



SLOVENSKI STANDARD

SIST EN 14342:2005

01-september-2005

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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ICS:

79.080	Polizdelki iz lesa	Semi-manufactures of timber
97.150	Netekstilne talne obloge	Non-textile floor coverings

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 14342

May 2005

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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.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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Contents	Page
Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 Performance characteristics required for wood and parquet flooring	5
5 Determination of the performance characteristics	6
6 Evaluation of conformity	9
7 Marking	11
Annex A (informative) General considerations regarding durability of wood	13
Annex B (normative) Formaldehyde classes	14
Annex C (informative) Classes of reaction to fire performance for construction products for flooring including their surface coverings (OJEC I50/18 23.2.2000)	17
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives	18
Bibliography	24

SIST EN 14342:2005

<https://standards.iteh.ai/catalog/standards/sist/1de0d984-7733-463c-840d-b03ddf8bc81/sist-en-14342-2005>

Foreword

This document (EN 14342:2005) 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 2005, and conflicting national standards shall be withdrawn at the latest by November 2005.

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 89/106.

For relationship with EU Directive(s), see informative Annex ZA, B, C or D, 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 14342:2005 (E)**1 Scope**

This document defines and specifies for wood and parquet flooring the relevant characteristics and the appropriate test methods to determine these characteristics for internal use as flooring. 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, prEN 14761 and EN 14354. It does not specify dimensional limits or tolerances, which are given by these same standards.

It provides for the evaluation of conformity and the requirements for marking these products.

This document does not apply to products sold as tactile surfaces or to aid visibility, e.g. products sold with tactile or visible strip applied.

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 hazard classes of biological attack – Part 1: General.*

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EN 335-2, *Durability of wood and wood-based products – Definition of hazard classes of biological attack – Part 2: Application to solid wood.*

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.*

EN 1339:2003, *Concrete paving flags – Requirements and test methods.*

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

EN 12524, *Building materials and products – Hygrothermal properties – Tabulated design values.*

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 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 coverings*

prEN 14761:2004, *Wood flooring – Solid wood parquet – Vertical finger, wide finger and module brick*

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

3 Terms and definitions

For the purpose 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, prEN 14761:2004 and EN 14354:2004 apply.

Not applicable.

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4 Performance characteristics required for wood and parquet flooring

4.1 General

For construction precautions see Annex A.

For moisture content, the equilibrium of wood and parquet flooring will depend on the surrounding temperature and relative humidity of the site before installation and on the service conditions.

Dimensional characteristics of 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) has to be indicated and it is 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 flooring: emission of radioactivity, release of asbestos, water tightness or tactility/visibility.

4.2 List of performance characteristics required for wood and parquet flooring

The following performance characteristics shall, where the manufacturer wishes to claim performance (e.g. where the product is subject to regulatory requirements), be determined:

- reaction to fire: see 5.1;
- release of formaldehyde: see 5.2;

EN 14342:2005 (E)

- emission of pentachlorophenol: see 5.3;
- breaking strength: see 5.4 (does not apply to veneer floor coverings);
- slipperiness: see 5.5;
- thermal conductivity: see 5.6;
- durability (biological): see 4.3.

4.3 Biological durability

The biological classes in which a product may be used are specified in EN 335-1 and EN 335-2. See also Annex A.

5 Determination of the performance characteristics**5.1 Reaction to fire**

Products meeting the definition given in Table 1 are considered to be classified without further testing in the class(es) shown. Other products shall be tested and classified (as flooring) in accordance with EN 13501-1 with, in addition to any specific provisions on mounting and fixing given in the test standards, the products being mounted and fixed in a manner representative of their intended end use.

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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.

NOTE The details of this Table 1 will be given by the Fire regulators without any possibility of modification.

EN 14342:2005 (E)**5.2 Release of formaldehyde**

The formaldehyde release of wood flooring products shall be determined according to annex B.

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

Parquet and wood flooring normally contains 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 in the country of use of the product. In case the value of 5 ppm is exceeded, the indication "PCP > 5 ppm" shall be added to the marking.

NOTE CEN/TR 14823 has been developed by CEN/TC 38.

5.4 Breaking strength

If breaking strength 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 in terms of maximum load. This requirement does not apply to veneer floor coverings.

5.5 Slipperiness

Where the manufacturer wishes to declare a slipperiness value (e.g. where subject to regulatory requirements), the slipperiness shall be determined in accordance with the pendulum test described in EN 1339:2003, Annex J.

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5.6 Thermal conductivity

The thermal conductivity shall be determined only for uses subject to thermal insulation requirements. It shall either be determined according to EN 12664 or given by using tabulated values related to density as shown in Table 2, taken from EN 12524.

For multi-layer flooring take the summation of the values of thermal resistance for each layer.

The thermal resistance R ($\text{m}^2 \text{K/W}$) of solid wood flooring is given by the formula:

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

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

The thermal resistance R of a multi-layer parquet is given by the formula:

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

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

Table 2 – Thermal conductivity related to mean density (extract from EN 12524:2000)

Wood and wood based products	Mean density ^a ρ at a moisture content of 12 % (kg/m ³)	Thermal conductivity 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.		

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SIST EN 14342:2005

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6 Evaluation of conformity

6.1 General

The conformity of wood flooring products with the requirements of this standard shall be demonstrated by:

- initial type testing or assessment;
- factory production control by the manufacturer.

6.2 Initial type testing or assessment

The initial type testing/assessment shall be performed to demonstrate conformity with this standard or be demonstrated according to information given in this standard.

Tests previously performed in accordance with the provisions of this standard (same product, same characteristic, test method, system of attestation of conformity, etc.) may be taken into account for initial type testing.

For the purposes of testing, products may be grouped into families, where it is considered that a given property or properties is/are common for all products within the family.

When the product specification is amended, which could significantly change one or more of the characteristics (listed in 4.2 and Clause 5), the type assessment or testing shall be repeated for the appropriate characteristic(s). The verification of the characteristic(s) itself is not necessary when tabulated