

Warmup[®]

The best underfloor heating - **guaranteed**[™]

Econna Joisted Floor Underfloor Heating Installation Manual



Technical Helpline

0845 345 2288

SAFETY Net[™]
Installation-Guarantee

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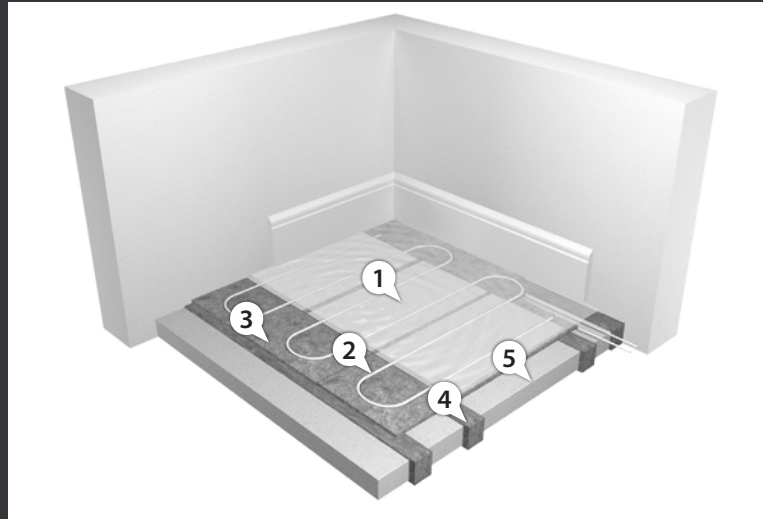
IMPORTANT

Please read this manual before attempting to install your underfloor heating. Incorrect installation will invalidate your warranty. Warmup Plc, accepts no liability, expressed or implied, for any loss or consequential damaged suffered as a result of installations which in any way contravene the instructions that follow.

If you require any help at any stage of the installation please call our helpline :
Warmup Technical Helpline 0845 345 2288

Product Information - Warmup® Econna Joisted Floor System

- ❶ Warmup Diffusion Plate
- ❷ WARMUP Pipe
- ❸ Warmup Econna Routed Flooring
- ❹ Joists
- ❺ Insulation



System Description

The Warmup Econna Joisted Floor System is a composite wood load bearing slotted 22mm floor with return ends.

It is designed to fit on top of standard wood joists of 400mm to 600mm c/c max. This replaces the standard board in the floor construction. A joiner/carpenter may be required if the Econna boards need supporting by extra joists or battens or actually trimming themselves.

The Warmup Econna Joisted Floor System is suitable for almost any floor finish, in particular where the flooring (wood, carpet or vinyl) may be replaced from time to time.

If Econna is to be installed in wet areas then the Econna boards will need to be primed after installation with WHS-X-PRIMER.

Technical Information

The insulation for the Econna Joisted Floor System installed between the joists must comply with Building Regulations in force at the time. It is supplied by Warmup.

Battens to support the insulation will be designed and installed by the flooring contractor and co-ordinated with the installer.

Good planning is paramount, plan the pipe flow and returns from the manifold to the furthest circuit first as the service pipes travel under the Econna boards.

The Econna Joisted Floor System is then installed on top of the joists.

Once in place the diffusion plates are installed. This is followed by the pipework as per the approved design.

Warmup PEX-a pipe is what we recommend at the heart of our system because it is strong, flexible, kink resistant and comes with our best warranties, guaranteed.

Once the system has been installed and pressure tested it should be protected and final floor finishes laid as soon as possible.

Output from the system will be designed to meet your requirements taking into account such criteria as floor finishes.

Components Required

Item	Information
Warmup Pipe	PEX-a - 16mm PE-RT - 16mm
Clypsio Insulation Board	PIR or EPS Gridded insulation boards available in 25mm-100mm thickness.
Or	
Metro Insulation Board	PIR or EPS insulation boards available in 25mm -100mm thickness.
Econna straight boards	600mm x1800mm x 22mm
Econna return boards	595mm x 800mm x 22mm
Warmup Diffusion plate	Single Plates 190mm x1000mm x0.5mm
Adhesion Primer	Used in Econna when the diffusion plates have been installed and secured to the Econna Boards. Prime the entire surface
Fix Binder	To be used with Seal Adhesive for gluing floor boards and for tiling ceramics
Seal Adhesive	To be used with Fix Binder for gluing floor boards and for tiling ceramics
Warmup Pipe Bend Support Part no. WHS-P-BEND	Suitable for use with all Warmup pipes

Important Information

Before commencing installation, it is important that a site inspection is performed. You will need to confirm that all measurements and other requirements on site match your building plans.

Ensure that all subfloors are the correct depth needed to incorporate the underfloor heating. Check for anything that might interfere with pipe installation such as concrete walls where they were not expected or changes to the floor layout.

Note: A redesign of the layout system may be required if any changes have been made.

Insulation

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. The insulation must be installed beneath the under floor heating system in order to ensure that any downward heat loss does not exceed 10W/m^2 , in accordance with BS EN 1264.

Inspect the site for possible hazards that could damage the Warmup pipe, such as nails, staples, materials or tools. Remove any items or potential hazards before installing pipe.

When handling the Warmup pipe it is important to protect the pipe from damage.

Manifold(s)

The Warmup manifold should be assembled and installed as per the design. Please read the manifold instruction book that accompanies the manifold before installing it.

Uncoiling the pipe

DO NOT pull of the coil while it is sitting flat. It must be unwound from the coil, pulling from the top or the bottom of the coil. This will require one person to hold the pipe off the ground, or the use of an uncoiling device such as the WHUF-UNWINDER.

Bending Radius of the Pipe

When laying the pipe, do not force the pipe into bends. It is easier to lay the pipe with a large radius and then gently pull the pipe to the required bend. The maximum bending radius is 5 times the diameter of the pipe.

Kinking

Pex- a pipe only

Excessive bending of the pipe can cause it to kink, where this occurs flow may be obstructed or reduced. Kinked pipe must be repaired. To repair a kink, straighten the pipe and simply heat the area with a hot air gun until the kink disappears.

NOTE: DO NOT use an open flame to heat the pipe.

Heat around the pipe to evenly heat the surface. Ensure that you do not overheat the pipe as this will result in damage . The maximum temperature that the PEX-a pipe can withstand is 95°C .

NOTE: Do not try to bend the pipe in the same spot.

Where the pipe is not Pex-a the circuit will need to be replaced with a new pipework.

Cutting the pipe

Use a pipe cutter designed for plastic pipe ensuring that there are no burrs on the pipe ends. It is important to achieve a clean cut.

NOTE: If you accidentally damage a Warmup underfloor heating pipe BEFORE covering it with screed or other coverings, under the Warmup Safetynet guarantee you may return the damaged coil of pipe to Warmup, who will replace the coil FREE OF CHARGE with pipe of the same length and type.

Important Information

Pipe Installation

Lay the underfloor heating pipe out according to the Warmup design. Using our pipe unwinder will assist. With the Econna system the service pipe that runs from the manifold to the heating circuit needs to be planned carefully, do not lay the Econna system where it will block the service pipe runs as the service pipes run under the Econna system in the insulation layer. Follow Warmup design for this. It may be most beneficial to lay the circuit furthest from the manifold first. Install the pipe along outside walls first so that the hottest (supply) water goes to the coldest areas. Pipe should not be installed under appliances such as freezers.

Before laying the pipe in the plates ensure all debris is removed from the slots. Press or tread down the underfloor heating pipe into the slot of the plate. The pipe must not stick up above the plate ever. If a pipe circuit is installed under floor coverings such as carpet and tile, install pipe under the high R-value area first if possible, as this area will require a higher water temperature.

Entry and exit from under the Econna boards is made from the cut outs in the turning boards.

Plan the circuit layout ensuring that pipes can connect to manifolds without crossing each other.

Ensure that all circuits have been planned in advance to minimize areas where the pipe passes through expansion joints.

Protecting the Warmup Pipe

Pipe Bends

Protection will be required where the Warmup pipe enters the floor. The recommended method for protecting the pipe is the rigid PVC Bend Guide, which holds the pipe in a 90° bend, as well as protecting the pipe from damage.

To install PVC Bend Guides, simply insert the Warmup pipe through the PVC Bend Guide to the appropriate length, (50-75 cm). The PVC Bend Guide should be positioned so that the pipe rises straight to the manifold with approximately half the guide within the floor.



Use the Warmup Pipe Bend Support where it enters the floor.

Warmup® Econna Joisted Floor System - Installation

Step 1

Insulation must be fitted between the joists before the Econna System can be fitted. Cut the Warmup Metro Insulation to size and fit tightly between the joists. The insulation should be supported by fixing battens between the joists. Where service pipework runs from the manifold to the heating zone, the insulation will need to be set lower so as to allow the pipes to run in the void below. Before laying the Econna boards, the degree of evenness under the proposed floor needs checking. Maximum curvature +/-3mm over a 2m distance, but over 0.25m then +/-1.2mm is permissible.



Fit insulation between the joists

Step 2

Begin by laying the Econna and return end boards at right angles to the joists ensuring the distance between joists does not exceed 600mm or 300mm if your floor finish is tiles or stone. Do not fasten down at this stage. The Econna system will impede the service pipes to and from the manifold to the heating zone and where it comes up at the return boards cut outs. The Econna board are 1800x600x22mm and each board has a tongue and groove edging on all sides. If a joint occurs between the same pair of joists the short sided joint must not be positioned closer than 200mm from the short sided joint in the next row.

Note: The return end boards do not have tongue and grooved edges on the long sides. The tongue and groove edge of the Econna board must be removed before joining to the end return board. The joint where the Econna board meets the return end board must be supported by a floor joist. Alternatively the installer can use a routing tool instead of using the return end boards. The board must be fully supported from beneath by joists or studs along all walls. Always leave a 10 mm expansion gap.

Step 3

The boards must be glued to the joists and studs. During the gluing process it is important to ensure that the Econna boards are in line with the return end boards.

Step 4

The boards can now be secured to the joists using screws with a 150mm screw distance along the outer edge of the boards and on short joints. For intermediate supports use a 300mm screw distance. Use a row of screws in each board where short joints meet on the same joist. Installation should be carried out one board at a time. Where the Warmup pipe will be turned, the turning board must be fitted and the pipes laid at the same time.

Note: The laying of the supply and return pipe ends is done before the turning board is fitted.

Step 5

Press the plates down into the Econna board slots. The plates should be laid out at a distance of between 10 - 100 mm. If you need to alter the length of the plates you can do so by snapping across the break lines. If the breaking lines are not suitable, then turn the plate over and with a hacksaw cut through the back of the groove. Then, over a solid edge, bend the plate backward and forward until the plate separates. Remove all burrs with a suitable file, no sharp edges must be left. The slots in the board must be carefully cleaned & free from debris before the plates are laid out. Ensure that all grooves between boards and return end boards are in line before laying the Warmup Diffusion Plate. If the grooves in the boards are not in line the Warmup diffusion plates may buckle. If your final floor finish is ceramic tiles you will have to screw the diffusion plates in place in a zig zag pattern, with the screws at 150mm centres starting 50mm from one end.



Press the plates down into the Econna board

Step 6

When laying the pipe you must ensure that the direction of flow is such that the supply line is closest to the outer wall. Press the pipe into the slot of the diffusion plate. Entry and exit from the floor joist boxes for the supply/return of the circuits is made from the cut-outs in the turning boards. Use a pipe cutter for cutting the pipes.

Step 7

Fix pipe bend to the return pipe and connect to the manifold.

Step 8

Complete Steps 6-7 for each circuit. Lay final floor covering 90° to the plates. See floor covering notes for guidance.

Pressure Testing

A system pressure test **MUST** be carried out before the screed has been laid. The system should be filled and each circuit purged of air. Connect the pressure tester to the drain valve and increase the pressure test to 6 bar.

Leave at 6 bar for 1 hr. If the pressure level remains stable record the results on the pressure test certificate. If you see that the pressure has dropped you will need to inspect the pipework for damage and fittings for proper attachment. Once the pressure test is complete reduce the system pressure down to 3 bar during screeding to protect the pipework.

Floor Coverings

Ceramics or natural stone

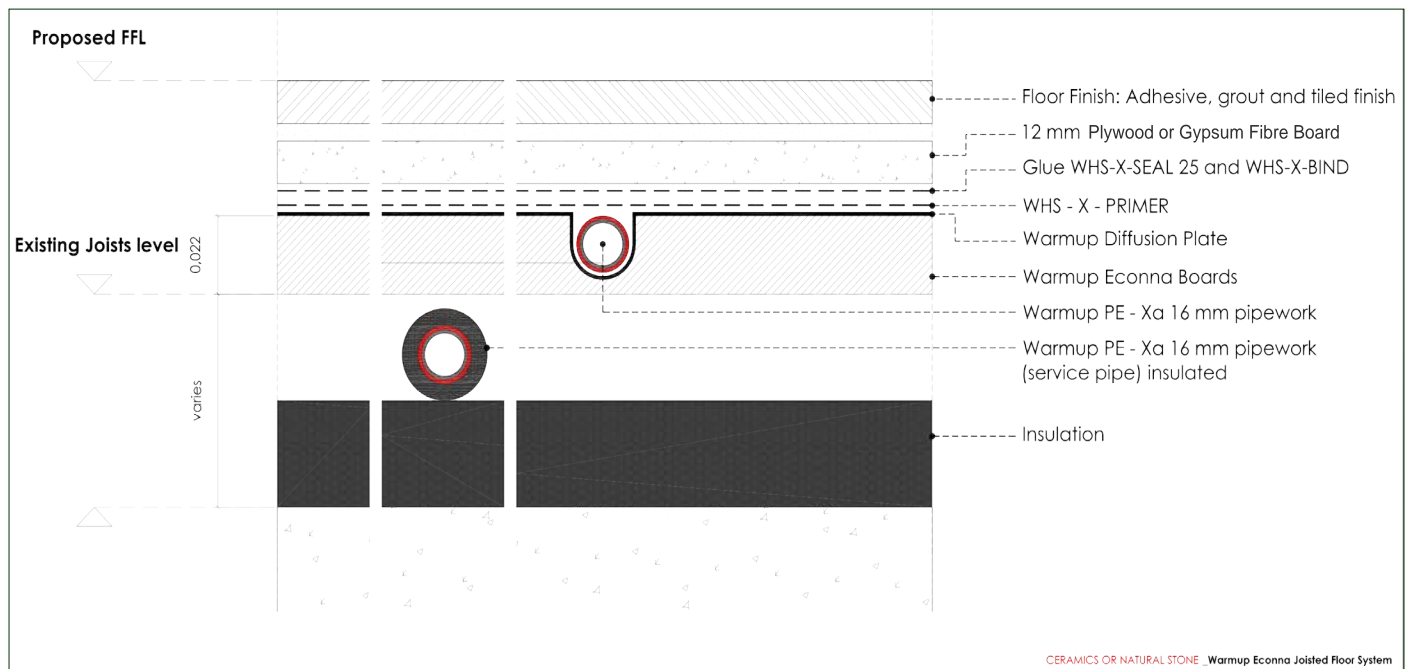
If you are installing ceramic or natural stone tiles you will need to cross batten to ensure that the centre between joists does not exceed 300mm. A stable floor finish is essential when tiling.

Installation

Make sure that the floor and heat distribution plates are clean & free from debris. Once the pipe has been laid the Warmup Diffusion plate must be screwed in place in a zigzag pattern using flat head screws. Clean the Warmup Diffusion plates with a cloth and then apply the WHS-X-PRIMER on the entire surface, leaving to dry for 1-2 hours. Secure 12mm Plywood or Gypsum Fibre Boards onto the floor using WHS-X-SEAL25 mixed with WHS-X-BIND. Using a notched trowel "comb out" the adhesive.

Fit the board within 10-15 minutes after the adhesive is applied. On the boards, mark out the layout of the pipes as this will be needed for the next step to ensure you do not damage the pipes as the boards will have to be screwed in place. Screw the boards in place between the pipe rows and along all sides, 50mm in from the corners and then a distance of max. 300mm in between. Screw between the pipe rows with a distance of max. 500mm between the screws. Tiling can only begin once the adhesive has fully dried (approx. 5hrs).

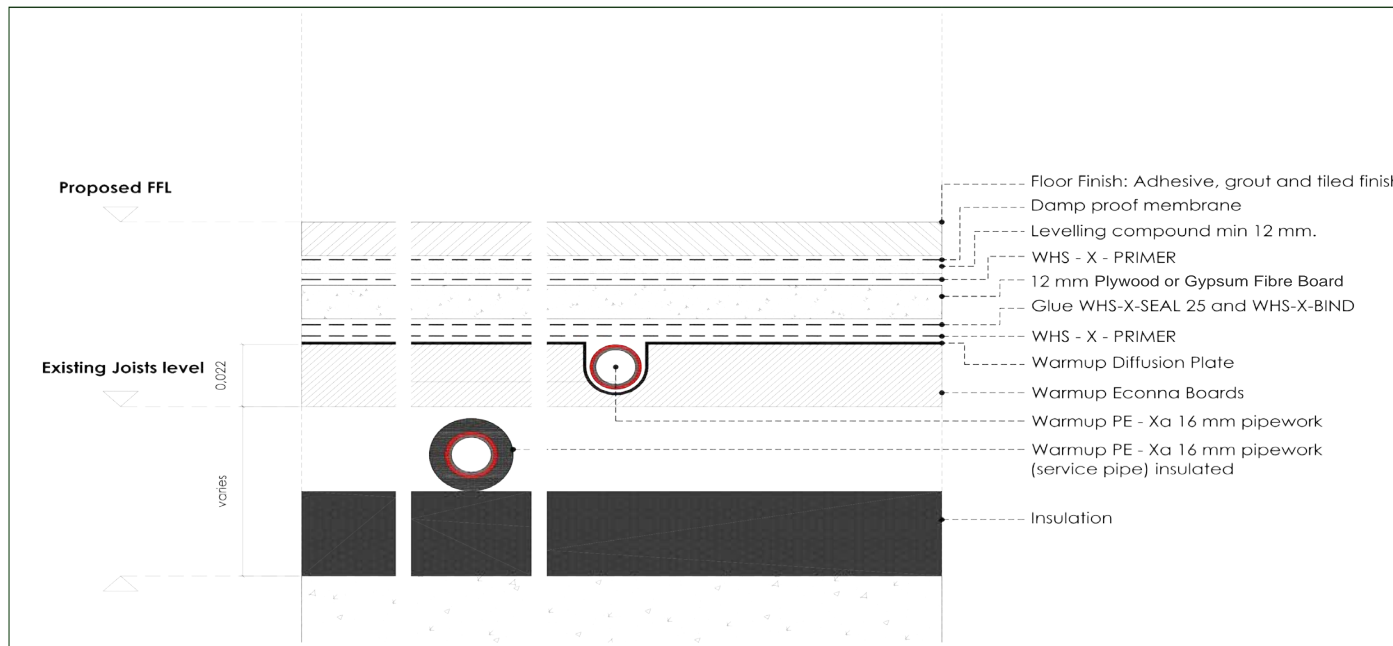
Ceramic/Natural Stone Installation



Installation in wet areas

For installation in wet areas follow the installation method as above. Once the adhesive has fully dried (approx. 5hrs) use a levelling compound on the boards to create a sloping floor area in wet areas, min 12mm by the floor drain. Once the levelling compound has fully dried a waterproofing layer will have to be applied and then tiling can commence.

Ceramic/Natural Stone Installation in Wet Areas

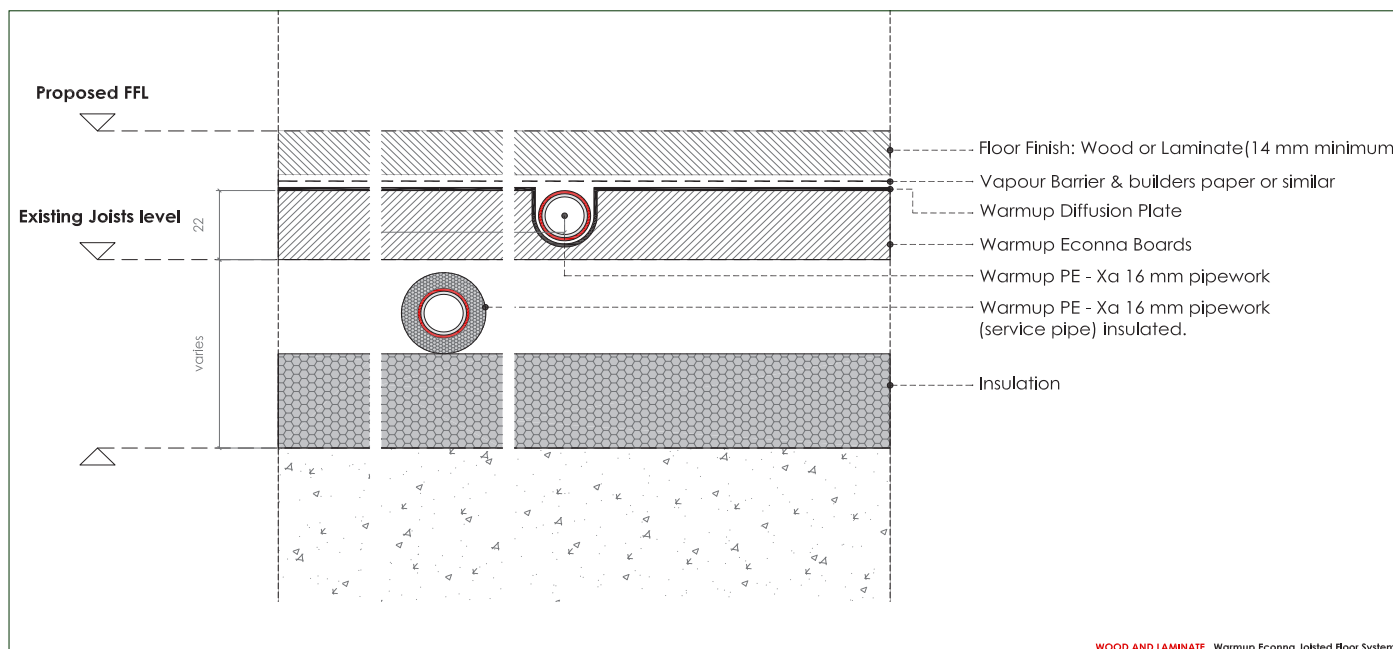


Wood/Laminate

Once the pipe has been installed cover the underfloor heating with a vapour barrier followed by builders paper or similar. Lay the wood/laminate flooring (min. 14 mm thick) in the same direction as the pipes. Please contact Warmup for advice for floors exceeding 18mm thickness.

Check the floor surface temperature indicated by your vinyl supplier for compatibility with under floor heating. Timber flooring carries a 27°C surface temperature limit.

Wood/Laminate Installation



WOOD AND LAMINATE _Warmup Econnia Jobbed Floor System

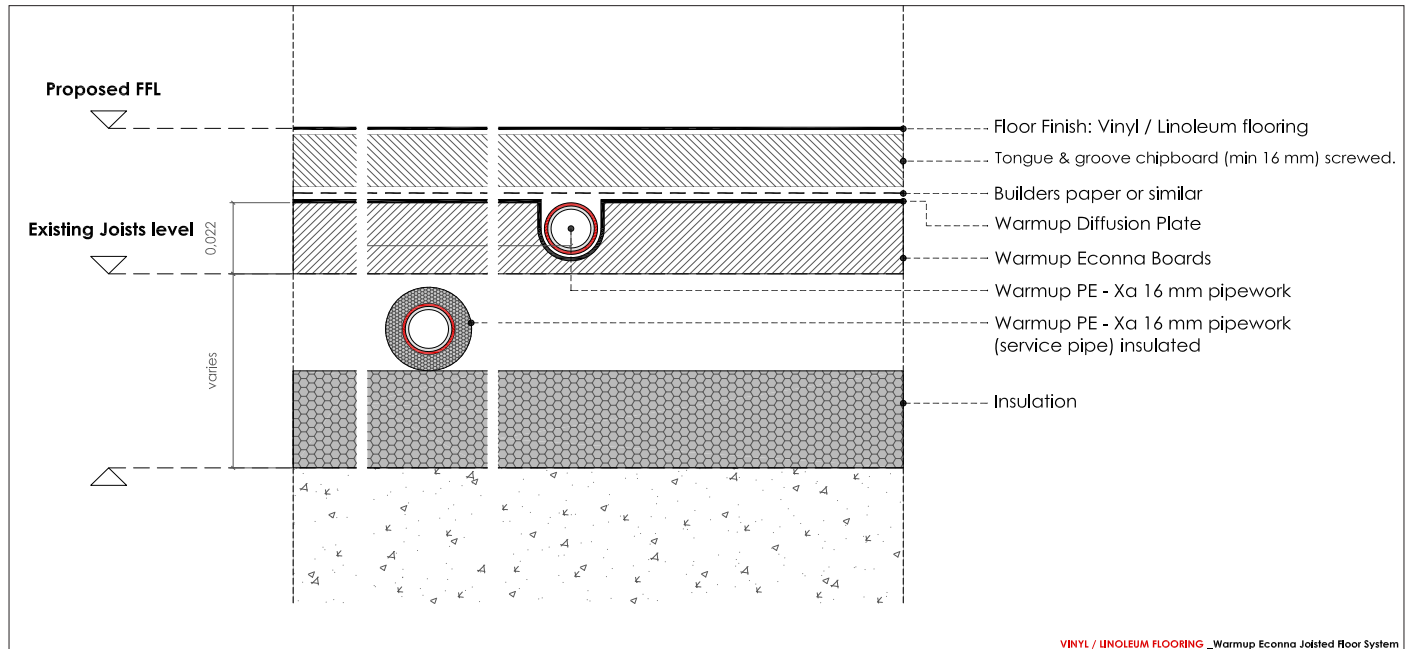
Vinyl/Linoleum flooring

Installation

Once the pipe has been installed lay and fix tongue and groove chipboard (min. 16 mm) over the Econna Board ensuring you do not damage the pipes. Then vinyl/linoleum can be fixed (glued) over the chipboard.

Check the floor surface temperature indicated by your vinyl supplier for compatibility with under floor heating. Vinyl flooring carries a 27°C surface temperature limit.

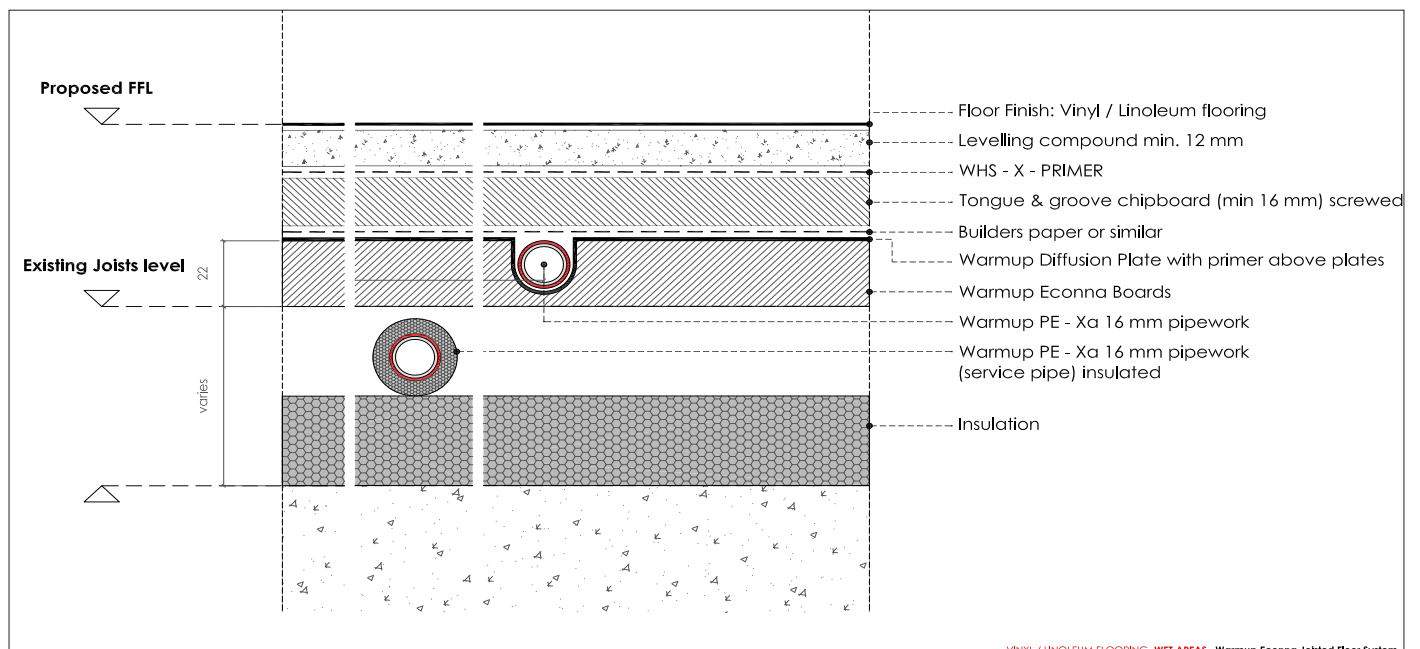
Vinyl/Linoleum Installation



Installation in wet areas

For wet room areas, lay and fix tongue and groove chipboard (min. 16 mm). Prime the chipboard and leave to dry. Once the primer has dried you can screed over the board (must be minimum of 12 mm at drains).

Vinyl/Linoleum Installation in Wet Areas



Additional Information

General

Ensure the boards do not have any visible defects before installing. Leave the boards in the room they are to be installed in for 2/3 days to condition the boards. If anything is unclear, please contact Warmup on 0845 345 2288 before installing.

Warmup Econna and return end boards

The Warmup Econna Boards are to be used in dry indoor environments, climate classes 0 and 1. They must not be used outdoors or in areas with a very high humidity level.

Warmup Econna moisture resistant boards

The moisture-resistant Warmup Econna and return end boards are intended for use in climate classes 0, 1 and 2, i.e. in both dry indoor environments and rather damper environments. However, the boards must be protected from precipitation.

Storing the boards

The boards must be stored indoors on a flat and level surface. If you cannot store the boards indoors cover them with a tarpaulin to protect the boards from moisture. This should only be a temporary solution.

Warranty

Warmup Plc Limited Warranty – Hydronic Floor Heating Pipe

PLEASE REGISTER YOUR UNDERFLOOR HEATING SYSTEM ONLINE AT: www.warmup.co.uk

Registration can be completed online at www.warmup.co.uk. In the event of a claim, proof of purchase is required, so keep your invoice and receipt - such invoice and receipt should state the type of pipe that has been purchased.

THIS WARRANTY DOES NOT EXTEND TO OTHER COMPONENTS WHICH ARE COVERED BY SEPARATE WARRANTIES. THIS WARRANTY DOES NOT AFFECT YOUR STATUTORY RIGHTS.

Limited Warranty:

Warmup® underfloor heating pipe is warranted by WARMUP PLC (“Warmup”) to be free from defects in manufacturing under normal use and maintenance, and is warranted to remain so subject to the limitations and conditions described below.

This warranty period begins on the date of purchase. Registration is confirmed only when confirmation of receipt is forwarded by Warmup PLC.

Warranty Duration



•The Pex-a Underfloor heating pipe is warranted for the LIFETIME of the floor under which it is fitted, except as provided below; your attention is drawn to the exclusions listed and the end of this warranty.



•The Pe-rt Underfloor heating pipe is warranted for a period of 50 years from date of purchase, except as provided below; your attention is drawn to the exclusions listed and the end of this warranty.

•The Pe-rt-Al-Pe-rt Underfloor heating pipe is warranted for a period of 50 years from date of purchase, except as provided below; your attention is drawn to the exclusions listed and the end of this warranty.

Notification of a suspected failure must be received in writing by Warmup within thirty (30) days of the suspected breach. Products believed to be defective must be made available to Warmup for testing and determination of cause.

Upon acceptance of any warranty claim, Warmup shall have ninety (90) business days in which to investigate and determine whether it recognises responsibility for any believed defects in material or workmanship and determines the appropriate course of action to be taken.

It is expressly agreed that the sole remedies under this limited warranty shall be at the discretion of Warmup, Plc. to either: issue a refund, repair or replace any article which is proven to be defective. Any and all allowances made to customers for transportation, labour, repairs or all other work, are at the exclusive discretion of Warmup and shall be authorised in writing, in advance, by Warmup. Such cost does not extend to any cost other than direct costs of repair or replacement by Warmup and does not extend to costs of relaying or repairing any floor covering or floor.

The warranty applies to the products identified above only if they:

1. are registered with Warmup within 30 days after purchase;
2. are selected, designed and installed by a qualified contractor according to installation instructions provided by Warmup which are current as of the applicable Installation Date;
3. are connected to appropriate power and water supplies;
4. are installed according to all applicable building code requirements;
5. are not exposed to pressures and/or temperatures that exceed any limitations printed on the warranted product or in the applicable Warmup product installation manual;
6. remain in their original installed location, such that the floor covering or screed over the product is not damaged, lifted, replaced, repaired or covered with subsequent layers of flooring;
7. do not show evidence of accidental damage, misuse, lack of care, tampering, or repair or modification without the prior written approval of Warmup Plc.

Without limiting the foregoing, this Warmup Warranty does not apply to:

- 1.damage or repairs required as a consequence of faulty installation, application or abnormal operating conditions;
- 2.damage caused during installation, screeding, laying of the flooring or floor finish, or any other remedial works to the floor that are done post installation;
- 3.damage as a result of floods, fires, winds, lighting, accident, corrosive atmosphere, ultraviolet light or other conditions beyond the control of Warmup Plc;
- 4.use of components or accessories not compatible with this product;
- 5.products installed outside the country of original intended destination when specified by Warmup.
- 6.Normal maintenance as described in the installation and operating manual.
- 7.Parts not supplied or designed by Warmup.
- 8.Any damage caused by frozen or broken heat transfer fluid pipes in the event of equipment failure.
- 9.Changes in the appearance of a product that does not affect its performance.

NOTE: It is important to check that the pipe is pressure tested as specified in the installation manual, prior to screeding or final flooring/finishes being laid.

The above Limited Warranty is the full extent of explicit warranties provided by Warmup Plc.

By mutual agreement of all parties, it is agreed that this limited warranty, any claims arising from breach of contract, any breach of warranty, or any other claim arising, shall be governed under the laws of England and Wales. It is expressly understood that Warmup Sales Representatives, Engineers, Distributors, Sub-contractors and Sales and Technical Support Team Members have no authority whatsoever to bind Warmup to any agreement, warranty or remedy of any kind without the express written consent of Warmup Plc.

WARMUP PLC. DISCLAIMS:

- ANY WARRANTY NOT PROVIDED HEREIN INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE.
- ANY STATUTORY OR IMPLIED WARRANTY OF HABITABILITY AS WELL AS ANY RESPONSIBILITY FOR LOSSES, EXPENSES, AND INCONVENIENCES, SPECIAL, INDIRECT, SECONDARY, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM POSSESSION OR USE OF THE PRODUCTS AND ITEMS SOLD HEREUNDER.

THIS WARRANTY DOES NOT AFFECT YOUR STATUTORY RIGHTS.



The Warmup SafetyNet Installation Guarantee for Underfloor Heating Pipe

The Guarantee:

If you accidentally damage a Warmup underfloor heating pipe BEFORE covering it with screed or other coverings, you may return the damaged coil of pipe to Warmup, who will replace the coil FREE OF CHARGE with pipe of the same length and type.

Exceptions:

- 1.The SafetyNet Guarantee does not cover any other type of damage, misuse, or improper installation due to improper adhesive or subfloor conditions. Limit of one free replacement coil of pipe of a maximum of 125m in length per customer, installer and/or property.
- 2.If at any point Warmup believes the damage to be malicious or intentional, they shall reserve the right to withdraw this guarantee.
- 3.Damage to the pipe that occurs after installing your system is not covered by the SafetyNet installation guarantee.
- 4.You must purchase the Warmup Underfloor Heating system from a recognised reseller, and follow all recommended installation procedures written in the, at time of purchase, current Installation Manual. Failure to follow the instructions will result in the revocation of the guarantee.



Underfloor Heating Pressure Test Report

Client :
Installation Address :

Installer Name :
Address :

Completion Date :

Room / Area	Circuit no.	Pass	Notes

Signed by Tester :	Print Name :	Date:
Witnessed by:	Print Name :	Date:

This form must be completed and a copy sent to Warmup to validate the system warranty.

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