



# SLOVENSKI STANDARD SIST EN 13489:2023

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## Lesene talne obloge in parket - Večslojni parketni elementi

Wood-flooring and parquet - Multi-layer parquet elements

Holzfußböden und Parkett - Mehrschichtparkettelemente

Planchers en bois et parquets - Éléments de parquet contrecollé

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## Wood-flooring and parquet - Multi-layer parquet elements

Planchers en bois et parquets - Éléments de parquet  
contrecolléHolzfußböden und Parkett -  
Mehrschichtparkettelemente

This European Standard was approved by CEN on 21 May 2023.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN 13489:2023) 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of an identical text or by endorsement, at the latest by January 2024, and conflicting national standards shall be withdrawn at the latest by January 2024.

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 EN 13489:2017.

The main changes compared to the previous edition are listed below:

- a complete revision of EN 13489 has been done, especially:
  - a) update to revised terminology standard EN 13756;
  - b) update to revised standard for geometrical characteristics according to EN 13647;
  - c) update to revised Brinell hardness standard EN 1534;
- a reference to test methods for surface finishes (chemical resistance/abrasion/elasticity) according to EN 13696 and EN 13442 has been included;
- a reference to a test method and min. requirement for top layer bonding according to EN 17456 has been included.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

**EN 13489:2023 (E)****Introduction**

This document is one of a series of standards about wood flooring and wood panelling and cladding.

This document specifies the characteristics of multi-layer parquet. It is based upon current dimensional standards used in the industry and other characteristics together with functions that have been verified by test.

A large amount of knowledge exists about multi-layer parquet and values for product characteristics are attested by long use and experience. It is therefore not necessary to have test results. For new products technical data will have to be verified by testing.

The appearance of the parquet floor is mainly influenced by species, classification and the pattern.

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## 1 Scope

This document specifies the characteristics, requirements and test methods of multi-layer parquet elements for internal use as flooring.

## 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 1309-3, *Round and sawn timber - Methods of measurements - Part 3: Features and biological degradations*

EN 1534, *Wood flooring and parquet - Determination of resistance to indentation - Test method*

EN 13183-1, *Moisture content of a piece of sawn timber - Part 1: Determination by oven dry method*

EN 13442, *Wood and parquet flooring and wood panelling and cladding - Determination of the resistance to chemical agents*

EN 13647, *Wood flooring and wood panelling and cladding - Determination of geometrical characteristics*

EN 13696, *Wood flooring - Test methods to determine elasticity and resistance to wear and impact resistance*

EN 13756, *Wood flooring and parquet - Terminology*

EN 17456, *Wood flooring and parquet - Determination of top layer delamination of multilayer elements - Test method*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13756 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### **multi-layer parquet**

wood flooring system of laminated construction with a solid wood top layer of at least 2,5 mm thickness and additional layer(s) as a core/backing constituted of wood based and/or lignified material of more or equal to 75 % in mass

Note 1 to entry: 2-layer and 3-layer parquet are specific variants of multilayer parquet. 2-layer parquet consists of top layer and core layer made of solid wood, wood based panels or combinations of them. Additionally, a veneer or a secondary wood based panel is applied as backing in 3-layer parquet.

[SOURCE: EN 13756:2018, 4.2.1.6, modified – adding Note 1 to entry]

**EN 13489:2023 (E)****3.2  
element**

smallest individual piece or the smallest piece as delivered prior to installation

[SOURCE: EN 13756:2018, 4.1]

**3.3  
top layer**

finished or unfinished upper wood layer, intended to be the visible side when the floor is installed

[SOURCE: EN 13756:2018, 7.12]

**3.4  
strip**

smallest single item forming the top layer of each element

**4 Requirements****4.1 Technical requirements****4.1.1 General**

The element shall be precisely machined, properly sanded and shall have tongue and/or groove on all sides, or integral locking profile. The tongue may be detachable.

The laying instructions shall be supplied or made available by the producer/supplier.

NOTE 1 The cross laminated construction minimizes the possibility of the wood to move (shrink and swell) under changing climatic conditions.

NOTE 2 Optical and slight mechanical changes of surface may occur, but do not limit the usage.

NOTE 3 Low use frequency combined with climate changes may lead to slight creaking effects on floated installed multilayer parquet.

**4.1.2 Moisture content**

The moisture content shall be between 5 % and 9 % at the time of the first delivery of the product.

The only suitable method of measurement for moisture content for multi-layer parquet is given in EN 13183-1 (oven-dry method).

NOTE 1 EN 13183-2 (electrical method) can only provide an estimation of the moisture content.

NOTE 2 Depending on the construction of multilayer parquet (e.g. the amount and type of glue, type of core board, etc.), the equilibrium moisture content at the same climate conditions differ to solid wood.

**4.1.3 Dimensional characteristics and limit deviations**

Dimensional characteristics and permitted deviations of dimensions of elements at all points at the time of the first delivery of the product are shown in Table 1.

Measurement of geometrical characteristics shall be done according to EN 13647.



**Table 1 — Dimensional characteristics and limit deviations of element**

Characteristics	Dimension characteristic	Limit deviations
Top layer thickness	≥ 2,5 mm	---
Permitted deviation of length	---	±0,1 %
Permitted deviation of width	---	±0,2 mm
Lipping (between elements)	---	≤ 0,2 mm
Permitted deviation of squareness	---	≤ 0,2 % over the width
Cup (across the element)	---	≤ 0,2 % over the width
Spring (across the element)	---	≤ 0,1 % over the length

For elements of width ≤ 90 mm and length ≤ 700 mm, squareness should be ≤ 0,1 % and cup ≤ 0,3 %.

Due to process in production, the deviation of declared top layer thickness can be ± 0,2 mm but the thickness shall be never less than 2,5 mm.

#### 4.1.4 Hardness

Values for wood hardness shall be determined by the test defined in EN 1534.

NOTE In EN 1534:2020, Annex A, a list of HB of typical wood species is available.

#### 4.1.5 Finishing

The surface treatment used and any artificial change of the natural wood colour shall be stated in the product description.

NOTE The product is usually delivered with a factory applied surface coating which allows the product to be taken into use immediately after installation.

If applicable, characteristics of finishing shall be determined according to Table 2.

**Table 2 — Test procedures for finishes on multilayer parquet**

Characteristics	Reference test procedure <sup>a</sup>
Resistance to chemical agents	EN 13442
Abrasion resistance <sup>b</sup>	EN 13696
Impact resistance <sup>b</sup>	EN 13696
Elasticity <sup>b</sup>	EN 13696
<sup>a</sup> To comply with local requirements, other standardized test methods may apply. <sup>b</sup> Film forming finishes according to EN 13442 only.	

**EN 13489:2023 (E)****4.1.6 Bonding quality for products under dry indoor conditions and for underfloor heating systems**

The procedures for the evaluation of top layer bonding shall be according to EN 17456. The limit for mean value of top layer delamination after aging treatment 1 is  $\leq 1\%$  and for single values is  $\leq 5\%$ .

**4.1.7 Product specific requirements**

For product specific requirements see EN 14342.

**4.2 Requirements for wood species****4.2.1 Introduction**

A list of the most commonly used wood species for parquet as described in this document is given in EN 13556.

NOTE Wood species exhibit natural colour and grain. Each species and consignment will have varied decorative appearance according to the procurement area.

**4.2.2 General rules**

Tables 3 to 6 define the classification relating to appearance rules for the face and for the non-visible parts (back and edges) of an element of the most commonly used species for multi-layer parquet as defined in this document.

Features shall be measured according to EN 1309-3 (knots assessed according to the general method of EN 1309-3). Biodeterioration shall be measured according to EN 1309-3.

A classification named « Free class » is based on the principles laid out in Annex A.

A classification with three appearance classes is specified, designated  $\circ$ ,  $\Delta$  and  $\square$ .

The material used for the top layer shall be selected hardwood or softwood, fresh and sound without rot, fungus, mould or insect attack and insect damage. Possible exceptions shall be listed in the “free class” specification. There will be variations from strip to strip, but the total impression of the installed floor shall show a homogeneous character of each classification.

To allow for unavoidable classification differences, 3 % of the elements in a batch may be from other classes. Any additional strips from other classes are allowed as long as the general impression of the floor is not disturbed.

**4.2.3 Classification rules for species****4.2.3.1 Rules for the most commonly used species****4.2.3.1.1 *Quercus* spp. (oak)**

Rules for oak are given in Table 3.