



## INTRODUCTION

OVERLAY panels utilise an 18mm high density dry screed board, which acts as a heat conducting surface, transferring the heat from the pipes to the heated floor above. Once up to temperature, it delivers sufficient heat output to provide warm and even ambient temperatures within the living space. The best floor coverings to combine with the OVERLAY panels, are hard surfaces such as stone and tile, as they offer the least resistance to heat transfer compared to carpets. The main benefit of the Overlay panel is the option for the direct application of tiles (subject to structural integrity), as it can be applied directly with the use of flexible adhesive.

## INSTALLATION

The OVERLAY End Support is a revolutionary, multifunctional underfloor heating pipe and floor support system. The End Support with its multiple snapping points, enables a more flexible approach to underfloor heating installation, giving the installer the benefit of installing larger floor areas. With the integral pipe securing system, it allows a trouble free quick installation of the pipe work, ensuring the underfloor pipe work remains fixed in position. The word support has a multiple meaning; the product offers a support to the floor covering above around the perimeter of the room, without the requirement of a biscuit screed; it supports the pipe work once pressed into place.

### PIPE OPTIONS

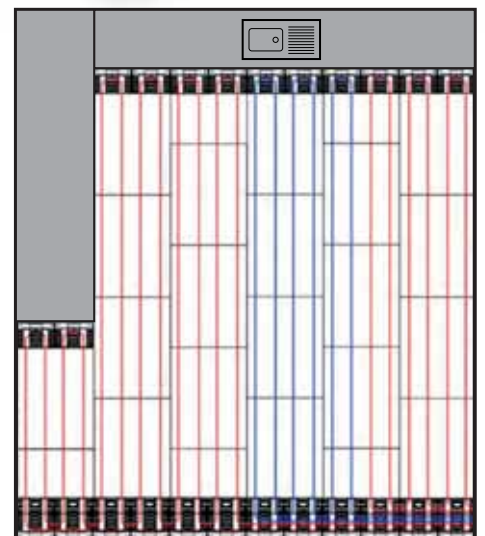
PEX 5 layer

### COIL SIZES

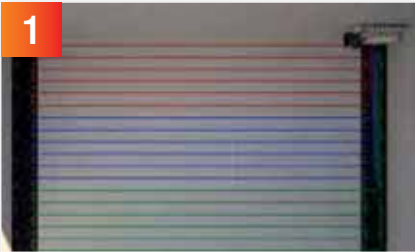
50m and 80m @12mm

### BOARD DIMENSIONS

600mm x 800mm x 18mm (WxD)



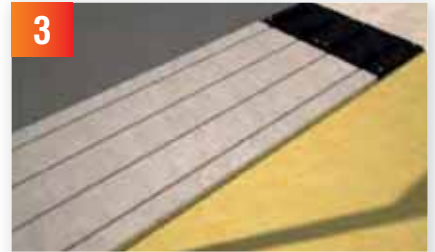
# INSTALLATION STEPS



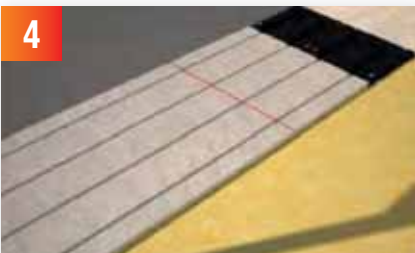
**1**  
**Planning the Overlay system**  
 Read the Overlay floor plan layout, and check manifold locations are correct. Due to the nature of the Overlay system, there may be alterations to the design, and changes may need to be applied to the pipe routes.



**2**  
 Start by laying the first two End Supports into the corner of the room and fix to the wood floor using the available screw holes. Alternatively, if fitting onto a concrete floor, then use either the Overlay adhesive to bond the returns to the floor, or fix directly through to the concrete by raw plug and screw.



**3**  
 Lay the first Overlay panels against the first two End supports. Clean down the boards and ensure there is a 3mm bead of adhesive along the edges, this will ensure that the boards are secure.



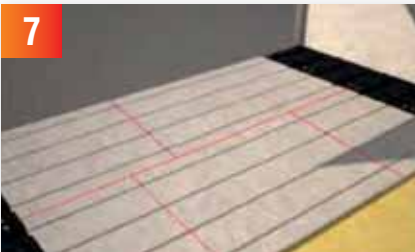
**4**  
 Upon approaching the end of the first row, place two Overlay End Supports into the corner up against the wall. This will leave a final cut of the Overlay to complete the first row, if required.



**5**  
**IMPORTANT!** Ensure that the Overlay panels line up with the end supports. Adjust the boards to suit.  
 Make sure the pipe leaving the board is aligned central to the opening within the End Support.



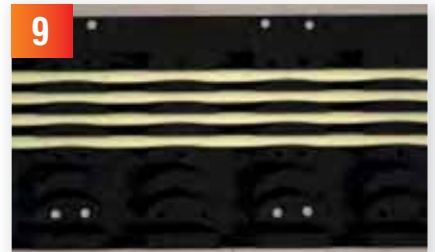
**6**  
 Work your way back up the room, staggering the panels as you go. Ensure you apply the 3mm bead of Overlay glue to all edges.



**7**  
 Upon completion of the first row, start the process again by placing two more Overlay End Supports next to the existing ones, and secure with the integral inter-locking points. Following this, you will need to work your way back up the room, staggering the panels as you go. Ensure you apply the 3mm bead of Overlay glue to all edges.



**8**  
 Start by fixing the 1515 manifold to the wall, about 500mm from the floor to the top of the flow meters. Connect the first circuit to the manifold with the euro cone adaptors.



**9**  
 Start to roll the pipe into the Overlay End Support, utilising the selfretaining pipe clips, and continue to push the pipework into the connecting pipe runs until you reach the other end of the room.



**10**  
 Start to push the pipe into the Overlay, ensuring the pipe is fixed beneath the surface of the board (preferably using a soft rubber mallet or your foot to ensure a good fixing)\*



**11**  
 Use a small piece of the underfloor heating pipework to place in between the groove joining two boards. This will help to keep the floor in place.

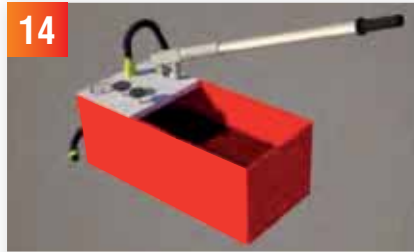


**12**  
 Continue to lay the pipe along the room until you reach the opposite end by walking the pipe into the groove as you go. Once you reach the end of the room, use the End Support to return the pipe back towards the other end.

\* For best results lay the pipe flat on the floor, rather than right angle to the floor.



13 Complete the first circuit and connect the return pipe to the manifold using a euro cone connection. Repeat all circuits.



14 Upon completion of the underfloor heating pipe circuits - ensure all pipe work is pressured tested ( conforming to BS EN 1264).

Provided by others- In accordance with Part 'L' of the current Building Regulations, a suitable layer of insulation material should be included within the floor construction. It is the responsibility of the Architect or Builder to ensure compliance. However, in all instances insulation must be installed beneath the underfloor heating system in order to ensure that any downward heat loss does not exceed 10W /m', in accordance with BS EN 1264.

\*Typical heat output based upon &SEN 1264 20°C room temperature, delta t 5, tile or stone covering - Due to the variability of parameter that effect the heat output of an underfloor heating system - i.e. flow temperature, pipe spacing's, floor covering and design conditions, PLEASE contact the technical department on 01268 567019 to confirm a true representation of system output.

\*\*Please ensure structural integrity of the floor is confirmed - ProWarm™ recommends a minimum of a 6mm layer prior to tiling. Flexible adhesive MUST be used.

Before installing your ProWarm™ underfloor heating system, you MUST ensure you are happy that the system is fit for your purpose, and that the designs are strictly followed. Please call the office on 01268 567019 for further advice if you are unsure.

	Tile/ 6mm Ply	Engineered Wood Floor	Carpet 1.5 TOG/6mm Ply
Flow/ Return Temperature	Heat output W/m2		
50/45	96		49
45/40	78	56	39
40/35	60	43	30
35/30	42	30	21

**WARNING** - Ensure the floor is structurally sound and level, prior to laying the panels. It is important to ensure the floor has been swept thoroughly. Ensure that the overlay panels line up with the end supports, and a 2mm gap is allowed for between each panel. Adjust the boards to suit.

Please ensure the insulation below the board meets current building regulation requirements. When installing above an un-heated area or ventilated void, you 'MUST' ensure the correct 'U Valve' is achieved.

**TIP** - Use a small piece of the underfloor heating pipework to place in between the groove joining two boards. This will help to keep the floor in place.

### FLUSHING THE SYSTEM

1. Once all of the circuits have been completed, and all connections are tight, connect a suitable hose to the upper and lower drain valve on the right hand side of the flow and return manifold.
2. Connect the lower drain valve to the cold water fill. Ensure both the red and blue isolators are closed and all flow meters and the white lock shields are closed. Working from the left, open up the flow meter and corresponding lock shield valve for the first circuit. With all of the remaining circuits closed, open up both drain valves. You are now ready to flush out the first loop. Visually check the water coming out of the hose into a suitable drain. Ensure the water flows freely without any bubbles.
3. Repeat the process on the remaining circuits. IMPORTANT! When each loop has been flushed correctly, ensure that both the lock shield and the flow meter are closed. When flushing the underfloor heating system, only 1 loop at a time should be open.

### PRESSURISE THE SYSTEM

Once all of the loops are flushed and air has been removed, the system must be pressurised to a minimum of 4 bar; using a suitable pressure tester such as a Rothenburger. Open all of the circuit lock shields, along with their subsequent flow valves, and close off the upper drain valve on the right hand side of the manifold. Connect the pressure tester to the lower valve, and raise the pressure to minimum of 4 bar.

### TESTING PERIOD

We recommend holding the system at 6 bar pressure for 1 hour. The pressure gauge may drop even though there are no leaks. This is due to the temperature change of the water. Generally in 1 hour you will recognise a leak. IMPORTANT make sure a suitably responsible person witnesses the pressure test, and signs to say the test was successful. Make sure you carry out a thorough visual inspection of all the pipework before you leave site.

### FLOOR COVERINGS

**Ceramic tiles, Slate, Stone etc** - Tile/Stone finished floor coverings can be laid directly on top of the overlay boards. The boards must first be primed using Prime IT MSP. The tiles can then be secured on top using a suitable S2 flexible tile adhesive.

**Engineered Hardwoods** - Engineered hardwood floors can be applied direct to the OVERLAY, as the OVERLAY below provides a structural base and support for the floor above. Care needs to be taken when selecting the thickness of the engineered wood floor. as the thicker the board, the lower the available heat output. ProWarm™ recommend a maximum thickness of 18mm on top.

**Carpet & Underlay** - ProWarm™ recommend an intermediate plywood layer of 6mm, to be fitted prior to the laying of the carpet and underlay.

**Linoleum & vinyl** - When applying a lino and vinyl finish to the OVERLAY, a completely flat surface is required. Typically, a 10mm intermediate dry screed board, or a 10-12mm layer of self-levelling compound can be applied. Using one of these two methods will improve the efficiency of the underfloor heating system.

Please confirm with the floor covering manufacturer that it is suitable for underfloor heating. BS EN 1264 advises that, in occupied areas the floor temperature MUST not exceed 29°C, however; it also states that, when using timber floor coverings then ensure that this surface temperature does not exceed 27°C.

	Temperature Star Rating	Heating Circuit Flow Temperature	Likely space Heating SPF		Overlay Board			
			GSHP	ASHP	Tile Direct ***	Tile/ 6mm Ply*	Engineered Wood Floor Direct	6mm Ply/ Underlay/ Carpet
Room Specific Heat Load 30 w/m <sup>2</sup>	6	35	4.3	3.6	42	33	30	
	5	40	4.1	3.4	60	46	43	30
	4	45	3.7	3	87	66	56	39
	3	50	3.4	2.7	96	73		49
	2	55	3.1	2.4		86		58
	1	60	2.8	2.1				
Room Specific Heat Load 30 to 50 w/m <sup>2</sup>	6	35	4.3	3.6	42	33	30	21
	5	40	4.1	3.4	60	46	43	30
	4	45	3.7	3	87	66	56	39
	3	50	3.4	2.7	96	73		49
	2	55	3.1	2.4		86		58
	1	60	2.8	2.1				
Room Specific Heat Load 50 to 80 w/m <sup>2</sup>	6	35	4.3	3.6				
	5	40	4.1	3.4	60			
	4	45	3.7	3	87	66	56	
	3	50	3.4	2.7	96	73		49
	2	55	3.1	2.4		86		58
	1	60	2.8	2.1				
Room Specific Heat Load 80 to 100 w/m <sup>2</sup>	6	35	4.3	3.6				
	5	40	4.1	3.4				
	4	45	3.7	3	87			
	3	50	3.4	2.7	96			
	2	55	3.1	2.4		86		
	1	60	2.8	2.1				

**REDUCE FABRIC AND VENTILATION HEAT LOSS** - System cannot perform at the design parameters stated; consider reducing heat loss and/or load-sharing design with other emitter types

**GO AHEAD** - System may perform at the stated efficiencies with the selected floor construction ...

**DOES NOT CONFORM TO BS EN 1264**

\*Typical heat outputs based upon BS EN 1264 part 2 - for guide purposes only

\*\*For conformation of heat outputs- Please contact the office for clarification.

\*\*All data is based upon a delta t of 5 degrees, pre grooved at 150mm pipe centres.

\*\*\*The document should not be used as a design tool. It is for guide purposes only.

••• ProWarmTM cannot verify the structural integrity of tiling direct to the Overlay panels  
- We recommend a minimum of a 6mm no more ply board to be applied prior to tiling

### 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 temp).

If you are in any doubt about any part of the installation process, then call us for advice on 01268 567019.