

Existing Floors & Low Profile Systems



System shown: Overlay™

Underfloor heating that goes over the floor

For existing solid or timber deck floors - Polypipe's unique Overlay™ underfloor heating range of low profile systems are installed over the existing floor. This makes them ideal for renovation and new build, whole house and single room projects.

✓ Overlay™

Overlay™ accommodates all types of project and floor coverings and the only choice, is that of which panel will be most appropriate for the installation. Both Overlay™ and Overlay™ Lite can be used for the majority of projects, however the choice of Overlay™ is determined by floor covering selection. Overlay™ and Overlay™ Lite can be used as appropriate in the same project.

The more structural nature of Overlay™ however makes it ideal for direct tiling or application of floor finishes which need to be fixed or screwed to the panel.

✓ Overlay™ Lite

Overlay™ Lite is the ideal solution for laminate and engineered wood floors which should be laid directly over the system.

Overlay™ Lite products are easy to install making it ideal for larger floor areas.

✓ Overlay™ Lite 15

Slightly deeper profile, which can be used on top of a supporting floor or as a low profile alternative to floating floor. The system delivers the same responsive heat but is configured to be more suitable for larger, "whole house" projects.

✓ Optimum performance system

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Design and materials

	Overlay™ and Overlay™ Lite	Overlay™ Lite 15
Key design information		
Typical heat output at 50°C mean water temperature	Approx. 79W/m ²	Approx. 65W/m ²
Recommended design flow temperature	45-50°C	
Maximum circuit length	80m (12mm pipe)	100m (15mm pipe)
Maximum coverage per circuit	12m ²	20m ²
Materials required (approx)		
Overlay™ Floor Panel	Coverage 0.48m ²	
Overlay™ Lite Floor Panel	Coverage 0.75m ²	
Overlay™ Lite 15 Floor Panel		Coverage 0.96m ²
Pipe	7m length/m ²	4.5m length/m ²
End Returns	1 return bend per floor panel	0.5 x end return per panel
12mm x 80m coil of pipe	1 coil per circuit	
15mm x 12mm adaptors & stiffeners	1 pack per circuit	
15mm x 100m coil of pipe		1 coil per circuit

Choosing your Overlay™ floor system

Floor finish	Overlay™		Overlay™ Lite		Overlay™ Lite 15	
	Cover details*	Fixing method	Cover details*	Fixing method	Cover details*	Fixing method
Ceramic tiles	Direct	Flexible grout and adhesive	N/A	N/A	N/A	N/A
Optional cover layer	Flexible grout and adhesive	Fix ply using Overlay™ glue plus screw where necessary	N/A	N/A	N/A	N/A
Optional cover layer	10mm Ply/ 6mm MDF	Use tile adhesive conforming with EN12004-Type C	N/A	N/A	N/A	N/A
Solid wood	Direct	Secret fixing to Overlay™ floor panel through T&G	N/A	N/A	N/A	N/A
Engineered wood	Direct	Secret fixing to Overlay™ floor panel through T&G	Direct		Direct	
Laminate	Direct	Secret fixing to Overlay™ floor panel through T&G	Direct		Direct	
Carpet - with cover layer	10mm Ply / 6mm MDF	Fix ply using Overlay™ glue plus screw where necessary	10mm Ply/ 6mm MDF	Glue with contact adhesive	10mm Ply/ 6mm MDF	Glue with contact adhesive
or	6mm Hardie backer board	Use tile adhesive conforming with EN12004-Type C	N/A	N/A	N/A	N/A
Vinyl** - with cover layer	10mm Ply / 10mm MDF	Fix ply using Overlay™ glue plus screw where necessary	N/A	N/A	N/A	N/A

* Cover board thickness indicated are minimum. The maximum thickness of any cover board is 18mm. Sheet products other than those shown may also be suitable.

** If using Karndean or Amtico type flooring, refer to manufacturers for suitable floor finish.

Overlay™ and Overlay™ Lite pre-insulation requirements

Planning

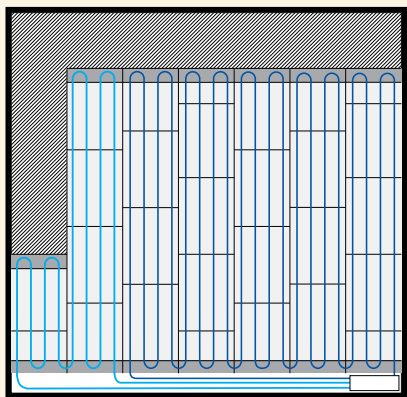
Planning the Overlay™ system beforehand will save time during installation and minimise product waste.

The direction the pipe runs to and from the ZRU or manifold and use of the return bends will be the main considerations.

The end returns have a flat panel which forms a channel to allow the routing of pipes to multiple circuits in the room. This can be removed where necessary.

Floor areas which don't require pipe circuitry, e.g. beneath kitchen cupboards or sanitary ware, can be 'blanked' using 18mm plywood or chipboard. This will make better use of the Overlay™ products. This can also be used to 'square off' rooms with irregular walls.

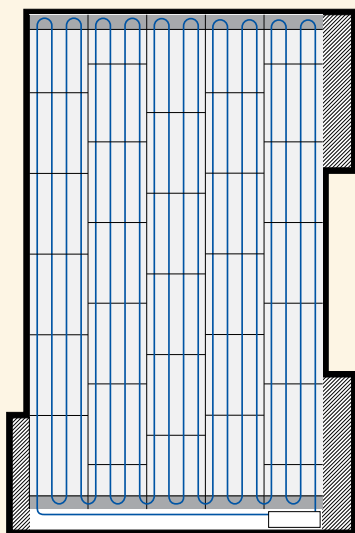
Example of 'blanking' on kitchen plan



Example of 'blanking' in a bathroom



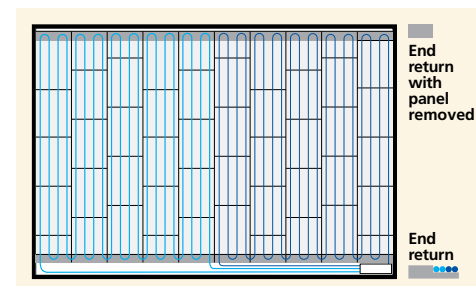
Example of 'squaring off' an irregular room plan



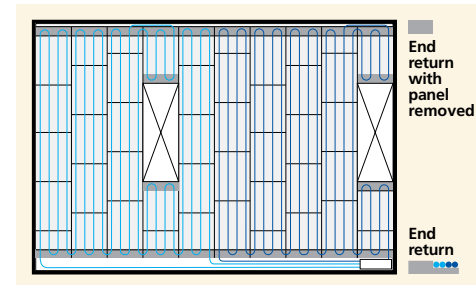
Room layouts

The following diagrams show some examples of room shapes, pipe requirements and interruptions (pillars, hearths, etc.) which need to be accommodated.

Room with 2 circuits



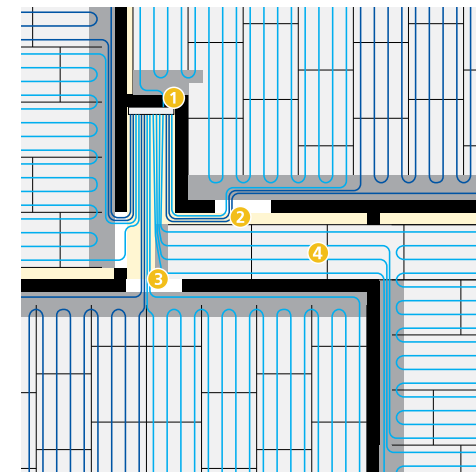
Room with pillars/hearth



Pipe layouts in multiple room installations

Multiple room installations require several circuits and careful planning is required close to the manifold to allow for all pipes to be accommodated.

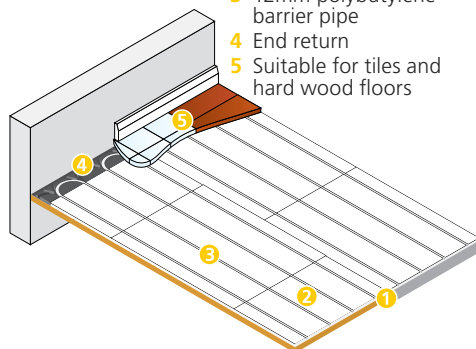
- 1 Wherever possible pipes can simply go through, rather than round, walls to eliminate the number of pipes requiring access through the entrance of the manifold cupboard.
- 2 Alternatively leave voids at the edge of the panels.
- 3 Using return bends as routers or
- 4 using supply pipes to heat corridors are all ways of managing the installation in this area.



Overlay™ for heavyweight floor coverings

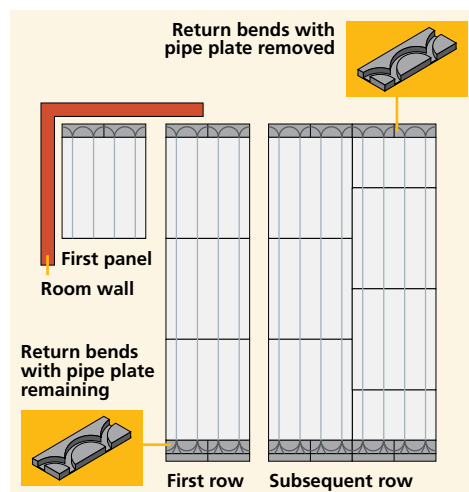
Installation

- 1 Fits over concrete or floorboards
- 2 600mm x 800mm x 18mm Overlay™ panel
- 3 12mm polybutylene barrier pipe
- 4 End return
- 5 Suitable for tiles and hard wood floors



Step 1: Laying end returns

Start by fixing two end returns to the floor in a corner of the room. Remove the pipe panel if not required as per your floor plan. This should be done by using suitable screws in the screw holes of the end return panels when fixing to a wood floor, or by using Overlay™ adhesive (code PB777) to bond the end returns to solid floors.



Step 2: Laying the panels

Clean down the edges of the panel and apply a 3mm bead of adhesive to the top edge. Then lay it, ensuring you line up the grooves in the panel with those in the end returns. Continue to lay the first row of panels gluing each joint to achieve a secure installation.



When gluing the ends, ensure there is no residual glue in the pipe grooves and use short lengths of pipe to help with panel alignment.



Step 3:

When you get close to end of the first row fit two end returns against the wall as in step 1 and if necessary cut an Overlay™ floor panel to fit and complete the first row.

Cutting the panels

Panels can be cut using a hand saw or jigsaw set at a low speed. Cutting these panels will generate dust so should either be done outside or in a ventilated room. Ensure you wear a particle mask.



Step 4:

Once you have completed the first row begin the process again, gluing the ends and sides of each panel, staggering the panels in the second row in a brickwork pattern and continue until the room is complete.



Step 5: Laying the pipe

Starting from your manifold position and allowing enough pipe for connections lay the pipe into the grooves of the Overlay™ floor panel in accordance with your plan.



Finishing

Using a floor filler/grout fill any gaps and voids, and fill around any pipework.

Tiles can be laid directly on to the Overlay™ floor panels or a cover board can be fitted prior to tiling.

When tiling directly over Overlay™ floor panels, use a sealant with flexible adhesive and grout.

If fitting solid wood floors they can be discretely screwed through the tongue and groove directly into the Overlay™ floor panel, avoiding pipe circuitry, to minimise movement in the floor covering.

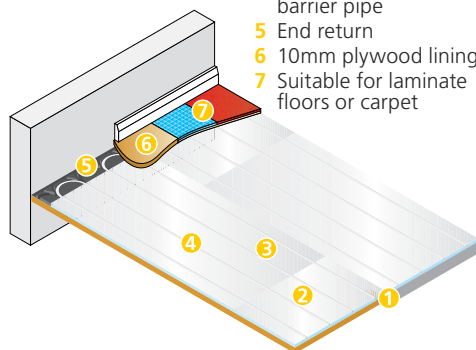
Example showing 10mm plywood cover



Overlay™ Lite for lightweight floor coverings

Installation

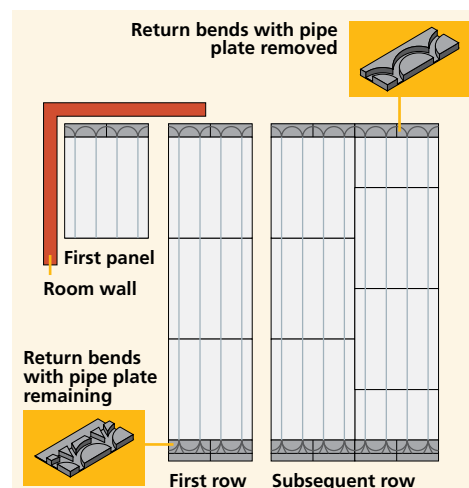
- 1 Fits over concrete or floorboards
- 2 Overlay™ Lite panel
- 3 Heat diffusion foil
- 4 12mm polybutylene barrier pipe
- 5 End return
- 6 10mm plywood lining
- 7 Suitable for laminate floors or carpet



Step 1: Laying end returns

Start by fixing two end returns to the floor in a corner of the room. Remove the pipe panel if not required as per your floor plan.

This should be done by using suitable screws in the screw holes of the end return panels when fixing to a wood floor or by using Overlay™ adhesive (code PB777) to bond the end returns to solid floors. adhesive (code PB777) to bond the end returns to solid floors.



Step 2: Laying the panels

Lay the panel ensuring you line up the grooves in the panel with those in the end returns, then continue to lay the first row of panels using short lengths of pipe to help with panel alignment.



Step 3:

When you get close to end of the first row fit two end returns against the wall as in step 1 and if necessary cut an Overlay™ Lite floor panel to fit and complete the first row.

Cutting the panels

Panels can be cut using a sharp knife and a metal rule.



Step 4:

Once you have completed the first row begin the process again with the second row, staggering the panels in a brickwork pattern.



Step 5:

Use the self adhesive foil tape along the long panel joints to securely fix the panels to the adjacent row



Step 6:

Now continue this process, completing the whole room.

Step 7: Laying the pipe

Starting from your manifold position and, allowing enough pipe for connections, lay the pipe into the grooves of the Overlay™ Lite floor panel in accordance with your plan.



Step 8:

Once you have finished laying the pipe use the self adhesive foil tape to secure the panels and pipe, running across all the panel joints, and do the same across the joints where the panels meet the end returns.



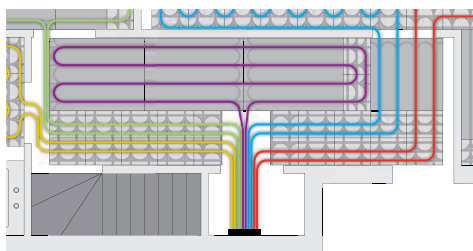
Finishing

Laminate and engineered wood can be laid directly over Overlay™ Lite floor panels. Where carpet is being fitted, first fix a 6mm MDF or 10mm plywood using a contact adhesive, then continue to lay the floor covering as normal. It is advisable to mark out pipe positioning to avoid stapling pipes when fitting carpets.

Pre-installation planning and room layouts for Overlay™ Lite 15

Overlay™ Lite 15 consists of system panels and end return/transition panels. Although return bends are pre-formed in the panel moulding the use of end returns for both transition pipes and around manifolds provides greater flexibility when planning pipe layouts and connection lengths.

Pipe layouts in multiple room installations



In transition areas such as hallways and corridors a combination of end return/transition and full panels can be used in order to accommodate the pipe connection lengths and any dedicated circuit/s for that area.

It is also acceptable to run the connection lengths at floor level alongside the edge of the panels if insufficient space is available within the panels themselves.

In the area of floor directly below and in front of the manifold the pipe work can be secured in place by clipping to pipe to some Overlay™ Lite 15 floor panel laid upside down and using our pipe clips or staples.

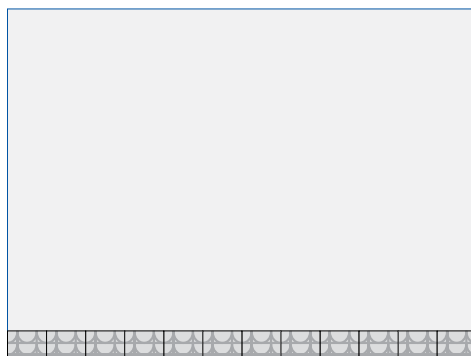
Installing multiple circuits

When a room requires two or more pipe circuits the end return panels can be used to provide easy access for the connection lengths.

In the example below the room needs two circuits so a single run of end return panels are laid along one side of the room as shown.

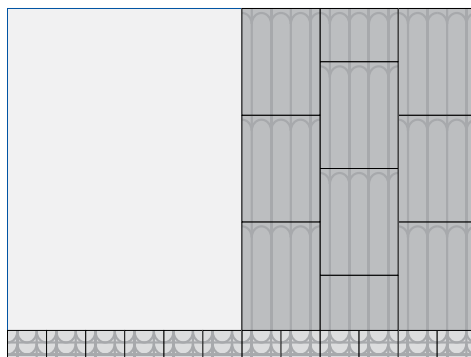
Step 1

In this example the room needs two circuits so a single run of end return panels are first laid along one side of the room as shown.



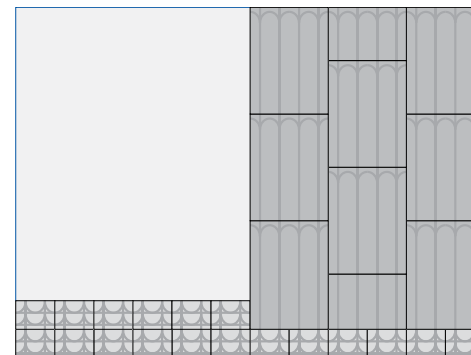
Step 2

The first section of Overlay™ Lite 15 panels can then be laid.



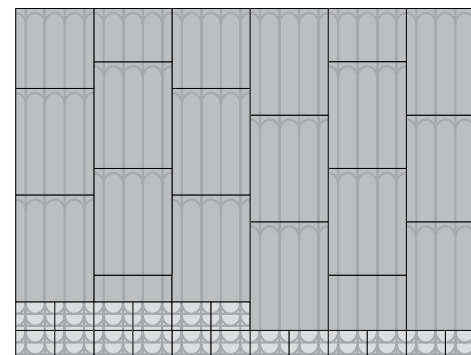
Step 3

Once the first lot of panels are laid a second row of end return panels should be laid as shown.



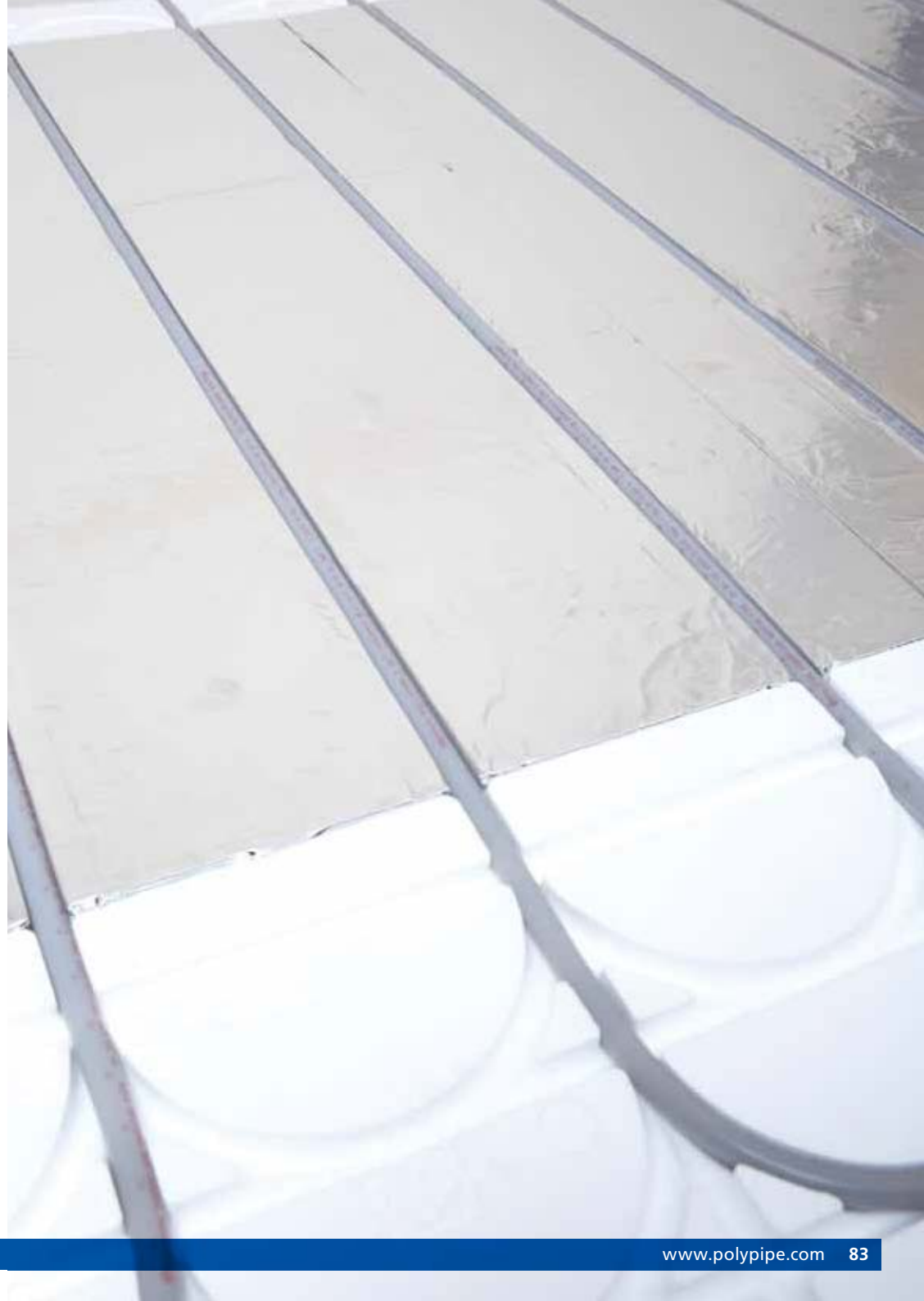
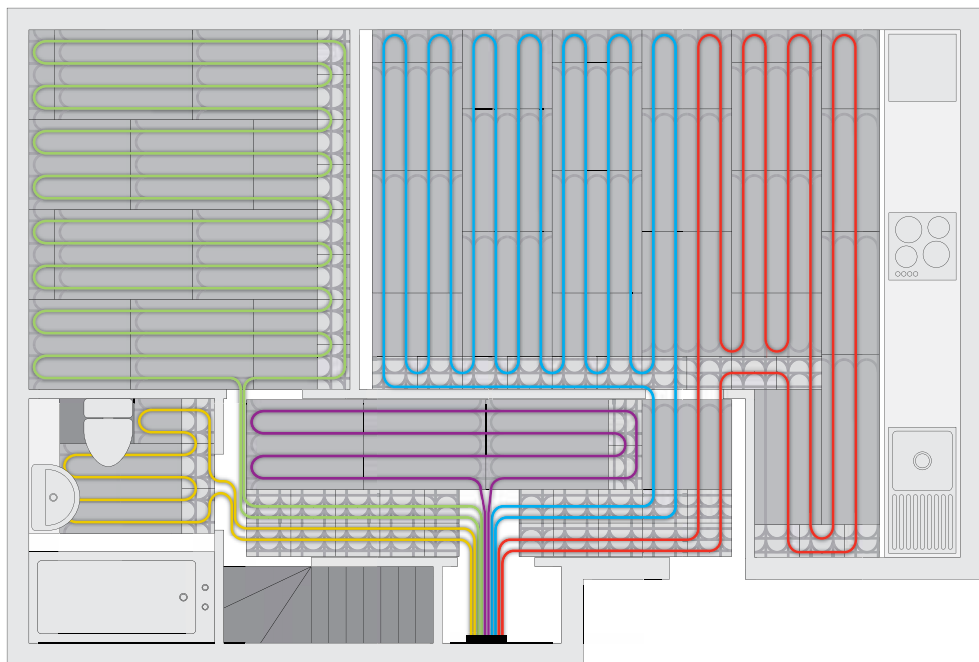
Step 4

Finally the remaining section of Overlay™ Lite 15 panels can be laid in place to complete the installation.



Connection lengths:

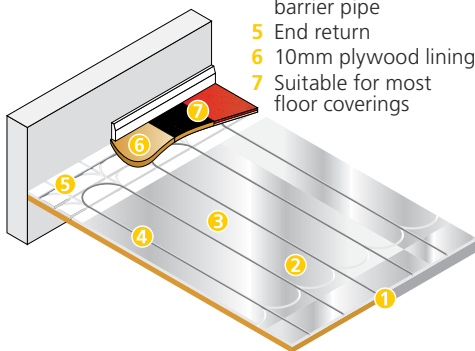
The Overlay™ Lite 15 end return panels can also be used in hallways and corridors where it becomes necessary to use these areas for circuit connection lengths. In the example as shown below the end return panels have been used to provide both heating in to the area and to convey the connection pipe work to other rooms.



Overlay™ Lite 15 for larger floor areas

Installation

- 1 Fits over concrete or floorboards
- 2 Overlay™ Lite 15 panel
- 3 Heat diffusion foil
- 4 15mm polybutylene barrier pipe
- 5 End return
- 6 10mm plywood lining
- 7 Suitable for most floor coverings



Step 1: Laying end returns

Begin by fitting a row of end return panels along one wall of the room. The end return panels should be suitably fixed down to the sub floor using screws.



Step 2: Laying the panels

Lay the first line of panels ensuring that the grooves in the end returns are aligned correctly with the grooves in the panels. Use short lengths of pipe ensure this alignment.



Step 3:

When you reach the opposite wall place two more end returns in place and if necessary measure and cut a panel to suit to complete the row.

Cutting the panels

Panels can be cut using a handsaw.

Step 4:

Repeat this procedure until the floor area is complete.



Step 5:

At this point apply the self adhesive foil tape to the vertical joints in the panels only so as to hold them securely in place.

Step 6: Laying the pipe

Starting from your manifold position and allowing enough pipe for connections, lay the pipe into the grooves of the Overlay™ Lite 15 floor panel in accordance with any design documentation.



Step 7

Once the pipe has been laid complete the installation by taping up all of the remaining joints including those where the panels meet the end returns.



Finishing

Laminate and engineered wood can be laid directly over Overlay™ Lite 15 floor panels. Where carpet is being fitted, first fix a 6mm MDF or 10mm plywood using a contact adhesive, then continue to lay the floor covering as normal. It is advisable to mark out pipe positioning to avoid stapling pipes when fitting carpets.

Using Overlay™ Lite 15 as a floating floor application

Pre-installation planning and room layouts for Overlay™ Lite 15

The Overlay™ Lite 15 system can be used as a Floating Floor application by applying a suitable layer of 18mm structural T&G chipboard directly on top of the panels.

The end return panels can be used in corridors and around doors to channel the pipe to and from the manifold.