

## Manual for installing Quick-Step Parquet over floor heating

### General guidelines

Quick•Step® Uniclic® Multifit parquet can be used in conjunction with “low temperature” floor heating. This is true for underfloor heating systems with heating components - hot water or electric – embedded in the floor.

Quick-Step® Uniclic® Multifit parquet with surface layer **beech** and **ash** are NOT suitable for laying on floor heating.

The floor heating must be installed in accordance with the supplier’s instructions and the generally accepted instructions and rules. Of course, the general laying guidelines for parquet flooring without floor heating still fully apply. The use of Quick-Step parquet accessories, such as glue (if applicable), is also essential.

### Preparation

The floor base must be sufficiently DRY when laying the floor covering. These are maximums of 1.5% CM method with cement-bound and 0.3% with anhydrite floor surfacing. (Attention! With the latter, the 'milk-skin" must be removed mechanically before the parquet is glued.) The humidity level will only be achieved by turning on the heating beforehand. In the case of a new building, you must wait at least 21 days between spreading the screed/floor-finish and starting the heating. With newly-spread screed/floor-finish, follow the guidelines of your installer. It should be possible to present a heating record; ask for it if necessary.

Start the floor heating at least two weeks before laying your parquet. Raise the water temperature in the boiler gradually by no more than 5°C per day to 50°C. If you can leave the heating on for longer, this would certainly be better.

Turn off the heating completely before laying, until the floor temperature has dropped to 18°C.

AFTER laying your floor, you must wait AT LEAST 48 hours before restarting the heating, gradually (5°C per day).

Points off attention:

- The maximum permitted contact temperature of the parquet is 27°C. The maximum hot water temperature at the boiler outlet is 50°C (if applicable).
- ALWAYS change the temperature GRADUALLY at the start and end of a heating period. The relative ambient air humidity must be kept between 35 and 60%.
- Always avoid heat accumulation by carpets or rugs or by leaving insufficient space between furniture and the floor. Open joints may appear during the heating season.

### Installation

Quick-Step parquet can be glued down or laid „floating“. Please note the following remarks.

When using glue, we advise to lay your Quick-Step parquet with Quick-Step Parquet Glue. We refer to the specific laying instructions for laying with glue, which you can find in the general laying instructions. This method gives the highest degree of heat transference and thus ensures the optimum efficiency of your heating system. On the other hand, there is no vapor protection and there is a risk of condensation when there are excessively rapid and excessively large temperature swings. Account should also be taken of small open joints that might appear during the heating season.

The Quick-Step Parquet can also be laid „floating“ on top of a Quick-Step underlay. The most suitable underlay is Quick-Step Silent walk. The most suitable is the Quick-Step Silent Walk. However, the heat output of the heating system with floating installation is smaller and the yield is slightly lower than a glued installation. On the other hand, one can stop rising damp or condensation through the use of the appropriate sub-floor. The risk of open joints during the heating season is almost non-existent. An ideal installation has a total R-value that doesn't exceed 0,15 m<sup>2</sup>K/W.

*Table R values (m<sup>2</sup> K/W) off the Quick-Step products*

Floor	Thickness (mm)	R (m <sup>2</sup> K/W)	Glued down	Installed floating on					
				Basic	Basic Plus	Unisound	Silent Walk	Transit Sound	Thermo level
				2 mm	2 mm	2 mm	2 mm	2 mm	5 mm
				R- value underlay m <sup>2</sup> K/W					
				0,075	0,066	0,049	0,01	0,045	0,143
Total R (m <sup>2</sup> K/W)									
Massimo Palazzo Castello Villa Imperio Variano	14 mm	0,140	<b>0,140</b>	0,215	0,206	0,189	<b>0,15</b>	0,185	0,283
Compact	12,5 mm	0,110	<b>0,110</b>	0,185	0,176	0,159	<b>0,12</b>	0,155	0,253

The coefficient of thermal conductivity  $\lambda$  (W / mK) of the various products can be easily calculated using the following formula:

$$\lambda = d / R$$

where:

$\lambda$  = heat transfer coefficient / thermal conductivity = material constant (in W / mK)

d = thickness of the material (in m)

R = thermal resistance (in m<sup>2</sup> K / W)

### **Floor cooling**

Increasing numbers of homes now have systems for both heating and cooling. A combination of heating in winter and cooling in summer can for technical and physical reasons be problematic in combination with organic floorings in general and with parquet in particular.

If floor cooling would be applied, it is important that an advanced regulation and security system be used to prevent internal condensation (dew point regulation). To prevent damage to the floor, the incoming temperature of the cooling water must NOT be lowered without limit and it must never fall below the dew point temperature. Lower temperatures lead to condensation in the floor and can cause damage to the parquet, such as cupping, distortions, swelling and joints opening.

A proper safety system includes automatic sensors that detect when the dew point (= start of condensation) is reached below or in the parquet and then switch off the cooling. Room thermostats must never be set to a temperature that is 5°C lower than the room temperature. So, when the temperature is 32°C, the room thermostat should not be lower than 27°C. The cooling circuit must be provided with a regulator that prevents the cooling fluid from falling lower than 18 to 22°C. This depends on the climate zone in which the floor has been laid. In zones with a high relative humidity, the minimum is 22°C; with average humidity and temperature, the temperature can drop to 18°C. Failure to follow these instructions renders the Quick-Step warranty no longer valid.

For floor cooling, a heat-resistance of  $\leq 0.09\text{m}^2\text{K/W}$  is prescribed. The heat-resistance of Quick-Step Parquet 14mm is about  $0.140\text{ m}^2\text{K/W}$ . So account should be taken here of a certain loss of capacity.

### Heating films

Heating films or other “new” systems that are laid ON the screed/floor finish or wooden base floor cannot be used without extra precautions. Please consider the following extra guidelines.

An underfloor must in this case serve as a levelling agent, heat-insulator and especially for embedding the film elements and electrical connectors as well. The following construction is usually used: first underfloor, then heating film and finally the parquet floor.

The conditions that must be met by these systems is:

- that the heat-distribution is homogenous over the whole floor, so that there are no cold and warm zones
- The heat has to go up and not down. This means that there must be provided with a good insulation among the heating film having an R value which is higher than that is in addition to refer to the heating of the film itself parquet.
- The maximum contact temperature cannot exceed 28°C
- The electrical connectors between the panels themselves should be sufficiently thin to be recessed into the underfloor mat and still be sufficiently strong and electrically safe, even in case of possible condensation or a leak.

A second type of heating system for renovation is a system with hot water pipes or electrical resistances embedded in frames. These are usually polystyrene panels, which may be combined with metal plates. We consider these systems to be more reliable because they are a better guarantee of homogenous heat distribution, there is heat-insulation under the floor heating, there is good contact and a stable base floor under the parquet floor. In any case, the remarks above are still applicable, but we consider them as more feasible.

All these aspects must be examined by the distributor/installer of this heating system. It is their responsibility to ensure that the UFH system has been installed correctly and works in unity with the aforementioned guidelines which must be followed in full.

We trust that the foregoing will provide you with sufficient information. Should you have any further questions or problems, please do not hesitate to contact our technical department.

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