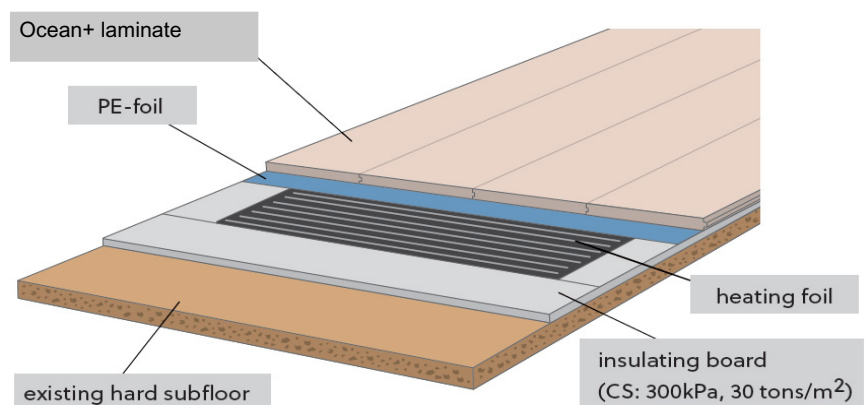


BerryAlloc laminate can be installed with floor heating and/or cooling, but some important remarks have to be considered to protect your laminate and have the best result of your heating system. Both waterborne and electrical systems are compatible with laminate as a part of the subfloor construction. For the installation of BerryAlloc laminate on a subfloor with floor heating, our general installation instructions on the box inlay still apply. In addition to the general instructions, this is our floor heating specific advice:

1. what you should know before the installation

- In case of electrical heating systems, the capacity of the heating elements **should not exceed 60 W/m²**. Multiply the m² of the surface with 60 to find out the maximum allowed effect of the heating elements.
For example : 26 m² x 60 W/m² = 1.560 W => Choose a heating system with a max. capacity of 1.500 W.
- Maximum allowed surface temperature on the BerryAlloc flooring is **27 °C (80 °F)**.
For waterborne heating systems this means that the supplier of the heating system must calculate what the maximum incoming and outgoing water temperatures should be to make sure that the surface temperature stays below 27 °C (80 °F). Additionally, an IR-sensor for constant measurement of the surface temperature is recommended.
Be aware that loose rugs and mats may function as heat accumulators.
- If only a part of the floor has floor heating, but your laminate continues in areas without floor heating, these areas always have to be separated by **expansion profiles**. The heated and non-heated areas will otherwise react differently due to difference in surface temperature.
- You always need to install a **moisture barrier** (ageing resistant polyethylene foil) with a minimum thickness of 0.2 mm to prevent any condensation damage to your laminate. This moisture barrier can be integrated in an underlay, or it can be laid separate.
We recommend to use an underlay with low insulating property: BerryAlloc Excellence Plus underlay is our best performing underlay for floor heating (see thermal resistance values below) and has an attached moisture barrier.
- For **Chateau+** laminate the compressive strength (CS) requirements for underlay is set to min. 130 kPa. We therefore recommend to use BerryAlloc Excellence Plus (CS: 130 kPa).
- Note: floor heating with **heating foil/mats**:
When installing BerryAlloc laminate on heating foil/mats (equipped with a soft heat-reflective underlay/insulating boards) no other underlay must be used. For Chateau+ laminate you have 2 options:

1. Install load distribution plates of wood or plaster (with a minimum thickness of 6 mm) on top of the heating system.
2. Choose insulating boards with a compressive strength (CS) of minimum 300 kPa (30 tons/m²) between the heating foil/mat and the subfloor (see illustration).



- The thermal resistance of a floor used in combination with underfloor heating should not be higher than 0.15 m² K/W.

Overview of the thermal resistance values of laminate combined with various underlays in m² K/W:

floor thickness	Excellence Plus	Excellence Go	Excellence Impact+
8 mm	0.08	0.10	0.11
12 mm	0.12	0.14	0.15

- Systems that combine both floor heating and cooling need special attention because of the risk of condensation, which could cause damage to the laminate. If the temperature of the the cooling water drops below the so called 'dew point', it will cause condensation which can lead to swelling, gapping, distortion and warping of the laminate. To protect the quality of your laminate and to ensure that your laminate warranty remains valid, make sure that:
 - the water temperature never goes below 18 °C - 64 °F
 - you limit the temperature difference between the floor and the surroundings to 6 °C - 42,8 °F
 - your cooling system is equipped with an automatic anti-condensation control system that adjusts the temperature of the ingoing water
- Always ask your supplier of the heating/cooling system if it is compatible with laminate flooring and if he is able to meet all the necessary requirements prior to installation!

2. preparation before installation

- The floor heating should be switched off 2 to 3 days before installing the laminate. Install the laminate at room temperature (between 18 °C and 20 °C – 64 °F and 68 °F).
- The subfloor must be dry:
 - concrete and light concrete floors should have a max. of 2,0 % according to the CM method (RH <85 %)
 - plaster based flooring maximum 0,5 % according to CM method
- Install a BerryAlloc moisture barrier according to the instructions above.
- Install your laminate (free floating with expansion gaps) according to the installation instructions on the inlay in the box.

3. after the installation

- When the installation of the BerryAlloc laminate is finished, or if the heating system have been turned off for a long period of time, consider that:
 - the first week the heating system should be set on a low temperature, 18-22 °C (64-72 °F)
 - the following week the temperature can be increased gradually
- N.B.: A too fast heating-up process will result in an extensive drying-out of the floor which can cause warping/ shrinkage of the floor boards.