

Timber floors and underfloor heating



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Underfloor heating can be installed with most types of timber floors quite effectively. Care must be taken however in the design of the system and the flooring materials used to ensure a trouble-free system.

- **Heat output**

The heat output from a timber floor system is limited by the timber floor itself. As timber is an insulant, it restricts the available heat that can penetrate through it. The maximum output through the floor is between 70 and 75 watts per square metre of floor, whereas a concrete floor can provide 100-120 watts per square metre.

Due to this lower output, the use of underfloor heating on its own under timber floors in older and poorly insulated buildings is not feasible as sufficient heat cannot be provided to match the heat requirements necessary.

- **Chipboard and plywood floors**

Using underfloor heating with chipboard or plywood floors generally presents no problems, providing the thickness of the flooring is kept to reasonable limits.

- **Hardwood flooring**

Careful specification is required in each instance to ensure lifelong structural stability and performance of hardwood floors.

Wood, being a hygroscopic material, is very susceptible to movement when exposed to different humidity levels.

Timber absorbs moisture from the atmosphere when humidity is high (normally during the summer months), causing expansion; whilst in the winter months when the heating system is in operation and humidity is low, the timber will shrink.

This expansion and contraction is most noticeable across the width of a piece of wood and in some cases, particularly with boarded floors, the compound effect may add up to several inches of movement across a room width.

Therefore, if traditionally machined tongued and grooved boards are installed in such an environment, be prepared to accept large amounts of movement in the floor.

- **Laminate hardwood floors**

To overcome the problems associated with hardwood plank floors, a number of flooring companies now produce laminate hardwood floors. These consist of layer(s) of plywood with hardwood veneers bonded to the surface. This construction method offers a sound and stable solution.

Where the use of underfloor heating is being considered for timber floors, the method of its installation and its suitability for use should always be checked and confirmed with the flooring installer: they will be able to provide technical guidelines in this respect.