

BRIEF GUIDE TO UNDERFLOOR HEATING

To help the understanding of how timber floors react with underfloor heating we have compiled a brief explanation of the factors you need to take into account to make your installation a success.

Each manufacturer has their own recommendations as to the best methods of installation, however in general it is recognised that both water heated and electrical systems should, in the case of a concrete subfloor, be within a screed; in the case of a timber subfloor the method of fixing will vary according to the manufacturer's recommendations depending on whether it is a water heated system, electric elements or carbon foil sheets.

The timber:

Not all timbers react well with underfloor heating so it is important to choose one of the floors that is recommended for use with this system. Each floor in this catalogue carries a recommendation as to its suitability.

Timber is a hygroscopic material which means that it absorbs moisture from the environment into which it is installed, and it undergoes dimensional changes as it does so. As well as absorbing moisture it will also give off moisture.

When timber absorbs moisture it causes the boards to expand and when it gives off moisture it causes the boards to shrink.

The most important factor that influences this reaction is humidity.

The subfloor:

It is therefore of utmost importance that the moisture content of the subfloor onto which your floor will be laid is of the correct moisture levels.

With concrete subfloors the moisture levels should not exceed 75% Relative Humidity (RH) and should preferably be below 70% RH to give a margin for error. Always ensure that your installer checks this measurement before installing your floor. If the RH is higher than 75% you must not proceed with the installation without either having sealed the floor using one of the Woodpecker damp proof preparation products or waited for the subfloor to dry to below the 75% RH.

In the case of timber subfloors it is important that the moisture content of the subfloor does not exceed 11% Wood Moisture Equivalent (WME). Again, ensure that your installer has checked this prior to installation and if the measurements exceed this then one of the Woodpecker damp proof preparation products must be used prior to installation proceeding.

The choice of systems:

There are two main types of system available with many variations from different manufacturers, but essentially they will either be water heated or electrically heated systems. **Whichever you choose the temperature below the floor must never exceed 27°C.**

In general, water heated systems are normally found in new build or renovation projects, due to the complications of retro-fitting them

into an existing building without causing undue levels of disruption. Electrically heated systems are generally found in situations where installation is required to be relatively quick and easy.

It is vital that you do not overheat the floor and it is therefore essential that thermostatic probes are installed at various points over the area of the floor to ensure that this does not happen. The effects of overheating can seriously damage your floor.

It is important to note that you should never make dramatic increases or decreases to the temperature under your floor. This should be done gradually over a period of days to prevent excessive expansion or contraction of your floor.

Maximum temperatures:

The maximum water or electrical element temperature should not be greater than 50°C. The maximum temperature at the underside of the timber should never exceed 27°C.

General guidelines for installation:

Prior to fitting your floor, the underfloor heating should, in the case of a water heated system, be fully pressurised, tested for leaks and run, usually for a fortnight, but certainly until all the moisture in the screed or timber subfloor has been driven off. Plaster should be dry and all the wet trades finished in the rooms to which the flooring is to be fitted. The relative humidity in the room should be between 60% and 75% RH.

To carry out a simple but effective test if you do not have a moisture meter, lay a polythene sheet over a subfloor area of minimum 1m² and weight it down to prevent accidental removal – preferably use as large an area as possible.

Turn the heating system on and leave for 3 days.

After 3 days (less if the test proves positive earlier) if there are beads of moisture or fine misting on or under the polythene, the subfloor is not dry and the new floor must not be fitted.

Either the floor must be given time to dry naturally, or one of the Woodpecker damp proofing systems can be used prior to the installation proceeding.

Heating during and after fitting:

The underfloor system should be turned off while the floor is being laid, normally for at least 48 hours prior to installation. Only electrical heating or central heating should be used during installation. Propane or blown air heaters should not be used as they release a lot of moisture into the atmosphere.

After fitting, the floor should be left for 2-3 days to fully acclimatise to its new surroundings and if relevant for any adhesive to fully cure before the heating is switched on. The heat should be raised gently by 1°C per day from the prevailing ambient temperature. It must not be turned full on straight away.

As a general rule this method of gradually increasing and decreasing temperatures should be followed in the day to day running of your system.

These guidelines are not exhaustive and are provided to give a general understanding of how the systems work. They do not replace the need to follow the recommended fitting procedures of each individual manufacturer.