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ЗА СТАНДАРТИЗАЦИЯ

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English Version

Parquet flooring - General guideline for installation

Parquet en bois - Guide général de mise en oeuvre

Parkett - Allgemeine Verlegenanleitung

This Technical Specification (CEN/TS) was approved by CEN on 28 February 2008 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Foreword

This document (CEN/TS 15717:2008) has been prepared by Technical Committee CEN/TC 175 "Round and sawn timber", the secretariat of which is held by AFNOR.

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Introduction

The aim of this Technical Specification is to give some principles and rules for good installation of parquet.

This Technical Specification is not intended to replace the existing national guides or standards on installation or manufacturer guidelines. Its purpose is to identify a framework of good practice common to the existing national standards and not to attribute responsibility for each stage of the work.

NOTE specific national terms and definitions are included in national vocabulary.

1 Scope

This Technical specification gives guidelines for installation of parquet flooring. Products which are defined in EN 13226, EN 13227, EN 13228, EN 13488, EN 13489, EN 13629, and EN 14761 are concerned.

This Technical specification applies for installations indoors, and does not apply to the installation of joists and sub floors.

This Technical specification does not cover installations in service class 3 (see 3.4).

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 any amendments) applies.

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

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

EN 13756: 2002, *Wood flooring - Terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13756:2002 and the following apply.

3.1

installation

aspects of the assembly of parquet (i.e laying method, materials, requirements, etc.)

3.2

service class 1

characterized by a moisture content in the product corresponding to a temperature of 20 °C and the relative humidity of the surrounding air only exceeding 65 % for a few weeks of the year.

3.3

service class 2

characterized by a moisture content in the product corresponding to a temperature of 20 °C and the relative humidity of the surrounding air only exceeding 85 % for a few weeks of the year.

3.4

service class 3

climatic conditions leading to a higher moisture content than in Service class 2.

4 Exchange of information

In order to install parquet in appropriate conditions, at the right time in the building process, it is essential that all parties have a clear understanding of the requirements of the project and of the implications for all concerned. To ensure that this is achieved, it is essential to have a wide consultation between all parties involved in the project, including subcontractors and material suppliers. This consultation should start early in the design stage. The consultation should go throughout the project from the design stage to the end of the building construction.

5 General

National specifications and installation guides from the producer shall be applied, if they exist.

6 Control before installation

6.1 Storage and handling

The parquet should be handled and stored according to the producers' recommendation in order to maintain the technical characteristics.

Parquet should be stored in a dry place (with a certain temperature). The elements should be stored and conditioned in their unopened packaging in the room in which installation is to take place (or in a room with similar climate conditions) long enough to achieve the same temperature as the room of installation.

Do not open the bundle's packaging until installation commences. Open the bundles as the installation progresses.

Glue and other materials shall be stored according to the producer's recommendations. If no recommendation exists, glue should be stored at a minimum temperature of 15 °C.

6.2 Materials and components used for installation

6.2.1 General

Materials and components used for installation include parquet products, supporting components (joist, battens, wood-based panels etc.), fixation components (glue, screws, nails etc.), underlays, vapour barriers, filling materials and false floors.

The materials and components should comply with the technical specifications needed for the design (i.e. thickness of sub floor and parquet).

6.2.2 Parquet

The properties of the wood products are defined in the product standards respectively.

The wood product should have a moisture content suitable for the climate in use. In the event of persistent, prolonged extreme climatic conditions, dimensional changes and distortion may occur.

The installer should check the received packages of parquet prior to installation with regard to:

- type, colour and pattern of the product, compared to the order;
- delivered quantity, compared to the order;
- dimensions, appearance, visible defects and possible damage,
- if in doubt, the moisture content of the elements, in accordance with the methods specified in the product standards.

In case of dispute about the conformity of the product quality and without agreement to the contrary between the parties, the customer and the supplier should perform an evaluation of conformity to EN 14762.

6.2.3 Fixation components (glue, screw, nails, etc.)

Joints, such as expansion joints and joints between the parquet and walls, pillars etc., should be in line with the size and geometry of the floor surface.

6.2.4 Under floor layers

The appropriate underlay should be chosen according to the intended uses. Under floor layers should cover the following issues:

- vapour barrier – A thin flexible sheet, thick enough to protect the parquet from residual damp from below ;
- mass distribution;
- sound insulation – When sound insulation is required, the underlay should be chosen in order to reach the level of insulation required for the parquet system and to maintain of this property with time. The underlay should have the appropriate compressive strength.

6.3 Site conditions

Parquet should be installed when all other trades have completed their work, i.e. when painting, wallpapering and tiling ..., are finished and the installation location has the correct relative humidity and temperature. This is a way to avoid dirt and moisture damage to the floor.

The site environmental conditions should be maintained as close to end use conditions as possible during the installation and final inspection period (see clause 9).

6.4 Sub floor

6.4.1 General principles

6.4.1.1 Introduction

Sub floors should be constructed in accordance with the recommendations given in the relevant standards or national regulations. Those responsible for the design and construction of the sub floor should ensure that it meets the requirements i.e. should ensure that it has the appropriate characteristics, to allow the parquet to be installed successfully before the installer is asked to commence work.

These characteristics include:

- Regularity (vertical deviation);
- Moisture content;
- Integrity of screeds;
- Cleaning.

The information on moisture content of the sub floor together with guidance on damp proofing and eliminating construction moisture is particularly important.

Some examples of sub floors are:

- Anhydride;
- Wood-based panels;
- Joist;
- Concrete screed.

6.4.1.2 Regularity of sub floors

Regularity covers vertical deviations

The vertical deviation of the installation surface should be determined by resting a straightedge on surface elevations and measuring the extent of the largest depression in the surface. The result of this measurement is expressed with respect to the distance between the elevations on which the straightedge rests (reference points).

The tolerances for the sub floor are depending on the type of parquet and the installation method.

Typical tolerances are:

- For two reference points 1,00 m apart, maximum permissible vertical deviation is 3 mm;
- For two reference points 2,00 m apart, maximum permissible vertical deviation is 5 mm;
- Individual sharp vertical height differences larger than 1,2 mm are not permitted.

6.4.1.3 Moisture content

Before the parquet is installed, the moisture content of the sub floor should be close to the equilibrium moisture content it will have in service. Furthermore the moisture content should be measured.

6.4.1.4 Integrity of screeds

The screed should not contain cracks that could decrease the technical characteristics of the product.

The surface cohesion, which covers adhesive strength of the surface and the cohesiveness, should be controlled before the installation.

6.4.1.5 Cleaning

The surface of the sub floor should be cleaned prior to the installation of the parquet to ensure good adhesion when gluing, and evenness in general.

6.4.1.6 Existing floor covering

If the parquet is glued to the sub floor, it should be sufficiently even and adherent.

For floating and joist installation, if an existing textile floor covering is not removed, its total thickness should be less than 5 mm.

7 Installation

7.1 Glued installation (description and characteristics)

Gluing of parquet elements to sub floor should be done without any gluing in interlocking system. Depending on the sub floor and glue priming might be necessary.

The glue chosen should give sufficient adhesion to both the parquet and the sub floor and have the ability to take up the stresses the parquet will inflict on the glue line.

A gap between the parquet and the fixed installations such as walls has to be provided to allow movements of the floor.

7.2 Floating installation (description and characteristics)

In a floating installation the elements are attached to each other and not to the sub floor. This can be done by gluing, mechanical or geometric jointing systems or other systems.

The parquet will work as a continuous sheet. All movement in the elements due to swelling and shrinking will be accumulated over the width of the sheet, and it is important to assess this movement when gaps to fixed installations are considered: minimum 10 mm for products referring to EN 13489 and minimum 12 mm for products referring to EN 13629.

For parquet flooring with dimensions larger than 6 m, refer to the national specifications and manufacturer installation guides.

7.3 Screwed/nailed installation (description and characteristics)

Parquet elements can be installed by screwing/nailing them to a sub floor or joists. This can be done by hidden mounting where the nail/screw is mounted through the tongue with an angle of approximately 45°. Also mounting through the element on the visible face is possible, either with plugging of the screw holes afterwards or not. The ends of the elements may be glued depending on the product, but no gluing between elements sideways must occur. The maximum distance between screws/nails will depend on the type of parquet.

Type of nails/screws should be chosen after manufacturer specifications. Depending on species and type of screws pre drilling may be necessary.

7.4 Under floor heating

When under floor heating is installed, moisture content of the parquet will become lower than without under floor heating. This shall be taken in to consideration when parquet type, laying method and species are chosen.

NOTE Some species, for example beech and maple, may be especially sensitive to temperature changes.

The following information should be taken into account:

- Maximum surface temperature of the parquet: 27 °C;
- Maximum effect measured on the surface of the sub floor: 75.W/m²;
- Maximum thermal resistance:0,15 m²K/W.

7.5 Finishing and/or coating

All finishing should be done according to the manufacturer guidelines and should be performed after the glue is properly cured.

Coarse sanding and sanding may be necessary before the finishing and/or coating process.

Finishing can include different stages such as colouring, filler, lacquer, oil, wax.

7.6 Installation instruction

This installation instruction should, as a minimum include advice on the following:

- Preparation of the sub structure;
- Fixing of the flooring;
- Finishing of the flooring;
- Limitations on product use (e.g. bathrooms/kitchens);
- Special consideration if under floor heating is used.

8 Requirements

8.1 Requirements for laying products

These requirements are already treated in 6.2.

8.2 Requirements for laid floors

8.2.1 General

Requirements for laid floors depend on some factors, such as for example:

- characteristics, sizes and types of the elements ;
- characteristics of the under floor layers ;
- laying method (glued, screwed or nailed, floating).

These requirements have to be controlled during the final control (see Clause 9).

8.2.2 Loosening elements from the sub floor for glued parquet

Loosening elements from the sub floor are considered those elements which are not fixed to the under floor layer by the end of elements. The overall surface covered by loosening elements should be no more than 40 % for products with tongues and grooves and 60 % for the other ones.

0,1 % of loosening elements are permitted, if they are not concentrated. In this case, it is possible to repair them.

8.2.3 Deflection

The deflection is in mm/m distance between 1m and 2 m.

Deflection of the floor depends priority on the under floor layer characteristics and the walls that should be perpendicularly and at right angles.

The vertical deviation of the floor surface should be determined by resting a straightedge on surface and measuring the extent of the largest depression in the surface (vertical deviation). The result of this measurement is expressed with respect to the distance between the elevations on which the straightedge rests (reference points).

Typical tolerances are:

- a) for two reference points 1 m apart, maximum permissible vertical deviation is 3 mm;
- b) for two reference points 2 m apart, maximum permissible vertical deviation is 5 mm.

8.2.4 Gap between skirting board and floor

The gap in height between the skirting board and floor depends on the under floor layer characteristics and the walls that should be perpendicularly and at right angles.

A gap between skirting board and floor should be no more than 2 mm.

8.2.5 Connection to other floor materials

± 2 mm of vertical deviation related to the mean level of the other floor materials is permitted.

8.2.6 Lipping

A lipping no more than 0,3 mm is permitted.

8.2.7 Unevenness of sanding in edge areas

Due to different systems of sanding in the middle of the room compared to those close to the walls, light different visual aspects may occur.

8.2.8 Element alignment

Typical tolerances of element alignment for all installation methods and elements sizes are:

5 mm on 2 m (see Figure 1), with a maximum value of 2 mm for two contiguous elements.

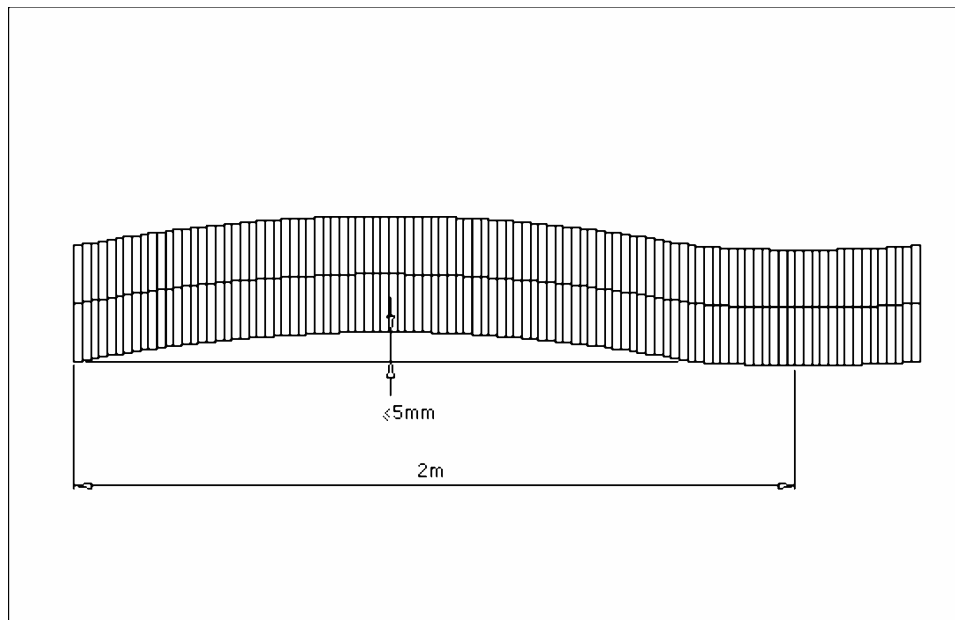


Figure 1 — Tolerance of element alignment

8.2.9 Filler

Filler should have the same colour as the floor elements.

Filler between two contiguous elements of 1 mm maximum width is permitted.

Filler surface no more than 2 % of the individual element surface is permitted.

8.2.10 Glue

Glue should not be visible after finishing.

8.2.11 Gap between elements

The addition of the gaps should be no more than 4 mm/m, measured crosswise the floor elements.

Each gap should be no more than 0,5 mm for solid wood parquet and 0,3 mm for multilayer parquets.

8.2.12 Colour variations

To allow inevitable differences in the sorting class, 3 % of all strips from different sorting are permissible as long as the general view of the flooring is not adversely affected.

8.2.13 Finishing defects

Finishing defects are: varnish overlapping, roughness, dots, bristle including.

Varnish overlapping is not permitted in the rooms.

NOTE Silicon stains are not permitted but they are not always linked with the parquet installation.

8.2.14 Others

Convex/concave warping: after installation, the maximum acceptable tolerance for convex and concave, measured across the full width of the installed element, should be maximum 0,5 % of the width.

9 Final control and evaluation of laid floors

The site environmental conditions (see 6.3) should be maintained until the final inspection has been taken place.

After installation, the floor surface should be carefully inspected and cleaned. This inspection should be made with the client. The client should be handed a copy of the cleaning and maintenance instructions of the installed wood flooring covering. (see 7.6). The inspection of the wood laid floor should take place observing the floor standing upright with natural light behind the observer and diffused light. An angled source of light, false light or direct light should not be used for the evaluation or to locate blemishes on the floor surface.

The final control of laid floors should take place not later than seven days after the finishing of the installation..

The overall evaluation of the laid floor should consider also the general aspect and the visual impression of the floor.

Bibliography

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- [2] EN 13226, *Wood flooring – Solid wood parquet elements with grooves and/or tongues*
- [3] EN 13227, *Wood flooring – Solid lamparquet products*
- [4] EN 13228, *Wood flooring – Solid wood overlay flooring elements including blocks with an interlocking system*
- [5] EN 13488, *Wood flooring – Mosaic parquet elements*
- [6] EN 14761, *Wood flooring – Solid wood parquet – Vertical finger, wide finger and module brick*