



# Overlay

## Kit Installation Guide

- ✓ Easy to Install
- ✓ For Small or Large Rooms & Multi-Rooms
- ✓ Complies to Latest Regulations
- ✓ UKCA Approved
- ✓ Lifetime Warranty



**Water Kit**



**Thank you for choosing our industry leading  
water underfloor heating system.**

Our water underfloor heating kits are the perfect option for both homeowners and tradesmen looking to install a high quality underfloor heating system.

This manual provides essential information concerning the safe installation and operation of your underfloor heating system. Please read carefully.



**Need Help? Talk to an Expert...**

**01625 466 258**

[www.theunderfloorheatingcompany.co.uk](http://www.theunderfloorheatingcompany.co.uk)



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# Overlay Kit Overview

Overlay Kits are ideal for retro-fitting. This system can be laid over any solid level surface and does not require any additional insulation on the sub-floor. Suitable floor coverings are:

- Tiles
- Concrete
- Engineered Wood
- LVT
- Carpet

## Before you begin installing...

**Please read through these instructions carefully and check that you have all the components required.**

The Underfloor Heating Company's kits contain everything you need in one box for your project. If you need help or advice with your installation please get in touch.

**XPS 400 Overfloor Boards** are lightweight and super-strong with a very high compressive strength and are approved by **Mapei** and **Ultra** for tiling directly onto using their flexible tile adhesives. Alternatively Laminate, Engineered wood, Carpet, Vinyl and Karndean are all suitable floor finishes. (Carpet, LVT and Karndean will require an intermediate layer).

Using basic tools and a system layout drawing, installation is easily achieved by systematically cutting, arranging and sticking the boards in place using a quick drying board spray adhesive or **Mapei Ultrabond ECO 380 Adhesive**.

**We recommend using the following items to help with your installation:**

- Craft Knife
- Metal Edged Rule
- Marker Pen
- Fine Toothing Saw
- Aluminium Tape
- Pair of Tough Work Gloves
- Knee Protection
- Eye Protection



### UKCA Approved

All our cables meet current regulations and are compliant with Part P. Should you have any uncertainties regarding your installation do not hesitate to contact us.

# Cross Section Detail



# Kit Contents

## Single Room Kit Contents

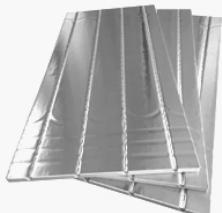
Included in your kit are all the components needed to build your single room underfloor heating system.



Rated Wilo Pump & Mixer



Manifold & Valves



Overlay Boards



PE-Xb-multilayer Pipe



Pipe Cutters



Pipe Rerounding Tool



Pipe Connections

## Multi-Room Kit Contents

For larger rooms and multi-room systems your kit will include all of the above as well as:



Wiring Centre



Actuators

## Optional Thermostat

**Thermostats are NOT included in the Kit.**

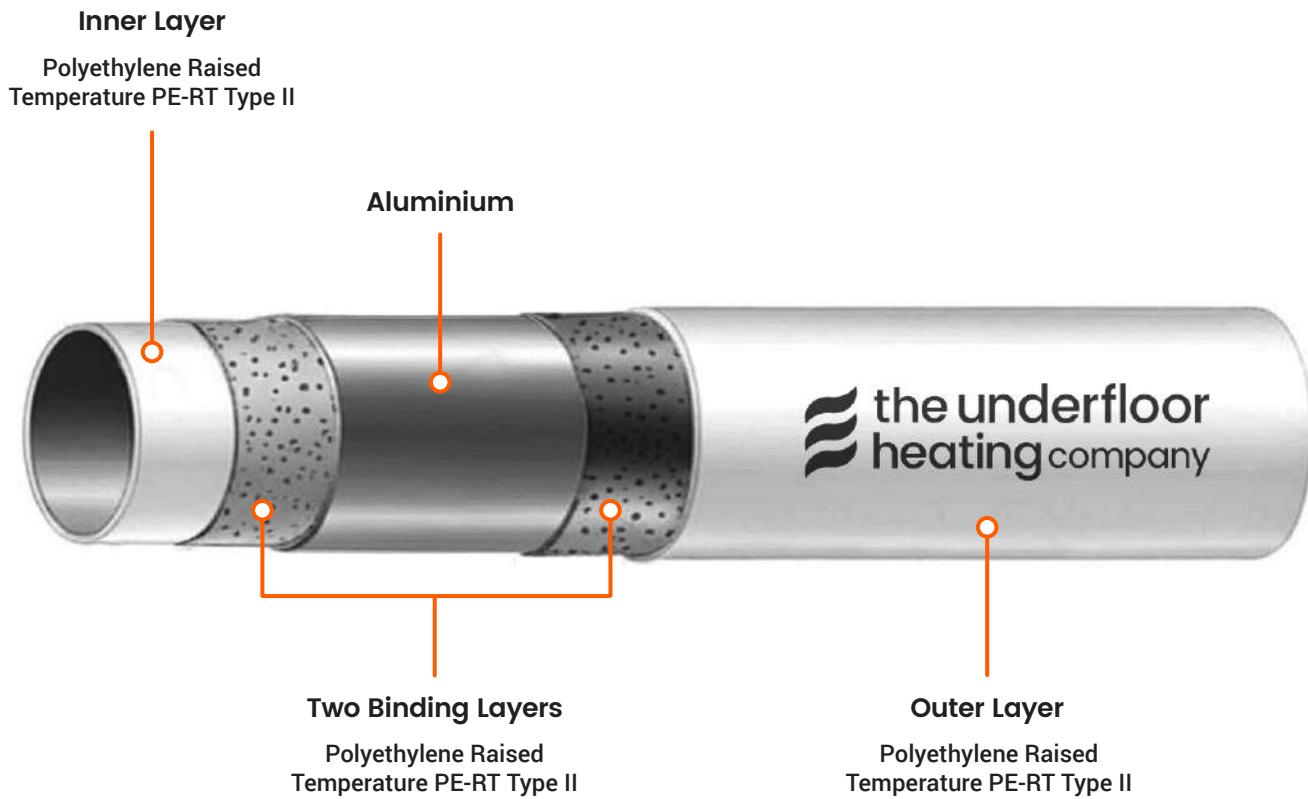
We have a wide range to choose from on our website.

**N.B.** Multiple Thermostats will be required for Multi-Room setups.



# High Quality Multi Layered Pipe

We only use **High Quality Multi Layered Pipe**  
(PE-RT type II / Al/PE-RT) in all our **Water Systems**.



## Pipe Warranty

- PE-RT type II / Al/PE-RT
- Working Pressure & Temperature 10bar, 95°C
- 100% Oxygen Impermeable
- Lifetime Warranty

# Floating Floors Installation

This method is suitable for floor coverings such as Engineered Wood, Laminate Flooring or Heat Pak Dual Overlay when using LVT or Carpet. Please consult our technical department if unsure on **01625 466 258**

1



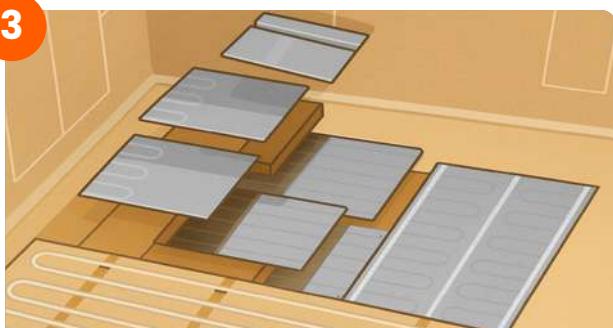
Remove all contaminants, dirt, grease etc. from the substrate and make dust free.

2



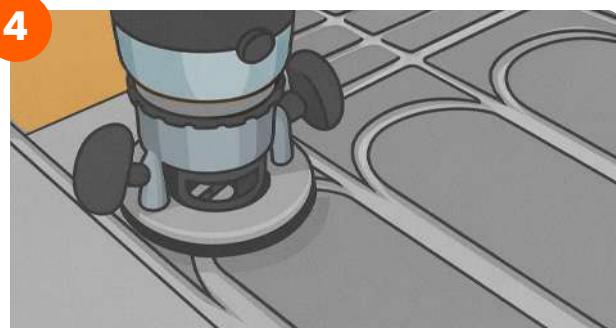
If supplied with a pipe layout diagram make a note of how to position the boards.

3



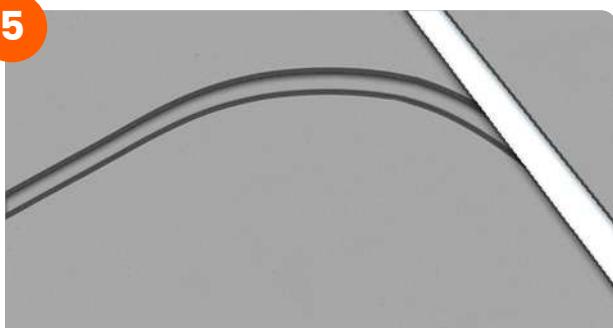
Lay the boards across the floor with the grooves facing upwards, making sure the pipework runs are calculated correctly to reach manifold position.

4



You may be required to modify the heating panel to navigate around permanent fixtures. If you find you need to create a new channel then this can be done with a knife or router.

5

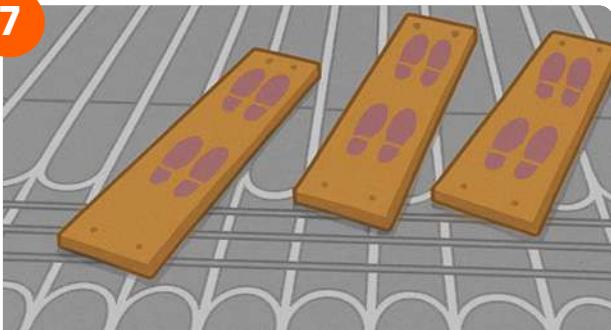


When creating additional bends ensure that the curve radius is such that it doesn't cause excessive bending or kinking.

6



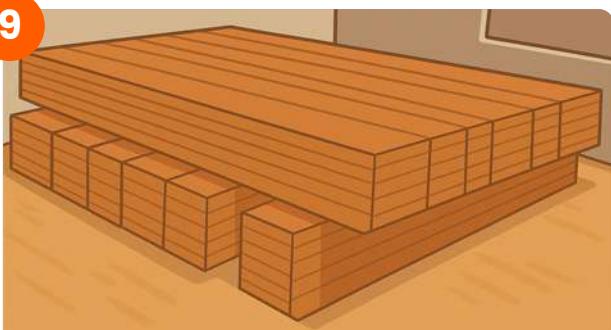
It is recommended to use a foil tape between the panels to help hold the panels in place and to reduce any air flow between the subfloor and the floor finish.

**7**

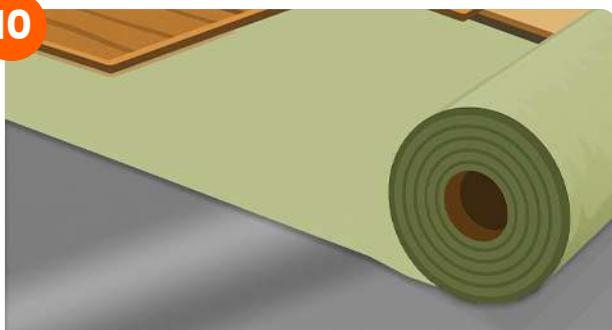
While laying the boards and pipe it will be necessary to walk across them. Using crawl boards will reduce the impact this has in high foot traffic areas.

**8**

Ideally the pipe should be unrolled using a de-coiler or in the horizontal position to allow for ease of laying the pipe (This will stop the pipe trying to spring out of the boards at the end of the panels).

**9**

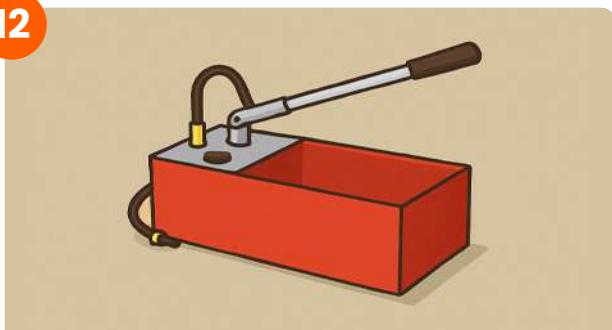
Allow the floorboards to acclimatise to the indoor room temperature for at least 24 hours as they may swell or shrink depending on the climate.

**10**

Install a suitable LOW-TOG or Perforated underlayment on top of the overlay panels before laying the engineered or laminate floor finish.

**11**

Ensure that when installing floorboards they are positioned at a 90° angle to the pipe direction.

**12**

Upon completion of the underfloor heating pipe circuits – ensure all pipe work is pressurised tested (conforming to BS EN 1264). The mixing valve temperature should not be set above 55°C for floating floor or solid floor systems.

**Please ensure** that the maximum temperature of the floor does not exceed manufacturers stated temperatures. Most manufacturers of engineered wood or laminate floors state that a maximum floor temperature of 27 degrees Celsius must be maintained. In well insulated property if a room temperature of 21 degrees is set the floor will not go above 27 degrees before the room temperature is satisfied. However if a warmer room temperature is required or the insulative state of the property is poor a floor sensor may need to be installed in order to protect the wooden flooring.

# Bonded Floors Installation

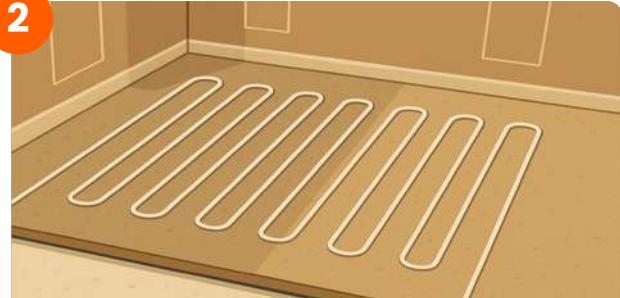
**NOTE:** Please ensure that if applying tile adhesive or levelling compound on top of the overlay panels, you must cut through the spare foil covered channels to open the void. This will ensure the adhesive or levelling compound can fully fill the channel to prevent weak points across the floor.

1



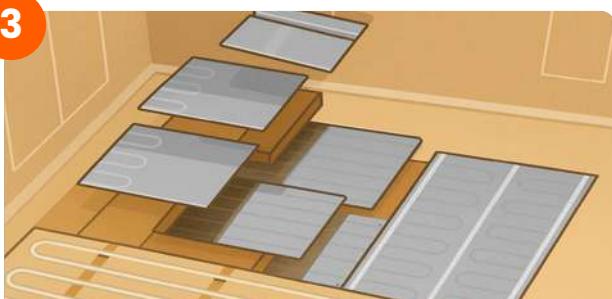
Remove all contaminants, dirt, grease etc. from the substrate and make dust free.

2



If supplied with a pipe layout diagram make a note of how to position the boards.

3



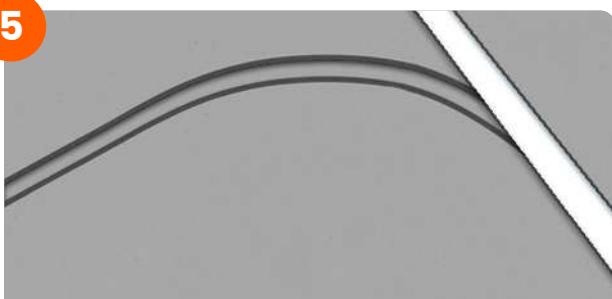
Loose lay the boards across the floor and number the boards on the upper face to identify position of each board, making sure the pipework runs are calculated correctly to reach manifold position.

4



It is recommended to use a foil tape between the panels to help hold the panels in place and to reduce any air flow between the subfloor and the floor finish.

5

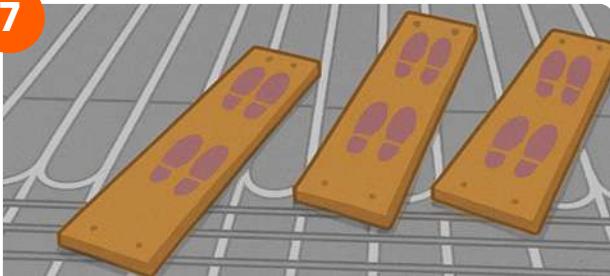


Uplift the overlay boards and prime the underside with Ultra Floor Prime-IT MSP bonding primer. This should be applied by brush or roller in a thin film. Allow to thoroughly dry to a clear film ensuring primed face does not come into contact with other boards, walls or subfloor until it is ready to be bedded.

6



Drying time will depend upon ambient conditions but is typically between 1 and 4 hours.

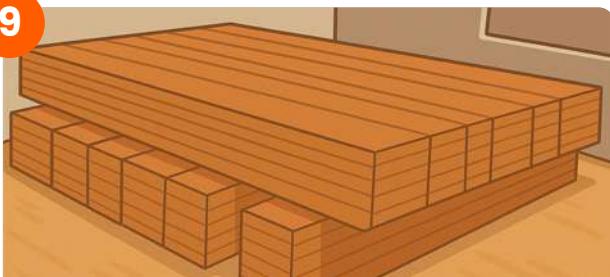
**7**

Whilst the primer on the boards is drying commence with priming of the substrate using UltraFloor Prime-IT MSP.

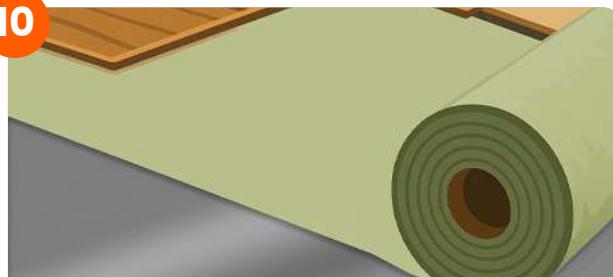
Dilute the primer 3 parts water to 1 part primer and allow to fully dry.

**8**

Apply UltraTile ProFlex S2 adhesive to the subfloor using a notched trowel to give a minimum 3mm adhesive bed. Laying the boards as you go (The depth of the adhesive bed may need to increase if the substrate is not sufficiently level. Additional levelling compound may be needed if areas are any deeper than 2-3mm).

**9**

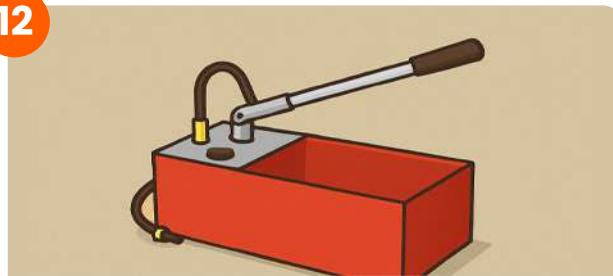
Bed the boards, primed side down, into the adhesive and ensure compression of adhesive ridges, ensure full compression of the adhesive to give a void free full adhesive bed.

**10**

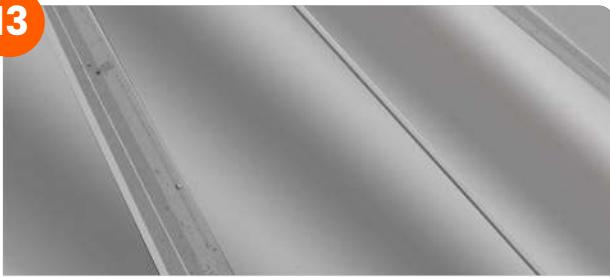
Install a suitable LOW-TOG or Perforated underlayment on top of the LoFlo Lite panels before laying the engineered or laminate floor finish.

**11**

Additional use of screws and washers is recommended over timber substrates where needed, fixed at every 300mm.

**12**

Allow adhesive cure for approximately 4 hours (depending on temperature) to ensure the adhesive has gone through its initial set before carrying out any further works.

**13**

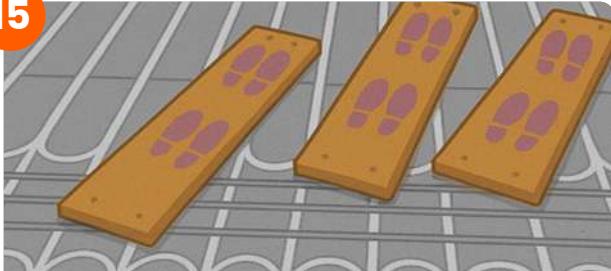
Ensure your floor is free from any debris before installing the pipe. It is important to check in all the grooves as the pipes could be damaged during installation if there are any obstructions.

**14**

Pipe work may be fitted into the boards once they are all secure. Where possible leave for 24hrs. Check the pipe system is for leaks and correct water pressures prior to tiling over.

# Bonded Floors Installation (continued)

15



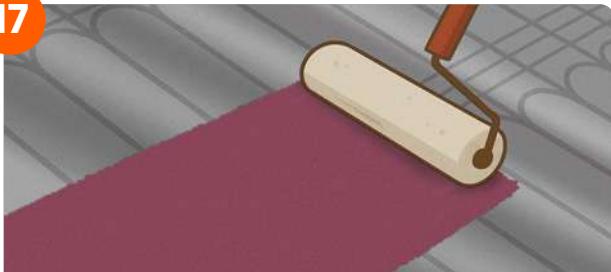
Try and limit the amount of walking on the boards, and where possible lay boards to prevent indentations on the boards.

16



Above picture: illustration purposes only, ideally the pipe should be unrolled using a de-coiler or in the horizontal position to allow for ease of laying the pipe (This will stop the pipe trying to spring out of the boards at the end of the panels).

17



Prime the upper face of the boards with a neat coating of Ultra Prime-IT MSP bonding primer. This should be applied by brush or roller in a thin film. Allow to thoroughly dry to a clear green film, (approx 1-4 hours).

## You now have 2 options...

You can either tile directly on top of the panels using a Class II adhesive or install a latex levelling compound prior to laying the tile adhesive/ floor covering.

Tiling directly on top can save on total floor build up height but using a levelling compound will ensure that the pipework is not damaged during the tiling process, however either way works.

# Using a Levelling Compound

1



Apply Ultra Floor Level-it 2 two part smoothing compound over the entire floor area. Make sure all voids & gaps are completely filled, the levelling compound should encapsulate the whole floor & cover the overlay boards with a:

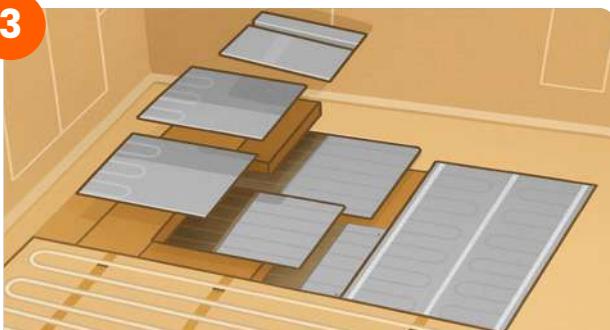
- 5mm layer on top if Tiling.
- 10mm layer on top if fitting Vinyl/LVT.

2



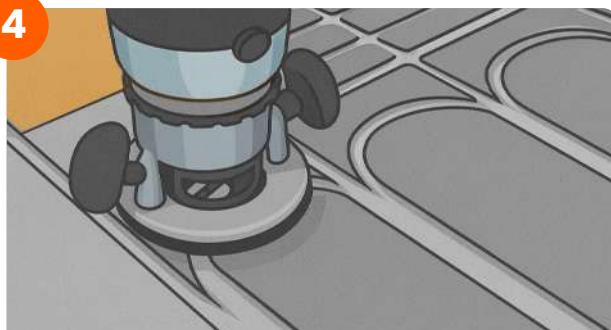
Allow to cure for a minimum of 24 hours prior to carrying out any tiling. Cold and/ or humid atmospheres will delay the curing of Level-it 2 so allowances should be made accordingly. Check product specification for more details.

3



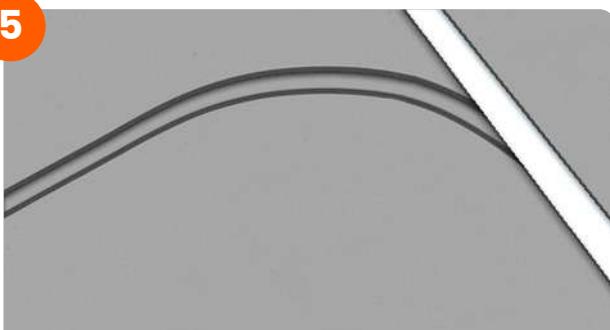
Prime the cured Floor Prime- IT MSP diluted with 3 parts water to 1 part primer. Allow to thoroughly dry.

4



Fix the tiles using UltraTile ProFlex SP adhesive. Ensure full compression of the adhesive to give a void free full adhesive bed. Allow the adhesive to cure for a minimum of 4 hours (depending on temperature) to ensure the adhesive has gone through its initial set before carrying out any further works.

5



Grout tiles with Ultra Tile Flexible Joint Grout. Allow to fully cure before any foot traffic resumes in this area.

6

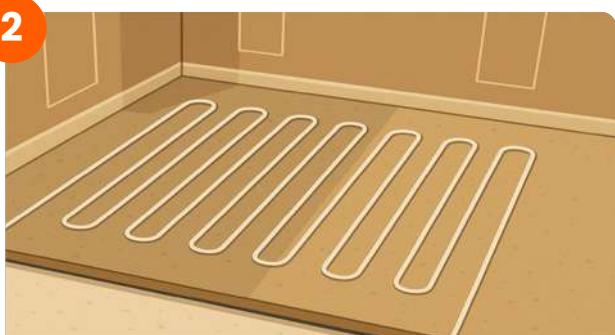


Drying time will depend upon ambient conditions but is typically between 1 and 4 hours.

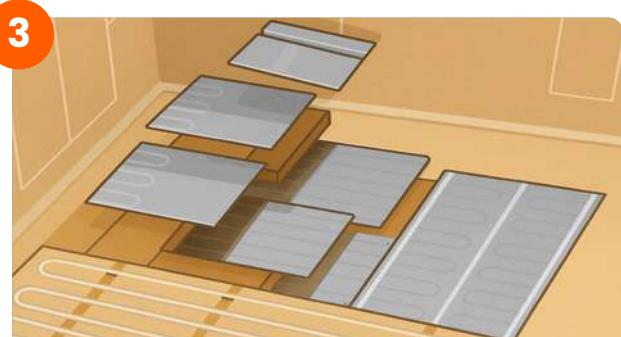
# Tile Adhesive on Solid Floor Panels Directly



Fix the tiles using UltraTile ProFlex S2 adhesive. Ensure that every pipe channel and void surrounding the pipe is fully encapsulated with tile adhesive.



When laying the tiles ensure full compression of the adhesive to give a void free full adhesive bed. Allow the adhesive to cure for a minimum of 24 hours (temperature dependent) before grouting.



Grout tiles with Ultra Tile Flexible Joint Grout. Allow to fully cure before any foot traffic resumes in this area.

## Important

The Underfloor heating system should **NOT** be brought into service for at least 14 days.

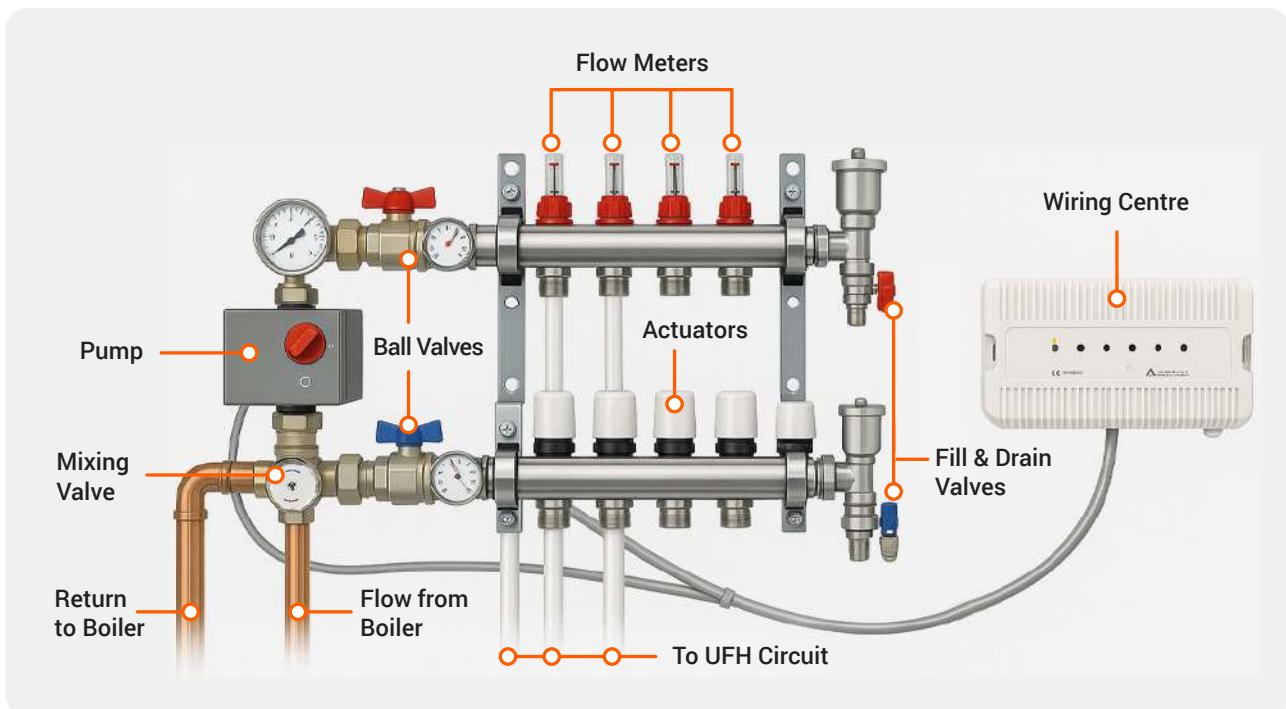
After this time the water temperature should be brought up gradually by 5°C per day to the maximum working temperature (normally 45°C, internal pipe temperature).

If you are in any doubt about any part of the installation process, then call us for advice on 01625 466 258

# Thickness of Levelling Compound

Floor Finish	Minimum Thickness (mm)
Tiles / Natural Stone	6mm
LVT	10mm
Engineered Wood or Laminate (Bonded down)	10mm
Carpet (keep TOG value below 2.5 inc underlay)	10mm
Other	Speak to our Technical Team: <b>01625 466 258</b>

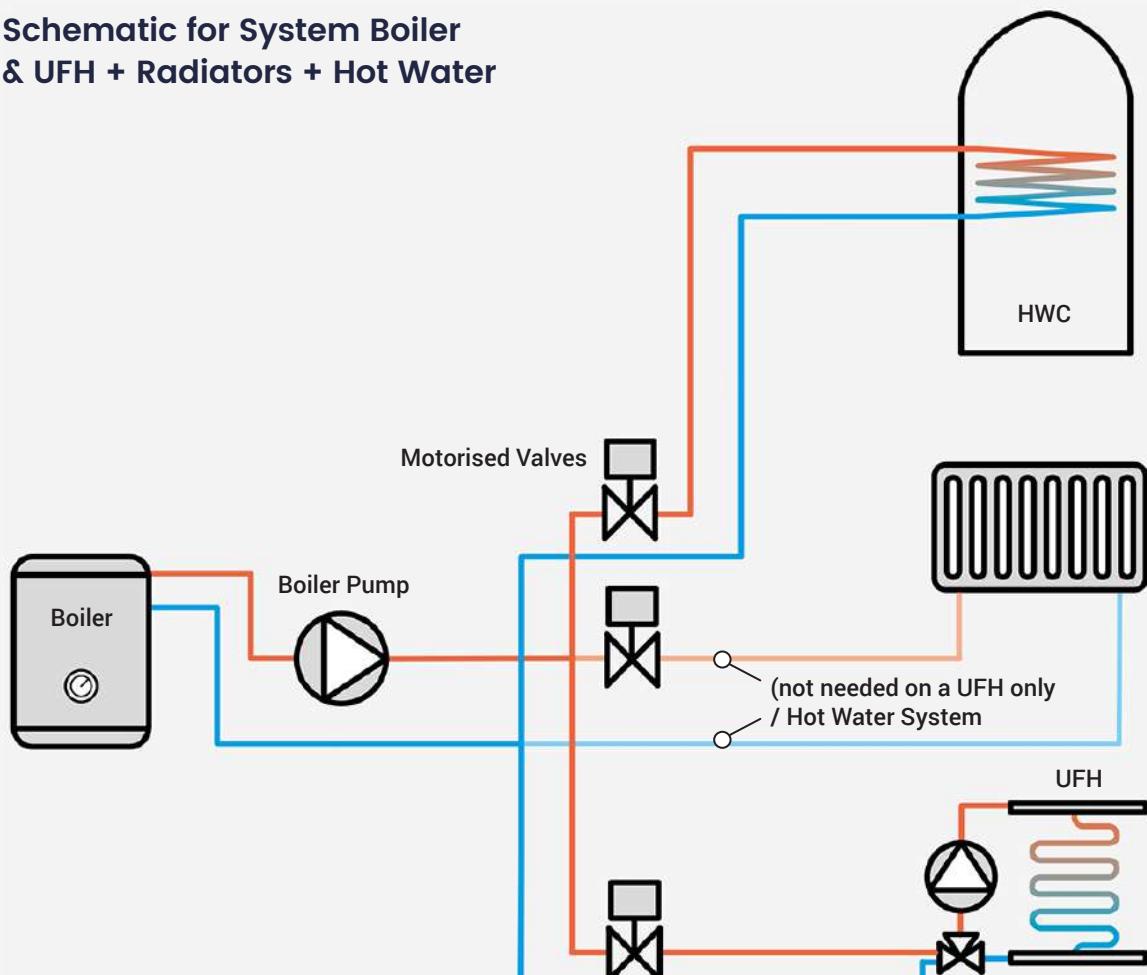
# Pump & Manifold Assembly



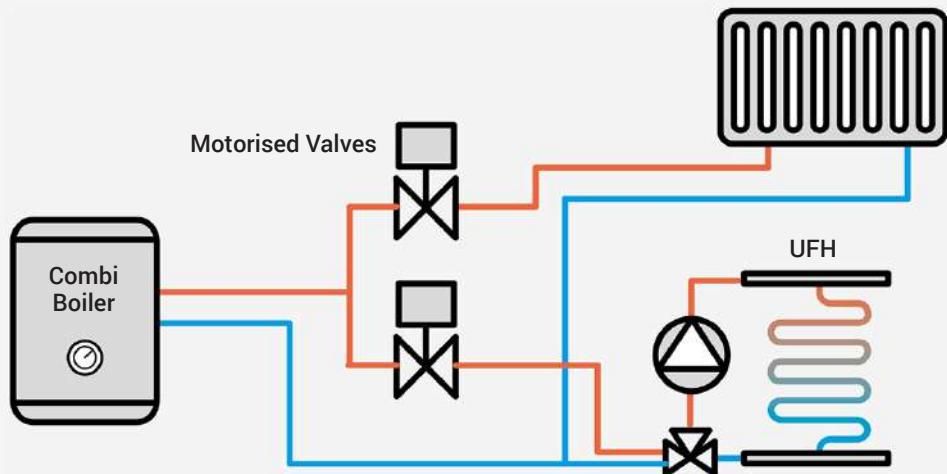
## Filling the Manifold System

1. It is **IMPORTANT** that the underfloor heating system is properly filled with water and purged completely of air to ensure correct operation, it is therefore necessary to follow the procedure below.
2. **IT IS NOT ADEQUATE TO FILL THE SYSTEM USING THE BOILER FILLING LOOP!**
3. Connect a hose from a mains pressure cold water supply to the hose connection on the top (flow) manifold, and another hose from the hose connection on the bottom (return) manifold to a drain.
4. Ensure that all the black caps on the bottom (return) manifold are screwed down, closing the valves.
5. Ensure that the main flow & return ball valves are closed on the manifold.
6. Turn on the water and open the hose connection valve on the top (flow) manifold.
7. Open the first circuit valve by unscrewing the black cap allowing water to flow into the pipe.
8. Open the hose connection valve on the bottom (return manifold) allowing water to flow freely into the drain until the water is clear with no air bubbles.
9. Open the second circuit valve (black cap) and close the first.
10. Open the third circuit valve and close the second etc.
11. Continue until the last circuit has been purged and close the hose connection valve on the bottom (return) manifold before closing the last circuit valve (black cap).
12. While under pressure, check manifold & pipework for leakage.
13. Close hose connection valve on the top (flow manifold) and remove the hoses.
14. If possible pressure test the system to 6 bar for 2 hours.

**Schematic for System Boiler & UFH + Radiators + Hot Water**



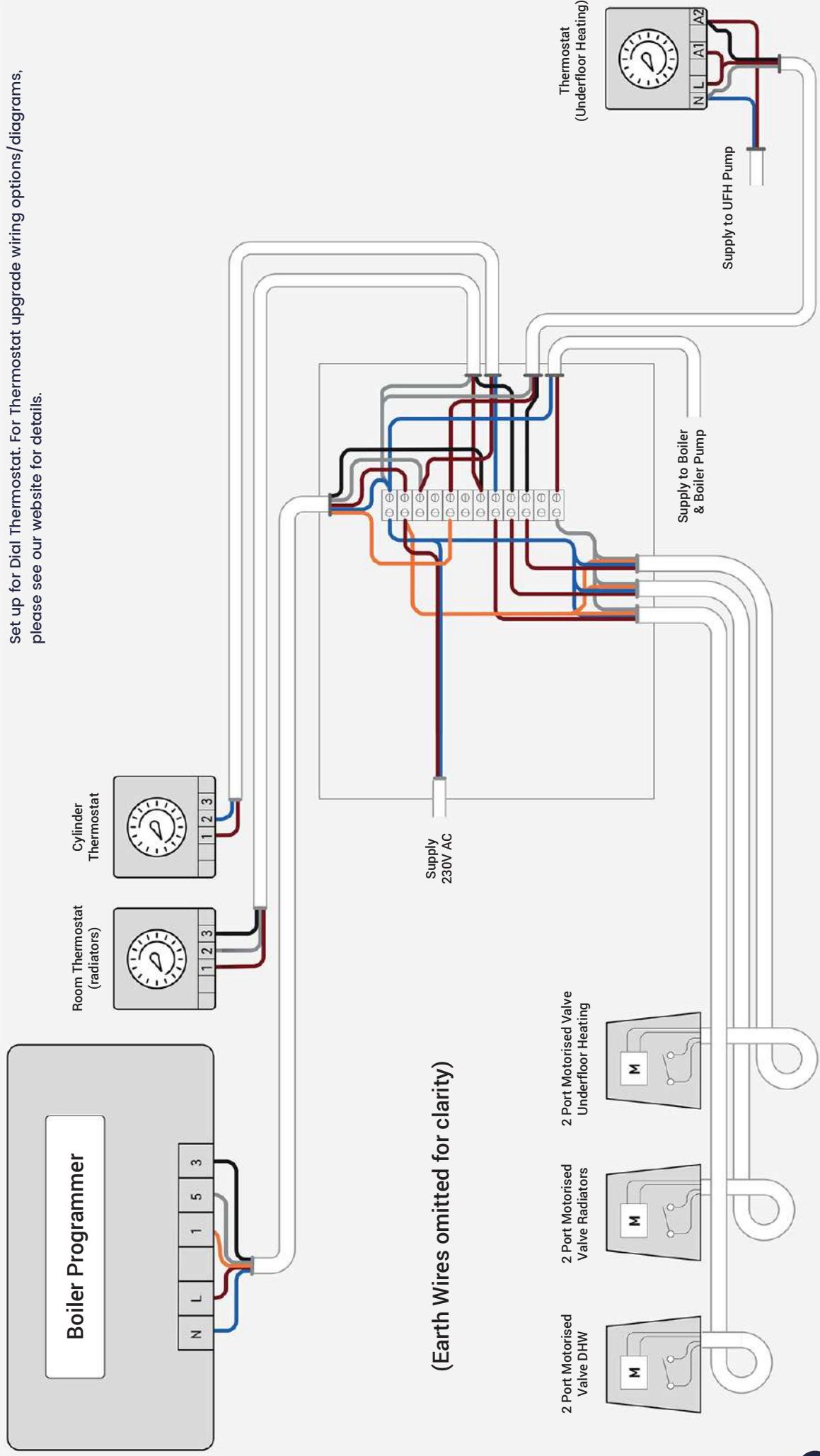
**Schematic for Gas Combination Boiler & Underfloor Heating + Radiators**



# Boiler Electrical Connections

## Single Circuit UFH + existing 'S' Plan System + System Boiler

Set up for Dial Thermostat. For Thermostat upgrade wiring options/diagrams, please see our website for details.



# Combi Boiler Electrical Connections

## single circuit UFH + Radiators + Combination Boiler

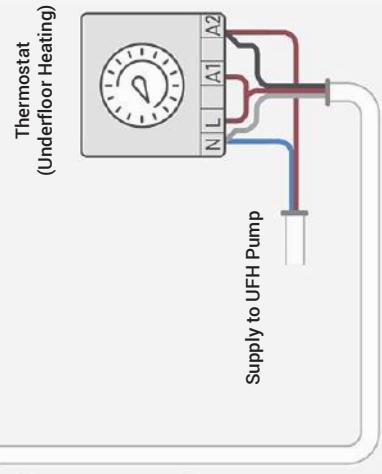
Set up for Dial Thermostat. For Thermostat upgrade wiring options /diagrams, please see our website for details.



Room Thermostat  
(radiators)

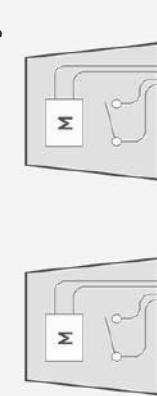


(Earth Wires omitted for clarity)

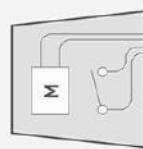


Supply to UFH Pump

Supply to Boiler  
& Boiler Pump



2 Port Motorised  
Valve Underfloor Heating



2 Port Motorised  
Valve Radiators

# Warranty



## Our Water Heating Pipes come with a Full **Lifetime** Warranty.

The warranty excludes coverage for installations performed by unauthorized individuals, as well as for defects resulting from improper design by third parties, misuse, damage inflicted by others, damage occurring during transit, incorrect installation, and any other subsequent damages that may arise. If the damage is attributable to any of the aforementioned reasons, replacement will incur full charges.

Please visit website for full terms & conditions.

[www.theunderfloorheatingcompany.co.uk](http://www.theunderfloorheatingcompany.co.uk)

 **the underfloor**  
**heating** company





the underfloor  
heating company

## Get in touch...



**01625 466 258** Mon-Fri : 9am-5pm



Drop us an email, we'll get straight back to you...  
[info@theunderfloorheatingcompany.co.uk](mailto:info@theunderfloorheatingcompany.co.uk)

[www.theunderfloorheatingcompany.co.uk](http://www.theunderfloorheatingcompany.co.uk)

Excellent  Trustpilot

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