



MULTIPIPE

RETRO-FIT SCREED BOARD INSTALLATION GUIDE



Underfloor Heating - Retro-Fit Screed Board

WWW.MULTIPIPE.CO.UK

INTRODUCTION & BENEFITS

About Multipipe

We are an independently owned UK business, with a combined management experience within the UK construction industry in excess of 50 years. Our business focus is on product, support, service and quality. We have numerous UK & European partner manufacturers providing high quality, cost effective plastic pipe, fittings and heating products.

Our Multipipe product offer and team have been assembled to provide the UK construction industry a sound, well rounded and cost effective selection of solutions in the fields of plumbing, heating and water distribution.

We provide a wide range of solutions to suit all budgets and project specifications, which in turn are supported by large stock levels, technical support and competitive pricing. Furthermore, our aim is to provide the kind of products and service that ensures long-term sustainable partnerships with our clients.

We have a nationwide sales team, supported by office based internal sales and customer services departments, so you can always get in contact with someone who knows about your project in detail. In addition our 'Samurai' customer service programme ensures that our business operations are slick and robust, and everything we do is designed to support our customers' requirements.

Approvals and Certification



Why Choose Multipipe?

As an Installer:

- Comprehensive plumbing and heating solutions
- Expert know how and onsite support
- The most cost effective solutions in our field
- Product readily available

As a Merchant or Distributer:

- Excellent customer service and support
- Large stocks
- On time in-full deliveries
- Nationwide coverage
- Fast turnaround on quotations

As a Specifier or Designer:

- A range of up to date solutions that integrate with your project
- Quality European manufactured products
- Specification and design support within our in-house team
- Full CAD design facility
- Continuous innovation



SYSTEMS OVERVIEW

mlcp

Multilayer Pipe & Fittings

Founded in 2004, our partner Multitubo now operates in over 40 countries around the world. Focused on listening to the installers, Multitubo now has produced 5 different types of fittings, all perfectly married to their excellent multilayer pipe offering. High grade raw materials, constant design improvement, cutting edge technology and outstanding logistics, Multitubo now stands as one of the leaders in the German and international pipe and fittings market. Our long term exclusive partnership agreement with Multitubo, means we now hold very significant levels of product in stock that is immediately available from our own facility in the UK.



UFH

Underfloor Heating

With over 25 years experience in the commercial underfloor heating market, and in partnership with key industry manufacturers, we have the product, technical knowledge, support and pricing to provide the best in commercial and domestic underfloor heating. We offer both water-based and electric underfloor heating systems; each with different advantages depending on the application and size of the project. Our external technical sales team working in conjunction with our in-house technical and design team can provide whichever solution is required for your specific project, working with you from inception to completion and beyond.



MULTIPIPE

HIU

Heat Interface Units

A primary consideration in modern construction is increased energy efficiency, user comfort and energy costs – particularly in multi-dwelling buildings.

As a result Centralised District Heating schemes, supplied by a combination of traditional and renewable energy sources, are becoming widely accepted as the industry norm for new build developments. Heat Interface Units (HIUs) give Consultants and Engineers a reliable solution which provide eco-friendly, efficient temperature control whilst achieving high energy efficiency and user comfort.

In combination with leading UK manufacturers, we have developed a brand new HIU product range including metering options all backed by the required technical support required.



MULTIPIPE

PRE-INS

Pre-Insulated Pipe Systems

We are delighted to present our newest and incredibly exciting partnership with Terrendis. Founded in 2012 as a subsidiary of the French RYB Group, Terrendis has fast developed a comprehensive range of pre-insulated plastic pipe systems.

We now acts as sole UK distributor for Terrendis systems and products. Our high levels of stock across the range of heating, sanitary and cooling pipe systems and a vast technical experience within our Multipipe team, enables us to both aid in design & specification, whilst also reacting quickly and efficiently to our customers' needs.



WRAS

terrendis

RETRO-FIT SCREED BOARD UFH SYSTEMS



Installation

The Retro-Fit Screed Board End Support are 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.

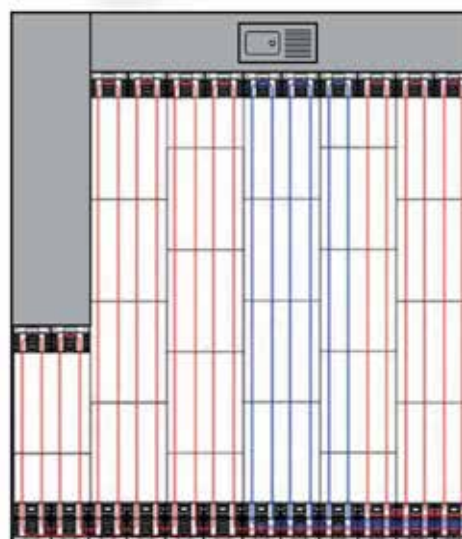
Overview

Retro-Fit Screed Board 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 Retro-Fit Screed Board 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 Retro-Fit Screed Board 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. However, in most instances, a 4 to 6mm ply cover is recommended prior to tiling. When floor coverings such as carpet are to be fitted, the system design must factor in the extra heat output that will be needed; this loss in output needs to be negated by increasing the flow temperature.

PIPE OPTIONS: 12x2mm PE-Xa Barrier Pipe

BOARD DIMENSIONS: 600mm x 800mm x 18mm (WxLxD)

END SUPPORT DIMENSIONS: 300mm x 320mm x 18mm (WxLxD)



RETRO-FIT SCREED BOARD UFH SYSTEMS

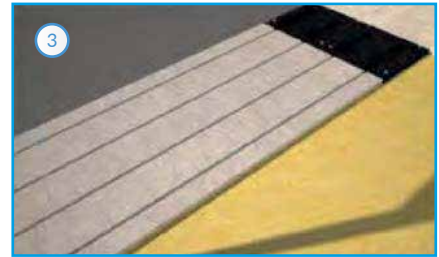
Installation Steps



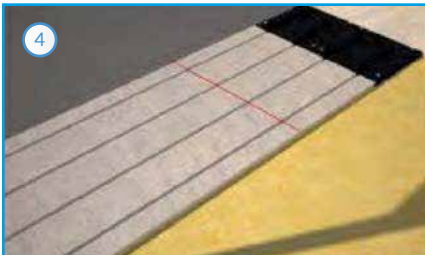
Planning the Retro-Fit Screed Board system. Read the floor plan layout, and check manifold locations are correct. Due to the nature of the system, there may be alterations to the design, and changes may need to be applied to the pipe routes.



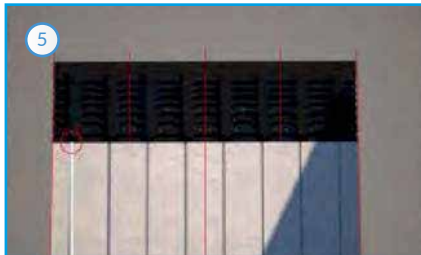
Start by laying the first two End Supports into the corner of the room and fix to the wood floor using the available screw holes. Alternatively, if fitting onto a concrete floor, then use either the Retro-Fit Screed Board adhesive to bond the returns to the floor, or fix directly through to the concrete by rawl plug and screw.



Lay the first Retro-Fit Screed Board 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.



Upon approaching the end of the first row, place two Retro-Fit Screed Board End Supports into the corner up against the wall. This will leave a final cut of the board to complete the first row, if required.



IMPORTANT! Ensure that the Retro-Fit Screed Board 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.



Work your way back up the room, staggering the panels as you go. Ensure you apply the 3mm bead of Retro-Fit Screed Board glue to all edges.



Upon completion of the first row, start the process again by placing two more End Supports next to the existing ones, and secure with the integral inter-locking points.

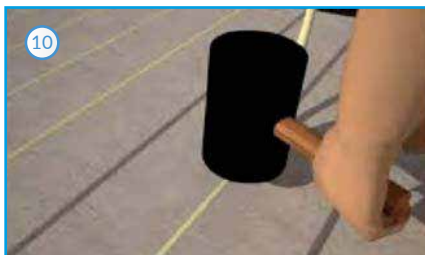
Following this, you will need to work your way back up the room, staggering the panels as you go. Ensure you apply the 3mm bead of glue to all edges.



Start by fixing the 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



Start to roll the pipe into the End Support, utilising the self-retaining pipe clips, and continue to push the pipework into the connecting pipe runs until you reach the other end of the room.



Start to push the pipe into the Retro-Fit Screed Board ensuring the pipe is fixed beneath the surface of the board (preferably using a rubber mallet to ensure a good fixing).



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.



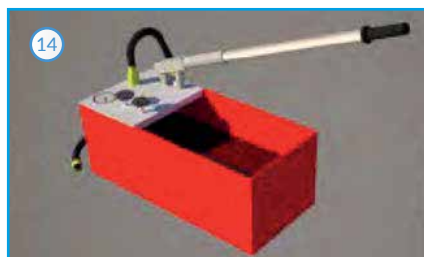
Continue to lay the pipe along the room until you reach the opposite end by walking the pipe into the groove as you go. Once you reach the end of the room, use the End Support to return the pipe back towards the other end.

RETRO-FIT SCREED BOARD UFH SYSTEMS

Installation Steps



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



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 /m², in accordance with BS EN 1264.

*Typical heat output based upon BSEN 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 01245 227630 to confirm a true representation of system output.

**Please ensure structural integrity of the floor is confirmed - Multipipe Ltd recommends a minimum of a 6mm layer prior to tiling. Flexible adhesive MUST be used. Before installing your 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 01245 227630 for further advice if you are unsure.

	Tile/ 6mm Ply	Engineered Wood Floor	Carpet 1.5 TOG/6mm Ply
Temperature		Heat output W/m ²	
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 Retro-Fit Screed Board 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 Retro-Fit Screed 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 Retro-Fit Screed Boards, as the Retro-Fit Screed Boards 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. Multipipe recommend a maximum thickness of 18mm on top.

Carpet & Underlay - Multipipe Ltd 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 Retro-Fit Screed Boards, 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.

Technical Data

			Likely space Heating SPF		Retro-Fit Screed Board			
	Temperature Star Rating	Heating Circuit Flow Temperature	GSHP	ASHP	Tile Direct ***	Tile/ 6mm Ply*	Engineered Wood Floor Direct	6mm Ply/ Underlay/ Carpet
Room Specific Heat Load 30 w/m ²	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 ²	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 ²	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 ²	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 confirm 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.

••• Multipipe Ltd cannot verify the structural integrity of tiling direct to the Retro-Fit Screed Board 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 01245 227630.

SERVICE & SUPPORT

Service

Our aim is to provide the kind of customer service and technical support that ensures long-term sustainable partnerships with our clients:

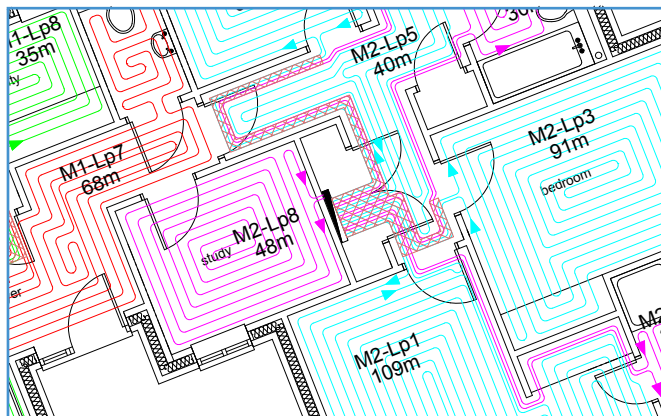
- Comprehensive technical support
- National field sales support
- Installer training at two locations for customer convenience
- Large UK stocks
- On time complete deliveries
- A brand new pre-insulated pipe cutting machine for accurate, rapid order preparation



Quotations

Call us today for quick turnaround, free of charge quotations:

- No obligation quotes
- We cover the full spectrum - UFH, plumbing and pre-insulated pipe projects
- Design, drawing and estimating service



Warranty

Our high quality Multitubo MLCP and fittings come with an industry leading comprehensive warranty for extra peace of mind:

- 25 year guarantee
- Project specific 50 year guarantees are available on request
- Collateral damage warranty of 2 million Euros



'Man in a Van' Support

Our newest team members at Multipipe are here to help installers and support merchant branches with a hands on approach:

- Site experienced and practically minded guys who can help you when you get stuck
- Can provide training on site or in branch
- Have plenty of goodies for breakfast mornings and trade evenings
- Carry on-board spares etc to resolve immediate issues



