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Parquet on subfloor cooling

General
In order to achieve a comfortable indoor climate despite rising global temperatures, there is an increasing need for room cooling. Measures to counteract the warming of the building include cooling systems, external shading and night-time ventilation when the outside temperature is below the room temperature. There is an increasing trend towards hot water underfloor heating systems, which also have a cooling option. This information sheet is intended to provide you with guidance on their safe use.

When laying parquet on cooled screeds, approval must be obtained in advance from the heating or cooling system manufacturer regarding the suitability of wood flooring. Compliance with the manufacturer's specifications must be ensured. Additional room air dehumidification can provide additional safety when commissioning a floor cooling system. To increase the efficiency of floor cooling, the thermal resistance of the parquet should be as low as possible. From a technical point of view, multi-layer parquet with a thermal resistance ≤0.15m²K/W has proven itself in this respect (the exact thermal resistances of the respective product groups can be found in the technical data sheets and in data sheet MB021).

Weitzer Parkett wood flooring is suitable for installation on underfloor heating systems designed in accordance with DIN EN 1264 (series) *"Room surface integrated heating and cooling systems with water flow - Part 3: Design"*. We recommend laying the parquet by means of professional, full-surface bonding on standard heating/cooling screed. Floating installation leads to an increase in resistance due to the insulating carpet pad and unavoidable air pockets between the individual layers and is therefore not recommended. In addition, noises such as creaking or crackling cannot be ruled out when walking on floating parquet floors. Please refer to our installation instructions VH010 for information on installation, readiness of the subfloor for covering, room climate during installation, acclimatization of the parquet before installation, etc.

Wood species
The choice of wood species with favorable swelling and shrinkage behavior is generally advantageous on underfloor heating and cooling systems.

Indoor climate
The relative humidity should always be within a seasonal fluctuation range of 30-65%. In this range, the natural and typical wood phenomena such as joints, cracks, overcuts and/or transverse curvatures can be moderately pronounced. Longer-term deviations can lead to health impairments and, with regard to wooden floors, to excessive changes in their appearance, such as larger deformations, excessive joint formation, permanent cracking and irreversible damage.

In unfavorable climatic conditions, the operation of a floor cooling system can lead to an increased moisture load on the parquet and cause more severe deformation and damage. To prevent this, the cooling system must be switched off when the following limit values (temperature and relative humidity) are reached. Equipment with dew point sensors is not sufficient to rule out damage.

The following instructions must be strictly observed:

- In new buildings or newly laid screeds, we recommend cooling operation only after a full heating period has elapsed (starting in October)
- Safe operation of a floor cooling system is ensured under the described indoor climate of 30-65% relative humidity if the surface temperature of the parquet floor must not fall below 25°C. This must also be complied with in edge areas and at distributors of the heating and cooling lines.

If this is not the case, the floor cooling can be controlled with sensors for the relative humidity on the floor surface or in the floor at the interface with the substrate as follows:

- Compliance with a maximum relative humidity of 65% at the ground surface as a moving weekly average
- The daily moving average relative humidity must not exceed a maximum of 75% at the soil surface
- The relative humidity at the interface with the subsoil must not exceed 65%
- The flow temperature must be regulated in such a way that the limit values described can be maintained during the cooling phase

We recommend recording the readings from the relative humidity sensors so that the moving average weekly values can be assessed on demand if necessary. Coverings such as carpets and furniture without floor clearance can reduce the efficiency of floor cooling, increase the risk of excessive humidity and should therefore be avoided wherever possible. The parquet floor should be cleaned as dry as possible, at most slightly damp. Excessive moisture must be avoided. For more detailed information on use, care and cleaning, please refer to the relevant data sheets, care and cleaning instructions.

Final notes