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Installation Guide (underfloor heating & cooling)_ME Floor

1. General recommendations for choosing parquet:

The best option for installing heated and cooled floors is engineered parquet with a 2-layer or 3-layer design. The top layer of engineered parquet consists of hardwood species. Base layers are made of cross-laid stabilizing materials. Due to its multi-layered structure, engineered parquet effectively copes with temperature fluctuations and changes in humidity, which allows it to retain its mechanical and aesthetic properties.

Recommended wood species for the top layer of engineered parquet are species with a low coefficient of linear expansion, such as oak and ash. These species have a stable structure and are less sensitive to temperature and humidity changes.

Among not recommended species are walnut, beech, maple, birch, etc. These wood species are characterized by a higher coefficient of linear expansion and are prone to significant deformation with fluctuations in temperature and humidity. This can lead to cracking, geometry changes of the parquet and, ultimately, to a decrease in its performance characteristics.

The recommended thickness of engineered parquet is no more than 15 mm. Thinner parquet has better thermal conductivity, which is critical for the efficient operation of heating and cooling systems. This is since a smaller thickness ensures a more efficient transfer of heat and cold, which allows you reach the desired temperature in the room quickly. Thicker parquet accumulates and retains heat and cold, slowing its transfer to the environment, which reduces the efficiency and increases the energy consumption of heated and cooled floors.

When choosing parquet, special attention should be paid to its eco-friendliness. Parquet layers must be glued using environmentally friendly adhesives certified according to safety standards, which ensures the absence of harmful impurities. Decorative and protective coating must also be free of hazardous volatile organic compounds (VOCs) that can be released from the parquet when it is heated.

ME Floor Team cares about your well-being and the durability of your flooring. When designing and manufacturing parquet, we took into account all the above-mentioned features and nuances to guarantee the high quality and safety of our products. When choosing parquet, it is important to pay attention to the information provided in the TDS file on our website. This document contains key information on the possibility of installing the parquet you have chosen on heated floors, as well as the Thermal Resistance and Thermal Conductivity values of the parquet required for designing heated floors. We strive to provide maximum

comfort and reliability, so we strongly recommend that you read this information before purchasing.

2. General recommendations and restrictions for installing and using parquet on heated floors:

It is recommended to install parquet on adapted water and electric heating systems.

The use of local heating systems, such as infrared films, is not allowed due to the risk of parquet deformation.

The heating system must have smooth temperature control; sudden temperature fluctuations are unacceptable. The rate of temperature increase is no more than 5 °C per day.

When first starting up or after a long period of inactivity, it is recommended to start with minimum temperatures, gradually increasing them over 24 - 48 hours.

Heating must be carried out uniformly over the entire floor surface. Temperature differences between different floor areas in the room should not exceed 2 °C.

The maximum temperature on the parquet surface should not exceed +27 °C. At the same time, the ambient air humidity should be within 40% - 65%.

The first start-up of the heating system should be carried out no earlier than 48 hours after the parquet installation is finished.

It is recommended to glue the parquet directly to a concrete base under which the heating system is installed.

Concrete base thickness should be at least 40 mm, which ensures sufficient strength and uniform heat distribution.

Concrete base must be flat, dry and strong to withstand periodic loads created by parquet because of temperature and humidity conditions changes.

For gluing the parquet, it is recommended to use durable elastic adhesives that are resistant to temperature changes.

Local heat insulators, such as thick carpets or furniture with a non-ventilated base, are not allowed on the floor surface. Such items stop normal circulation of warm air and can lead to the formation of hot zones, which negatively affects the temperature in the room and increases the risk of overheating and damage to the parquet.

Underfloor heating system should not be the only and main source of heating in the room. Be sure to consider additional heating systems, such as built-in floor radiators or external heating systems, while the temperature difference between the floor and the air in the room should not exceed 2 °C. This will ensure a more even distribution of heat throughout the room and avoid overheating in certain areas, which is especially important in the cold winter months. Combining different

heating sources not only increases comfort, but also increases energy efficiency, allowing more flexible temperature control. Thus, competent design of heating system, including underfloor heating and traditional radiators, helps to create an optimal climate in your home.

3. General recommendations and restrictions for the installation and exploitation of cooled floors:

From the point of view of building physics, installing a room cooling system at floor level is not effective. It is preferable to place such systems on walls and ceilings, as this allows for a more efficient and uniform temperature distribution. However, TM ME Floor engineered parquet can be installed over cooling systems, in case when air humidity in the room is strictly controlled. It is important that the average daily relative air humidity does not exceed 65% on the surface of the floor covering. In order to avoid moisture condensation on the surface of parquet floor, which can lead to its damage, dew point should never be reached.

To ensure reliable installation and maximum durability of the floor covering, parquet should be installed by directly gluing it to the concrete base under which the cooling system is mounted. For gluing the parquet, it is recommended to use durable elastic adhesives that are resistant to temperature changes.