



# Our Installers Guide to Wet UFH with Thin Section Screed Systems

Installing a Wet Underfloor Heating system may seem a little daunting as there are a few things that need to be taken into consideration. To help we have detailed below step-by-step installers guide to help get you through the process.

As well as using our overlay board systems, a thin section screed system can now be utilised. This system helps to get over deviations in levels with minimum effort. The system consists of a Superfoil (6mm sheet) used for insulation and 12mm UFH pipes set at 150mm centres with a special screed such as XTR as to allow min screed depths of 20mm.

## **Install for UFH thin section screed systems:**

1. Ensure the correct depth and materials are being considered. This is essential as depths  $\geq 40\text{mm}$  require a different screed product and use a wider underfloor heating pipe (16mm instead of 12mm)
2. Lay A DPM (Damp Proof Membrane) 1200g polythene, lapping up the walls beyond the finished floor level (The target level after Superfoil & screed have been installed). Once completed. Roll out the Superfoil butting the sheets up to each other and tape the joints. Now install a layer of 500-gauge membrane and again taped and sealed the joints. (If using a Superfoil with a built in DPM on top and bottom, skip this step)
3. After the Superfoil and 500-gauge membrane have been installed, it is crucial that edge perimeter is installed. Once complete, an edge insulation must be installed for expansion control at the perimeter, ensuring that it is tight to the walls and corners and taped along the film edge (the skirt at the bottom) this is to avoid screed loss.
4. Installing the manifold. The manifold should be installed according to any CAD drawing that may have been provided. Typically, the manifold is installed in the centre of a property or close to the heat source (such as a boiler or ground source heat pump). When installing a manifold to a wall or temporary structure, we advise that it should be installed level and at a minimum height 600mm from the surface to aid pipe connections.
5. Installing the underfloor heating pipes. Before you bevel and install the Eurocon connections to the pipe, we recommend installing a 20mm conduit sleeve to the flow pipe. This will create an air gap between the pipe and conduit, this will eliminate any hot spots if the flow pipes bunch together. The conduit should run from the manifold to the entrance of the allocated room for the circuit you are installing. If fixing the pipes into concrete we recommend using a shot fire gun (gas or electric powered), if you are fixing into timber 18mm tacker clips will hold the pipes.
6. After the underfloor heating pipes have been installed and connected to the manifold at both ends, the system needs to be tested for leaks and/or damaged pipes. Make sure that all the Eurocon bolts and valves are installed correctly and tightened. Then remove the caps surrounding the flow meters, and un-tighten the meters a couple of turns. This will allow water or air to be passed through the flow pipes to the return points at the manifolds. You can use an air compressor or a hose pipe to test the system. Ensure the system holds pressure for at least 1 hour without noticeable pressure drops.

Note: If pressure testing using water, we recommend this be drained from the system after testing to eliminate the risk of freezing within the pipes as this will result in pipes splitting due to expansion caused when melted.

7. Assuming the test of the system is a success with no leaks, the screed can now be installed. Using a rotary laser level, set your receiver to the required datum point (the height you wish the finished screed to be). Begin to install tripod levels across your floor levelling each one to the datum level. The minimum

thickness of screed should not be lower than 41mm using a standard liquid screed (this may be reduced using specialist liquid screed. Always consult the manufacturer for confirmation). After installing tripods, we recommend a measure up of the area average depth as to calculate the quantity of screed needed. Measure each room's length x width and add them all together to provide the total area in m<sup>2</sup> (meter squared). Once you have the total area, measure the depths of each individual tripod in mm increments adding them all together, then divide the accumulated depth by the number of tripods.

Example below:

Total area m<sup>2</sup> = 65m<sup>2</sup>. Total tripods = 30. Total depth of tripods = 660mm. Average depth = 22mm.

Our formula - 65m<sup>2</sup> x 0.022mm = 1.43m<sup>3</sup>, rounded up to 1.6m<sup>3</sup>.

We recommend at least adding 0.15m<sup>3</sup> onto the calculated quantity as to allow for waste.

8. Discharge the screed to the level set by each tripod and remove tripods once the levels in each room are achieved, to compact the screed and improve tolerances the screed should be dapped using dapping bars. Dapping is a process where you tamper the surface of the screed trying to eliminate any trapped air and free water in the mix. You should always dapple the screed more than once, we recommend going from west to east, east to west, south to north, then finally north to south. This gives you a smooth finish and release free water to the surface.
9. Curing times are dependent on the depths of the screed. A guide for curing time is typically 1 day per mm depth up to 40mm depth and 2 days per mm thereafter. If your average depth is 52mm used above, then the curing period would be circa 64 days. This is a guide to be used before considering installing floor coverings. The floor covering manufacturer and installer should determine the suitability of the screed using a moisture metre for exact results. The curing process can be accelerated.

see some examples below:

Once cured floor coverings can be applied. Several moisture tests should be carried out at the surface of the screed to ensure moisture levels do not exceed the manufacturers recommendations. If in any doubt consult the manufacturer and installer as installing early can be a costly mistake. Make sure that the UFH system is turned off 24 hours prior to the installation of the floor coverings and the commissioning cycle is followed post coverings. Allow curing times (if any) required by floor coverings. The commission the UFH by setting the blending valve (the one on the manifold) to its minimum 20°C. and set the thermostats in each zone to open (calling for heat) as each day that passes, turn the blending valve up by 2°C. This will help draw force out moisture from the screed. Repeat until the bleeding valve reaches 40°C then reverse the cycle reducing by 2°C. until the valve returns to the minimum 20°C. The system can now be used normally.