

Parquet on underfloor heating

General information

Parquet laid over hot water underfloor heating has led to satisfied customers for decades. It is important to use a specialist company – this ensures customers get the right advice and that parquet is laid properly. A professionally installed heating system and screed produced to industry standards are both prerequisites for all parquet flooring. Below are some key points to bear in mind when laying parquet that will ensure the highest possible levels of professionalism and customer satisfaction.

Technical specifications

Wood is a 100 % natural material with specific, technical properties and features. Selecting the appropriate material and grade to lay over underfloor heating will prolong the life of the product. And this will in turn increase customers' enjoyment of their flooring. A wood floor is also warm underfoot even when underfloor heating is not in operation.

Weitzer Parkett wooden flooring is suitable for installation over underfloor heating systems that conform to DIN EN 1264 (series) standards for *Water based surface embedded heating and cooling systems – part 3: Dimensioning*. The precise thermal resistance of individual products is set out in our information sheet MB021.

Note

- a) DIN EN 1264 (series) and ÖNORM (Austrian standard) B2242 stipulate a maximum floor surface temperature of 29°C for living areas.
- b) This also applies to electric panel systems with gentle heat output.

Indoor climate

The EN 15251:2012 recommendation for a healthy indoor environment is relative humidity of between 30 % and 65 %, depending on the season. This environment can cause natural reactions typical of wood, such as minor gaps, cracks or cupping. If irregularities are left untreated in the longer-term, this can lead to structural damage and major changes in the appearance of wooden parquet flooring, for example significant deformation, gapping or cracking.

Product

2-layer structure gives it more beneficial properties than solid wood parquet. We recommend full surface bonding for our 3-layer products, in order to optimise heat transfer and eliminate noise.

Wood type

Selecting a wood type that has less of a tendency to swell or shrink (e.g. oak) is beneficial. Woods such as beech, sycamore or Canadian maple are more inclined to develop cracks or warp and are less suitable.

Grading

Straightforward grading with a high proportion of growth rings reduces both swelling and shrinking.

Screed specifications

Max. CM residual moisture for cement screed: 1.8 % CM.

Max. CM residual moisture for anhydrite (flowing) screed or calcium sulphate (flowing) screed 0.3 % CM.

Max. CM residual moisture for accelerated screed, fast drying screed, cement-based flowing screed and others as per manufacturer instructions.

Please ensure that thermal resistance, the layers above the heating element (screed or top layer) and heated screed (insulation) are in proportion to each other.

Before starting the heating system, cement-based screed must be hardened for at least 21 days and anhydrite screed for at least 7 days. Manufacturer instructions setting out a different hardening time should be observed where applicable.

The client should supply a pre-laying heating protocol as provided for by interface coordination. Preparatory heating prior to laying must be carried out in accordance with the latest technical specifications.

Moisture tests will be carried out at specific measuring points determined by the screed installer in line with due diligence. If such measuring points are not available, this should immediately be notified in writing. In the event of exemption from warranty or any damage, measuring points should be identified at a later stage.

System requirements

The requirements for hot water heating systems are set out in Austrian standards ÖNORM B2242 1-7.

For electric underfloor heating system, the manufacturer concerned must confirm that it is possible to lay parquet over the system without any adverse effect. The manufacturer must provide such clearance in writing.

Screed surface temperature should not exceed 29°C.

Switzerland: Under SIA 253, 2.5.3 standards, the surface temperature of parquet flooring must not exceed 27°C at any point.

Installation requirements

It is essential to maintain wood at the correct humidity in order to keep any changes in size to a minimum and prevent gaps developing as far as possible (see Indoor climate and Resident requirements).

Thermal resistance

Thermal resistance across the whole surface structure should not exceed a limit of 0.15 m² K/W. (For thermal resistance of Weitzer Parkett products see Information Sheet MB 021 - Thermal Resistance). Wooden floor coverings should not be more than 24 mm in thickness, as set out in Austrian standard ÖNORM B2242.

Floating floors

Parquet is only suited for floating floors to a limited extent, since this laying technique leads to increased thermal resistance. This is due to compensator resistance and a thin layer of air that is almost inevitable where there is slight localised bulging of the floor bulges (e.g. as a result of heavy furniture, swelling/shrinking of the wood, etc.). The strong fluctuations in the floor surface climate caused by underfloor heating lead to an increased risk of noise (creaking).

Bonding

Use the adhesives recommended by Weitzer Parkett. Ensure you use the right quantity of adhesive when bonding and press the parquet blocks carefully into the adhesive bed. Full surface bonding is the best solution for good heat transfer.

The priming process for underfloor heating screed depends on the adhesive system used as well as other factors (e.g. increased residual moisture). During bonding and until the adhesive has set completely (approx. 48 hrs), the surface temperature of the screed should be between 15 °C and 18 °C.

Resident requirements

Avoid airing rooms for long periods in winter, since this can lead to a further drop in humidity. Have as many moisture sources in the room as possible during heating periods, e.g. by running a humidifier (vaporiser) at the start of the heating period, keeping house plants etc. This should help to prevent the parquet floor from drying out too much. Avoid unnecessary sources of moisture during the summer months.

Carpets can lead to increased surface temperature (heat build-up) during the heating period. There may be increased incidence of gapping and cracking in these areas.

We recommend that rates of air replacement are minimised and a moisture recovery system operated where controlled domestic ventilation is used during heating periods.

To ensure the parquet is as free as possible of gaps, cracks and deformations, we recommend a relative air humidity level of at least 40 % during heating periods.

Surface temperature must be lowered before parquet flooring is cleaned.

Final notes

This information sheet is based on extensive experience and aims to provide you with the best advice. We have even included restrictive information and warnings in an attempt to minimise the risk of error. It is of course not possible for an information sheet to cover every current and future use or every specific situation that might arise, including as a result of the versatile nature of wood. It therefore does not substitute for specialists providing answers to queries in cases of doubt, carrying out on-site checks or paying critical attention to their work. Furthermore, this information sheet does not contain information with which it is assumed specialists are familiar. The contents of this information sheet are not legally binding and therefore cannot give rise to any warranty or liability claims.

The WEITZER PARKETT team is happy to answer any further questions you may have.