SLOVENSKI STANDARD
SIST EN 14342:2013

01-december-2013

Nadomešča:
SIST EN 14342:2005+A1:2008

Lesene talne obloge - Lastnosti, vrednotenje skladnosti in označevanje

Wood flooring - Characteristics, evaluation of conformity and marking

Holzfussböden - Eigenschaften, Bewertung der Konformität und Kennzeichnung

Planchers en bois - Caractéristiques, évaluation de conformité et marquage

Ta slovenski standard je istoveten z: EN 14342:2013

ICS:

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

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English Version

Wood flooring - Characteristics, evaluation of conformity and marking

Planchers en bois - Caractéristiques, évaluation de conformité et marquage

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Contents

Page

Foreword

This document (EN 14342:2013) 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of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

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

This document supersedes EN 14342:2005+A1:2008.

In comparison with the previous edition, the entire document has been revised.

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 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard defines and specifies the relevant characteristics and requirements of flat surface wood flooring products and parquets as well as the appropriate test methods for determination of their suitability for use as internal flooring, including fully enclosed public transport premises.

The European Standards for specific wood flooring products and parquets to which this European Standard relates, and which provide product definitions and requirements for dimensional tolerances, include the following:

— solid parquet elements with tongues and grooves (EN 13226);

— solid lamparquet products (EN 13227);

— solid wood overlay elements including blocks with an interlocking system (EN 13228);

— mosaic parquet elements (EN 13488);

— multi-layer parquet elements (EN 13489);

— solid pre-assembled hardwood board (EN 13629);

— solid softwood floor boards (EN 13990);

— wood veneer floor coverings (EN 14354);

— solid wood parquet — vertical finger, wide finger and module brick (EN 14761).

This European Standard may also apply to other wood flooring products and parquets than those standards above. However, it does not specify any requirements for dimensional limits of tolerances of such products.

This European Standard provides also for the evaluation of conformity and the requirements for marking the wood flooring products and parquets.

This European Standard covers wood flooring products and parquets which may or may not be treated to improve their reaction to fire performance or their durability against biological agents.

This European Standard does not apply to:

— wood flooring products and parquets specifically manufactured for enhanced tactile and recognition;

— bamboo flooring products;

— laminate flooring products;

— product made with plants such as aloe or cork or coconut.

This European Standard covers wood flooring products and parquets with or without paint, varnish, lacquer, wax or oil.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 335, *Durability of wood and wood-based products — Use classes: definitions, application to solid wood and wood-based products*

EN 350-1, *Durability of wood and wood-based products — Natural durability of solid wood — Part 1: Guide to the principles of testing and the classification of the natural durability of wood*

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*

EN 351-1, *Durability of wood and wood-based products — Preservative-treated solid wood — Classification of preservative penetration and retention*

EN 599-2, *Durability of wood and wood-based products — Performance of preventive wood preservatives as determined by biological tests — Part 2: Classification and labelling*

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 1533, *Wood flooring — Determination of bending strength under static load — Test methods*

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, *Wood flooring — Solid parquet elements with grooves and/or tongues*

EN 13227, *Wood flooring — Solid lamparquet products*

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

EN 13488, *Wood flooring — Mosaic parquet elements*

EN 13489, *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, *Wood flooring — Solid individual and pre-assembled hardwood boards*

EN 13756, *Wood flooring — Terminology*

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

EN 13990, *Wood flooring — Solid softwood floor boards*

EN 14354, *Wood-based panels — Wood veneer floor covering*

EN 14761, *Wood flooring — Solid wood parquet — Vertical finger, wide finger and module brick*

CEN/TR 14823*, Durability of wood and wood-based products — Quantitative determination of pentachlorophenol in wood — Gas chromatographic method*

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

EN ISO 9239-1, *Reaction to fire tests for floorings — Part 1: Determination of the burning behaviour using a radiant heat source (ISO 9239-1)*

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

3 Terms and definitions

For the purpose of this document the terms and definitions given in EN 13756, EN 844-9 and those in the specific product standards (i.e. EN 13226, EN 13227, EN 13228, EN 13488, EN 13489, EN 13990, EN 13629, EN 14354 and EN 14761) apply.

4 Requirement for wood flooring products and parquets

4.1 Dimensional characteristics

Dimensional characteristics of a wood flooring product and parquet shall be in line with those defined in the relevant specific product standard.

NOTE The equilibrium moisture content and resulting dimensional changes of wood flooring product and parquet are dependent on ambient temperature and relative humidity of the site at the time of installation and on the in-service conditions throughout the service life of the floor.

4.2 Reaction to fire

The reaction to fire performance of a wood flooring product and parquet, whether treated or not, shall be classified in accordance with EN 13501-1, after being tested in accordance with the test standards given therein and the relevant reaction to fire class declared.

When tested, the product shall be mounted and fixed in accordance with the same mounting and fixing conditions used for obtaining the classification of products without the need of testing (i.e. in accordance with EN ISO 9239-1, on a substrate of at least Class D –s2, d0 (or Class A2 –s1, d0 when glued to substrate) and with minimum density of 400 kg/m^3 or with an air gap underneath. For parquet products with 14 mm thickness or more and for veneered floor coverings in applications without air gap, an interlayer of at least class E and with minimum thickness of 3 mm may be included).

In case the product meets the requirements given in Table 1[1)] it may be classified without the need for further testing (CWFT) in one of the appropriate classes shown therein. In this case, the relevant reaction to fire class shall be declared (together with the corresponding mean density of the product, the overall thickness of the product as well as the end-use conditions).

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

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

Product [a, g]	Product detail [d]	Minimum mean density [e] (kg/m^3)	Minimum overall thickness (mm)	End-use condition	Class [c] for floorings
Wood flooring and parquet	Solid flooring of oak or beech with surface coating	Beech: 680 Oak: 650	8	Glued to substrate [f]	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	
	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	
	Solid wood flooring and parquet not specified above [i]	400	6	All	E_{fl}
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 [f]	C_{fl} - s1
			14 [b]	With or without air gap underneath	
	Multilayer parquet with surface coating and not specified above	500	8	Glued to substrate	D_{fl} - s1
			10	Without air gap underneath	
			14 [b]	With or without air gap underneath	
	Solid wood (one layer) parquet of walnut [i]	650	8	Glued to substrate [j]	D_{fl}-s1
	Solid (one layer) parquet of oak, maple and ash [i]	Ash:650 Maple: 650 Oak: 720	8	Glued to substrate [j]	D_{fl}-s1
	Multilayer parquet with oak top layer, at least 3,5 mm [i]	550	15 [h]	Without air gap underneath	D_{fl}-s1
Wood flooring	Solid wood flooring of pine and spruce [i]	Pine: 480 Spruce: 400	14	Without air gap underneath	D_{fl}-s1
	Solid flooring of beech, oak, pine or spruce [i]	Beech: 700 Oak: 700 Pine: 430 Spruce: 400	20	With or without air gap underneath	D_{fl}-s1
Veneered floor covering	Veneered floor covering with surface coating	800	6 [b]	Without air gap underneath	D_{fl} - s1

a 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/m^3 or with an air gap underneath.

b 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.

c Class as provided for in Commission Decision 2000/147/EC Annex Table 2.

d	Type and quantity of surface coatings included are acrylic, polyurethane or soap, 50-100 g/m^2, and oil, 20-60 g/m^2.
e	Conditioned according to EN 13238 (50 % RH 23 °C).
f	Substrate at least Class A2 - s1, d0.
g	Applies also to steps of stairs.
h	An interlayer of at least Class Efl and with maximum thickness 3 mm and minimum density of 280 kg/m3 may be included.
i	Without surface coatings.
j	Substrate at least Class D-s2,d0.

4.3 Release of dangerous substances

4.3.1 Release of Formaldehyde[2)]

When required, formaldehyde release of wood flooring product and parquet shall be determined and declared as a class E1 or E2 according to Annex A.

Solid wood as such, used for the wood flooring products and parquets, without chemical treatment, adhesive, coating, or finishing, has release of formaldehyde values which are far below the upper limit for class E1 products.

4.3.2 Content of pentachlorophenol

Wood flooring products and parquets naturally contain no pentachlorophenol (PCP). If the product contains raw materials that may include PCP (e.g. softwood treated against blue stain) or when required, then the product shall be tested in accordance with CEN/TR 14823. In case the value of 5 ppm is exceeded, the indication “PCP > 5 ppm" shall be declared. In the other case, it is necessary to declare PCP ≤ ppm.

4.4 Release of other dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, of other dangerous substances, in addition to those dealt with in other clauses, when construction products covered by this standard are placed on those markets.

In the absence of European harmonised test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction web site on EUROPA accessed through: http://ec.europa.eu/enterprise/construction/cpd-ds/.

4.5 Breaking strength

If breaking strength of the wood flooring product and parquet 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 value, shall be declared.

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

4.6 Slip resistance

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

2) Products emitting formaldehyde above class E1 might be prohibited in some Member States.

4.7 Thermal properties

Where subject to thermal insulation regulatory requirements the thermal conductivity of the wood flooring product and parquet shall be either determined and the value 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.

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

The thermal resistance R (in m^2 K/W) of a solid wood flooring product and parquet shall be determined by the following formula:

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

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

The thermal resistance R (in m^2 K/W) of a multi-layer wood flooring product and parquet shall be determined by the following formula:

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

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

Table 2 —Thermal conductivity values for solid wood, some of wood-based panels used for the wood flooring products and parquets

Solid wood and some wood-based panels	**Mean density[a] ρ at a moisture content of 12 %** (kg/m^3)	**Thermal conductivity[b] λ** (W/(m K)) *(design value)*
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.

4.8 Biological durability

4.8.1 General

The biological durability of the wood flooring products and parquets is obtained either with natural durability or, when necessary, by appropriate treatment.

NOTE Guidance on the relationship amongst 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 Member States. Guidance on the relationship between natural durability and the application of the product into a particular use class is given in EN 460.

4.8.2 Recommended use class

The biological durability of the wood species used shall be classified using EN 335.

Where several layers are used, the class for the weakest layer is declared.

NOTE For construction precautions regarding durability of wood flooring products and parquets, see EN 335.

If the species is listed in EN 350-2, the natural durability of the wood flooring product and parquet shall be given therein. Otherwise, it shall be assessed in accordance with EN 350-1.

4.8.3 Wood treated against biological attack

4.8.3.1 General

Preservative treated products shall be defined by:

— use class in accordance with EN 335;

— wood preservative in accordance with EN 599-2;

— penetration class in accordance with EN 351-1;

— retention of preservative in accordance with EN 351-1.

4.8.3.2 Wood

Any machining, boring, planing etc. shall be completed before preservative treatment. In case of wane, the bark shall be removed.

4.8.3.3 Preservatives

Wood preservatives used shall comply with the performance requirements given in EN 599-2 appropriate for the use class.

4.8.3.4 Penetration

The minimum penetration shall be declared in terms of penetration classes listed in EN 335.

4.8.3.5 Retention

The mean retention in the analytical zone (see EN 351-1) shall be equal to or greater than the retention requirement for the preservative used in the declared use class.