



Our Installers Guide to Wet UFH with 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.

Install for UFH screed system:

1. Lay A DPM (Damp Proof Membrane) 1200g polythene lapping up the wall past the finished floor level (The target level after Concrete, insulation and screed have been installed). Once this task has been completed the concrete will need to be installed on to the DPM to create a structural base slab, ensure that this is flat and level. (If you already have a subbase installed, skip this step).
2. Once the concrete has cured (normally 28 days) Install another layer of 1200g lapping with the existing 1200g previously returned up the wall in step 1.) Install insulation boards side by side on top on the 1200 gauge ensuring there are no gaps (check with local building control for the exact requirements). The insulation boards need to be rigid; we recommend a minimum compressive strength of 100 kPa and the long-term compressive strength 40 kPa.
3. After the insulation has been laid, a 500-gauge membrane should be laid flat (avoid rutting), the joints should be taped as to avoid screed loss later. 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(s) to the wall. The manifold should be at a height no lower than 600mm from the finished floor, this allows for play within the UFH pipe flow and return to be connected. When fixing the manifold to the wall, it is crucial that it is installed level, making sure that the Isolation and drain valves are installed correctly and are tightened up ensuring no leakage.
5. Installing the underfloor heating pipes. Before you bevel and install the connections to the pipe, we recommend installing a 20mm conduit sleeve to the flow pipes. 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.
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. We recommend using an air compressor as this provides a more accurate reading when pumping up to the required 5 bar of air pressure (PSI). If this option isn't available, then attach a hose pipe to the fill and drain port on the manifold and pressure the system with water. Please be aware that using water will solely rely on the water pressure being fed into 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 46mm using a standard liquid screed (this maybe 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 rooms length x width and add them all together to provide the total area in m2 (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 m² = 65m². Total tripods = 30. Total depth of tripods = 1558mm. Average depth = 52mm. Our formula - 65m² x 0.052mm = 3.38m³, rounded up to 3.4m³.

We recommend at least adding 0.2m³ 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 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:

After 7 days you can set 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.

A latency sometimes forms at the surface of the screed; this needs to be removed using a very hard broom or an orbital sander vacuuming the dust removed as you proceed over the surface.

10. 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. 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.