span of the product, as given in EN 1533 and associated with breaking strength, shall be declared in the marking (see Clause 7).

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NOTE This characteristic is only relevant for the self supporting floorings. **A1**

5.5 Slipperiness

A1 Where subject to regulatory requirements the slipperiness value shall be determined and declared in accordance with the pendulum test described in CEN/TS 15676. **A1**

5.6 Thermal conductivity

A1 Where subject to thermal insulation regulatory requirements the thermal conductivity of the wood and parquet flooring product shall be either determined and declared according to EN 12664 or given by using tabulated values related to density as shown in Table 2, in line with EN ISO 10456:2007. **A1**

A1 For a multi-layer wood and parquet flooring product the summation of the values of thermal resistance (i.e. reciprocal property of the thermal conductivity) for each layer shall be taken into account. **A1**

A1 The thermal resistance R ($\text{m}^2 \text{K/W}$) of a solid wood and parquet flooring product shall be determined by the following formula: **A1**

$$R = \frac{t}{\lambda}$$

² **AC** Products CE marked according to this European Standard emitting formaldehyde above class E1 might be prohibited in some Member States. **AC**

λ where t is the thickness of the wood or parquet flooring product in m λ is the thermal conductivity in W/m K. λ

The thermal resistance R (m² K/W) of a multi-layer wood and parquet flooring product shall be determined by the following formula: R

$$R = \sum \frac{t}{\lambda}$$

where each layer is characterised by its thickness t and its thermal conductivity λ .

Table 2 - Thermal conductivity values for some of the wood-based panels used for the wood and parquet flooring products

Wood and wood based products	Mean density ^a ρ at a moisture content of 12 % (kg/m ³)	Thermal conductivity ^b λ (W/(m K)) (<i>design value</i>)
Solid wood and plywood	300	0,09
	500	0,13
	700	0,17
	1 000	0,24
Particleboard	300	0,10
	600	0,14
	900	0,18
Fibreboard	400	0,10
	600	0,14
	800	0,18

^a For densities not given in this table, λ may be found by interpolation.

^b These values are in line with the values from EN ISO 10456:2007.

6 Evaluation of conformity

6.1 General

The conformity of the wood and parquet flooring product with the requirements of this standard and with the declared values (including classes) shall be demonstrated by:

- initial type testing;