

Installation over in-floor heating systems

The Baltic Wood multi-layer parquet installed over floor heating is a good solution, providing optimum combination of elegance and functionality. With some basic rules related to the preparation of the sub-floor, choice of suitable wood species, as well as keeping the minimum climatic requirements in the room (i.e. temperature, which affects the parquet, and air humidity), the Baltic Wood system will be a long-lasting usable element of the apartment.

Conditions:

- The maximum temperature of the parquet may not exceed 27°C at any point. This applies also to places under carpets, etc., and under furniture.
- The water-based floor heating system is recommended.
- Installation of the Baltic Wood engineered parquet over electric systems of floor heating is also allowed, provided that the system is controlled and temperature of the heated floor surface is set with high accuracy.
- The floor structure must include a heat distribution layer, which ensures very uniform distribution of temperature over the whole surface of the floor, thus preventing local hot spots with extreme high temperature.
- The parquet should be installed as a floating system. For levelling the sub-floor, material with the lowest heat conductivity resistance shall be used (using e.g. corrugated cardboard is recommended).
- In the room where the parquet is installed, 30-60% air humidity must be maintained (using an effective air humidifier is recommended).
- Sub-floors with built in heating systems should be made in compliance with their manufacturer's recommendations.

Before the installation of the floor, a heating test should be performed and a control certificate issued. Furthermore, a person responsible for floor heating system installation should confirm fulfilment of requirements concerning humidity (see table).

- All other conditions described in sections 5.1.1 and 5.1.2 have to be observed.

Change in the level of moisture content in wooden floors at variable ambient conditions (temperature and humidity)

Ambient temp.	Relative humidity of the surroundings (%)						
	30	35	40	45	50	55	60
10°C	6,3	7,1	7,9	8,7	9,4	10,2	11,1
20°C	6,2	7,0	7,7	8,5	9,2	10,0	10,8
30°C	5,9	6,7	7,5	8,3	9,0	9,7	10,6
40°C	5,6	6,3	7,1	7,8	8,5	9,3	10,2

Selection of wood suitable for parquet installed over floor heating NOT ALLOWED:

- Canadian Maple (Acer Saccharum)
- European Maple (Acer Pseudoplatanus)
- Beech (Fagus silvatica) and Steamed Beech
- Jatoba (Hymenea Courbaril)

Note 1

To achieve more effective heating results, the parquet may be glued to the sub-floor. Installation of the floor using appropriate glue should be carried out by a professional wood floor fitter. Detailed information can be obtained from the parquet manufacturer or supplier.

Note 2

Taking into consideration the natural humidity fluctuations of wooden floors and low air humidity of the floor surface, it is impossible to prevent occurrence of gaps between the parquet boards. Occurrence of gaps between parquet boards is not a fault and to minimize its scale, it is recommended to:

- Select/install boards with a mechanical joint system = Baltic Loc, instead of boards which need to be glued. In the case of traditional tongue and groove technique, the glue should be applied on both the bottom and on the top of the groove.
- Select/install 3-strip floorboards instead of full plank boards. This will allow avoiding cracks which may appear on the wear surface of the product due to the increased heat effect.

Wood shrinking effect doubles in the case of parquets installed over floor heating, thus it is strictly recommended, if the investor chooses wooden floor over floor heating, to consider using an effective air humidifying system.

Upper layer wood	Thermal conductivity λ (W/mK)	Average thermal resistance of three-layer parque R (m ² K/W)
		14 mm thickness, including: 3.5 mm top layer of the superior quality timber 8.9 mm internal core of SPRUCE 1.8 mm bottom layer of SPRUCE
BIRCH	0,14–0,16	0,117–0,120
DOUSSIE	0,16–0,20	0,113–0,117
OAK	0,13–0,20	0,113–0,122
ASH	0,15–0,17	0,116–0,119
JATOBA	-	-
IROKKO/KAMBALA	0,14–0,17	0,116–0,120
AMERICAN CHERRY	0,13-0,15	0,119-0,122
MERBAU	0,18–0,19	0,114–0,115
EUROPEAN WALNUT	0,13–0,15	0,119–0,122
WENGE	0,18–0,20	0,113–0,115
SAPELLE	0,17	0,118
SPRUCE	0,11	NOT APPLICABLE