Under-floor heating guidelines:

Engineered or Laminate flooring can be used in conjunction with “low temperature” floor heating with heating components, hot water or electric “embedded in the floor”.

Heating films or other “new” systems are not always suitable as heating elements on top of the concrete can be problematic therefore these systems require further considerations as listed.

When laying a floor where under floor heating has been installed it is important to follow these guidelines:

The subfloor on which the flooring will be installed should be level within 3mm / 3m, unevenness above this should be prepared with a suitable compound and allowed to dry to a stable level, see below. Failure to do this will result in hollow spaces and peaks under the flooring resulting in Hot / Cold spots.

The floor must be sufficiently DRY (Maximum 2.5% impedance / 1.5% CM method WHEN THE FLOOR IS COLD) prior to installing the floor covering. This 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 pouring the slab installing and starting the heating. Failure to do this will result in moisture being driven out of the subfloor directly in to the flooring above and can cause failure of the slab due to rapid drying.

If a vapour barrier has been used then sweating will occur below until evaporation takes place around the perimeter of the room which will cause an odour.

Start the floor heating at least two weeks before laying your flooring and slowly raise the water temperature by no more than 5°C per day, rapid increases can cause structural failure of the slab.

The system must be turned off completely before laying the floor; the ideal floor temperature is 18°C. ideally the flooring should be floated over an underlay with a built in vapour barrier. If the flooring is to be adhered then a full trowel application with Elka Trowel flex is required, in this instance it is especially imperative that the subfloor %Mc does not exceed 2.5% impedance.

After laying the floor you must wait **“AT LEAST”** 48 hours before restarting the heating, gradually (Maximum 5°C per day). Failure to do this will result in rapid contraction of the wood as it attempts to reach equilibrium which can cause shakes in the surface wear layer and / or delamination.

The MAXIMUM permitted CONTACT temperature is 27°C, this is temperature between the back of the board and subfloor, this is not surface temperature. It must be considered different density of timber coupled with different thickness attempting to obtain a surface temperature of 27°C would cause severe delaminating of the wear layer as the adhesive cannot tolerate the transmission of the excessive heat through the layers.

“ALWAYS” change the temperature **“GRADUALLY”** at the start and end of a heating period to help the wood slowly change to its new equilibrium moisture content.

Always avoid heat accumulation from rugs, low proximity furniture or other items by leaving sufficient space between furniture and the floor. Failure to do so will result in hot spots which can cause delaminating, shakes and other problems as heat builds in the covered areas.

To ensure the contact temperature is 27c follow the below process

- Turn on the system and slowly increase until the surface is 27c and check for hot or cold spots with an IR thermometer.
- Measure the temperature of the manifold “pipes feeding water into the floor heating system”
- Turn off the system When you install the floor and turn on the system you will monitor the temperature of the manifold to ensure the contact temperature does not exceed 27c

Electric “ON FLOOR” Systems

Heating films Heating films or other “new” systems ON the screed or wooden sub–floor are not always suitable. Further guidelines for these applications can be found below.

An underlay must be used to level the floor, to insulate it and in particular to embed the film elements and electrical connectors.

The following structure is usually applied:
first the underlay, then the heating film and then the floor.

For these systems, the conditions that have to be fulfilled are that the heat must be distributed homogeneously across the entire floor to prevent any cold or warm zones & that the heat radiates up and not down.

The maximum contact temperature is not more than 27°C, and that the electrical connectors between the panels are thin enough to be sunk in the underlay mat while maintaining their strength and electrical safety, also in the event of possible condensation or a leak.

A second type of heating systems for renovation is a system with warm 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 ensure a more homogeneous distribution of heat,

For further guidance please contact Technical Services

Yours sincerely

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