

INSTALLATION OVER UNDERFLOOR HEATING

These guidelines are designed to complement the current British Standard BS8201 and any other relevant standards or manufacturer's instructions.

NOTE: The final responsibility for the installation lies with the installer. The installer must have sufficient expertise and knowledge, (ideally attended a training course), in order to carry flooring installations.

Solid wood flooring is not recommended for installations over UFH with the exception of Junckers, who offer a range of solid wood flooring that can be installed over UFH providing their system of installation is used. (Junckers installation instructions are available upon request).

Safety must be paramount on every installation. All electrical equipment must be PAT tested and labelled and all cutting tools such as jigsaws, circular and bench saws must have guards, fitted and cutting must be carried out on a suitable bench. You must also wear suitable work wear and remove or make safe any loose items such as jewellery. Safety is your responsibility!

SUBFLOOR

The subfloor must be clean, dry and flat to British Standard tolerance: level tolerance a maximum 3mm gap under a 2m long straight edge, at any point across the subfloor.

All Tongue and Grooved (T&G) wood flooring must be fully bonded to a suitably prepared sub-floor. Some click jointed boards such as Europlank, Pureplank, Karelia and Kahrs ranges which can either be 100% glued down or installed floating using a suitable underlay such as Heat-Flow or Provent.

Always check with Havwoods to ensure the selected Engineered Wood Flooring is approved for use over UFH, as per our specification below.

We only recommend using our **Marldon MXA 200** adhesive that is fully compatible for direct bond to the **Marldon MXS 140 DPM** to a suitably prepared sub-floor.

NOTE: Do not use liquid batten type adhesive as this will leave voids under the wood that can cause a build-up of humidity/moisture under the boards.

We advise using a water pipe UFH systems that is set into a screed or electric type set into a smoothing compound under Wood Flooring.

Electric cable systems must have a minimum of 8mm coverage above the cables using a reinforced smoothing compound.

Greater coverage might be required with wet UFH. All screeds must be structurally sound, with any laitance removed.

We do not recommend other systems such as electric blanket or water pipe that are placed on top of screeds, or routed panels unless they have a heat distribution board fitted above to ensure an even heat distribution to the underside of the engineered board.

NOTE: Some systems (mainly electrical) can create hot spots (when rugs or other items not on feet are placed directly onto the wood floor) which will negatively affect the stability of the wood flooring.

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To ensure the surface of the wood flooring does not exceed 27°C (81°F) we recommend temperature probe(s) be installed within the subfloor build up, to regulate the surface temperature, these should be located in each room / zone.

NOTE: Wall mounted or free standing thermostats placed >500 mm off the floor surface can allow higher temperatures at floor level prior to switching off.

Prior to delivery, the underfloor heating must be commissioned and have been working for at least three weeks. Our advice is to gradually build up the UFH temperature to maximum for the first 5 days and then allow the heating to cool gradually to the off position when five days should be allowed for any moisture within the screed to surface and escape.

NOTE: This will also condition the fabric of the area that will reduce the time the heating will have to be run.

We would recommend carrying out at least two cycles to ensure any moisture is released. Once these cycles have been undertaken switch off the heating and any artificial drying aids four days prior to setting and taking humidity readings.

Never take humidity (or any other moisture tests) readings with the heating or other drying aids such as de-humidifiers on! Moisture content of Cementitious (sand and cement) / Calcium Sulphate (Anhydrite) must be checked in accordance with British Standards Annex A.

This is carried out using a Hygrometer set on top of the screed (the sleeve method is not recommended with underfloor heating to avoid the risk of damage to the pipes). The moisture reading must be less than 65% Relative Humidity (RH) for glue down installation and less than 75% RH for floating installation.

Wood sub-floors should be tested using a spike type meter. The moisture content of wood subfloors should be less than 14% and be within $\pm 2\%$ of the wood floor being installed.

All suspended wood or beam and block floors must have suitable through ventilation normally delivered by air bricks in the outside walls. Any wood sub-floor that has a higher moisture level than 14% should be investigated.

We recommend the inclusion of a moisture suppressant layer within the subfloor. This layer must be incorporated beneath the heat source and fully supported from beneath.

Always check the ambient room temperature and humidity which should be maintained at a constant level, ideally between 18°C (64.4°F) and 22°C (71.6°F) with a relative humidity, between 45% - 65% prior to, during and for the whole life of the wood flooring. Try to avoid extremes of low or high temperatures as this will negatively affect the stability of the wood flooring.

Low humidity can cause the wood to shrink and high level to cause expansion. Common causes of low humidity are using the underfloor heating at too high a temperature, open fires and wood burners. High humidity is commonly caused by poor ventilation.

We recommend using an instrument to monitor the humidity and temperature level that can be easily adjusted by either placing moisture in the room (plants that are watered regularly or receptacles of water) or ventilating the room to reduce high levels of humidity. A re/de-humidifier can also be used to control the atmosphere.

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The most critical time for the wood flooring is during and for 48 hours after the installation. Allowing the temperature or humidity to alter particularly overnight when temperatures can drop can cause the wood to slightly lift off the adhesive affecting the adhesive bond.

We recommend using the underfloor heating set at a minimum 15°C (59°F) to achieve optimum conditions prior to, during and for at least 48 hours after the installation. After at least 48 hours increasing the temperature by maximum 2°C (35.6°F) each 24 hour period until the normal room temperature is reached.

NOTE: This also applies when using the UFH after periods of not being used.

We would also recommend a cool down period using the same formula 2°C (35.6°F) each 24 hour period until switched off.

Always set the heating to a frost temperature of minimum 12°C (53.6°F) when not in full usage.

As above keep the room temperature constant by using the heating set at minimum 15°C (59°F) or if there are problems with the permanent heating other forms of heating such as convector heaters can be used.

Do not use gas type heaters as these will generate extra moisture in the air.

Infra-red type heaters do not generally warm the fabric of the room or the wood, they tend to only warm the person or item close to the heater.

Acclimatise the wood flooring for at least 72 hours prior to the installation in the room where the wood is to be fitted. The wood should be stored out of direct sunlight, away from walls and radiators and on battens fully supporting the wood to prevent a build of heat on the bottom boards.

Acclimatising is used to balance the wood flooring with the environment it is going to be used in.

If the temperature of the wood is at an equilibrium balance (the same as the room) and the moisture level of the wood is within $\pm 2\%$ of the wood sub-floor, and around 7% for heated screed sub-floors, you can assume the wood does not require any further acclimatising.

NOTE: Some manufacturers do not require the wood to be acclimatised and recommend installation immediately after delivery.

The application of an UFH compatible liquid damp proof membrane onto sand and cement sub-floors is advised as a secondary precaution, once the relevant % RH as described above are achieved.

We recommend the use of our **Marldon MXS 140** two part epoxy DPM in this instance (follow the technical data sheet for this product).

NOTE: Do not use DPM's over Anhydrite screeds (Calcium Sulphate) incorporating underfloor heating.



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When installing Europlank, Pureplank, Karelia and Kahrs flooring as floating installation, a suitable polythene slip membrane beneath a Heat-Flow or Provent underlay is essential.

NOTE: Slip membranes are not damp proof membranes!

INSTALLATION

The adhesive should be applied using a suitable notched trowel (please see adhesive manufacturers instructions for trowel notch size). In any event, always lift an occasional board to see if there is at least an 80% coverage to the back of the board, if not increase the notch size.

Only apply adhesive to an area than can be covered with the wood within the open time.

NOTE: Check the trowel notches on a regular basic and change as required. As a guide change after 50m².

Always create an unfilled expansion gap of a minimum 12mm on areas of less than 25m² and a minimum of 15mm on larger areas.

Areas in excess of 10 linear meters x 8m width of the boards may require extra expansion between the boards and intermediate expansion in the length. Expansion gaps can be covered using a skirting board, beading or Scotia.

In cases where these products cannot be used such as in front of a stone fireplace an alternative is placing a low density foam strip (low density meaning it can easily be crushed between your fingers) leaving it approximately 2mm below the height of the wood floor and then use a suitable, flexible filler such as gap master or similar to bridge over the foam.

This will allow any movement of the wood flooring to push up the filler without restricting the movement.

Thresholds profiles should be installed in all doorways, arches or narrow sections that lead from one room / area to the next, these thresholds must allow the for the required expansion and contraction. Door frames and architraves can be undercut to allow the wood to slide underneath still allowing for the expansion.

NOTE: Never undercut newel posts as these are structural sections of the stairs.

FLOOR PROTECTION

This should be of a suitable type to prevent a build- up of humidity between the protection and the wood flooring. In addition UFH must be kept off or very low to prevent build-up of heat below the protection. Ideally protection should not remain in place for long periods of time (maximum 2 weeks). If protection is required for longer periods, lift the protection to allow the floor to breath, before relaying the protection.

HANDOVER

When the installation is completed, and prior to hand over to your client, please ensure that the floor is cleaned, using the correct cleaning products for the floor finish, details are available from our web site.

Please leave Cleaning and Maintenance instructions with your client, C&M products are available from **Havwoods Flooring 01524 737000**.