

## Floor installation instructions

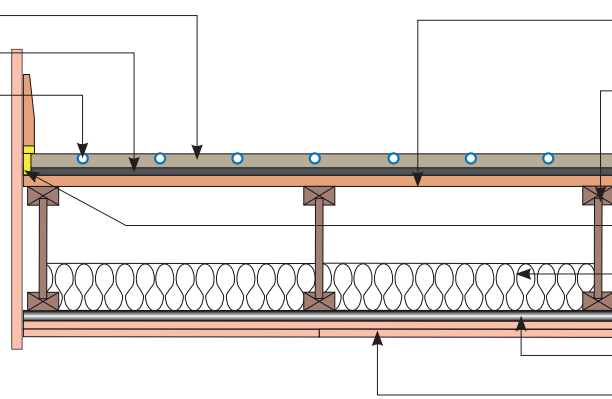
# ALPRT10 – 10mm Fastflo™ in pre-routed LoPro™10 panel in over suspended timber joists

### Supplied by Nu-Heat

15mm LoPro™10 panel  
5mm IsoRubber-UFH-NH  
10mm Fastflo™ tubing  
Castellated panel/  
LoPro™QuickSet  
self-levelling compound  
Edge isolation strip  
(not illustrated)

### Supplied by others

Structural OSB deck  
Floor joists  
Perimeter flanking strip\*  
Min. 100mm Knauf mineral wool  
insulation  
Resilient bar  
Plasterboard  
Ceiling structure to meet  
acoustic/fire criteria as required



**Note:** If this floor construction is used in a project that does not need to meet Part E of the Building Regulations relating to acoustic performance, the ceiling detail can be omitted.

\* Can be purchased from Nu-Heat

## TECHNICAL INFORMATION

### Insulation

Minimum 100mm mineral wool insulation should be incorporated into the joist void. This will improve acoustic performance and should be of sufficient depth to meet the requirements of Part L of the Building Regulations.

### Underfloor heating layer

Individual LoPro™10 panels are laid in brick-bond format over a 5mm layer of IsoRubber-UFH-NH. A castellated tray is used to carry pipe to the manifolds (the 5mm IsoRubber should be glued to the deck in these areas). Once all floor heating pipe is installed the castellated tray is filled with the self-levelling compound supplied.

Virtually any covering can be applied over LoPro™10, but using thermally conductive coverings ensures greater heat output and faster warm up times.

### Acoustic bridging

It is important that there is no contact between any elements of the underfloor heating or deck and the structural floor. Therefore install the perimeter flanking strip to both internal and external walls.

### Floor structure

The deck immediately below the LoPro™10 UFH layer should be 22mm chipboard or equivalent, to give sufficient stability for final floor finishes.

## TECHNICAL SPECIFICATION

### ALPRT10 acoustic data

Airborne 61dB  $R_w$   
Impact 53dB  $L_n, w$   
Achieved on system illustrated.

### LoPro™10 panel

Weight 16.7kg/m<sup>2</sup>  
Density 1100kg/m<sup>3</sup> min.  
Standards Manufactured to  
BS EN 15283-2:2008  
Material Gypsum fibre board  
Dimensions 1200 x 600 x 15mm  
Area 0.72m<sup>2</sup> per board  
Routing ø10mm @ 150mm centres

Acoustic performance data is taken from tests carried out at the Sound Research Laboratories, Sudbury, in accordance with the relevant BS EN ISO standards. Laboratory performances stated are specific to the above system only, inclusive of all elements shown and correct installation and should be used for guidance only.

The information contained in this publication is believed to be current and accurate as at the date of publication but no warranty, express or implied is given. Updates will not be issued automatically.

**COVERINGS TABLE – LOPRO™10 PANEL FIXING METHODS**

Please use the following table to determine the installation method that suits the chosen floor covering.

		IsoRubber/ LoPro™10 fixing method		
Sub-floor	Floor covering	Free-floated raft	Glued or screwed to sub-floor	Floor covering fixing method (always refer to suppliers' guidance)
Suspended timber floors	Ceramic/stone	✓	X	Flexible adhesive and decoupling layer
	Engineered timber	✓	X	Floated raft
	Carpet & underlay	✓	X	Spray adhesive or glued gripper rods

Key: ✓ Allowed; X Not allowed

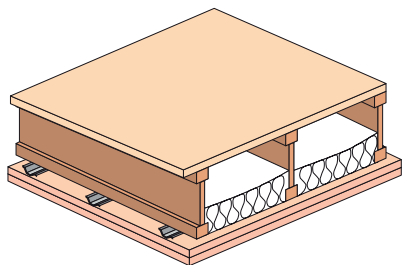
**FLOOR PREPARATION**

The subfloor must be fully load-bearing (in accordance with building regulations) as LoPro™ board is not structural.

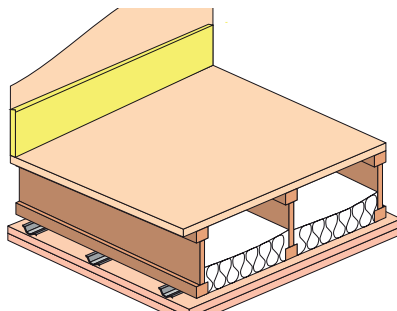
It is important that the underlying substrate is flat and level to at least SR2 screed standard (5mm deviation over 3 metres) so that deflection is minimised.

**SEQUENCE OF CONSTRUCTING THE FLOOR**

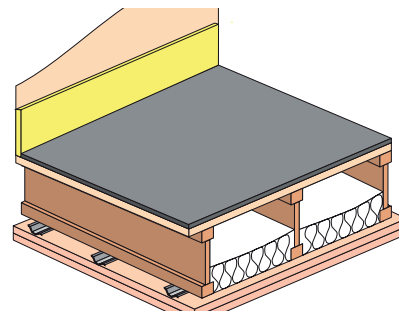
To be read in conjunction with the Nu-Heat LoPro™10 product information supplied.



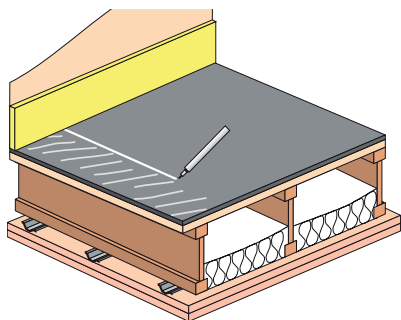
**1** Insert insulation into the joist void.



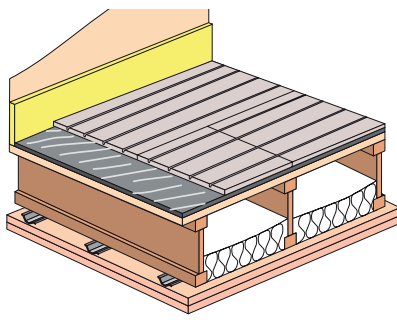
**2** Install a 10mm Knauf acoustic flanking strip around the edges of the room following manufacturer's instructions.



**3** Lay the IsoRubber on top of the deck at right angles to the direction that the LoProPanel will be fitted and use the supplied Mapei Adhesive to stick it to the deck where the castellated panel will sit.



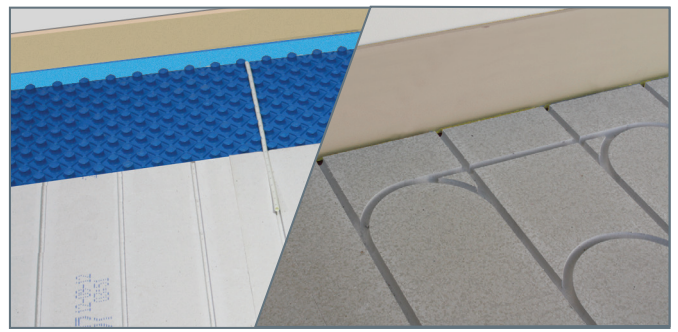
**4** Mark out areas that will be covered by castellated panel as indicated on the CAD layout supplied.



**5** Lay the LoPro™ panel as indicated on the CAD layout.



## SEQUENCE OF CONSTRUCTING THE FLOOR – continued



Lay LoPro™ panels in a brick-bond pattern with reference to the CAD layout. Glue edges, or glue to the IsoRubber where required.

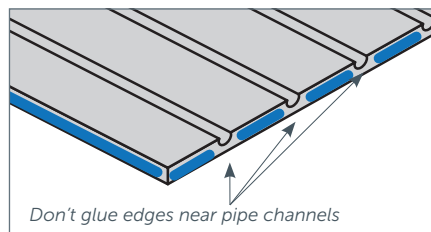
**Note:** Turns panels are only used at one end of the room. Castellated panel is used at the other end.

## FIXING THE LOPRO™ PANEL – see Coverings Table for which method to use



## Free-floated

The boards should be free-floated, with the butt jointed edges glued using the liquid PU adhesive supplied.



Run a small bead between the board and IsoRubber, then close the next board up to the joint. Be very sparing with the glue – too much will cause it to foam up. When gluing the ends of boards leave a gap either side of the pipe channel.



Where necessary use short offcuts of 10mm pipe to ensure that panels are aligned.

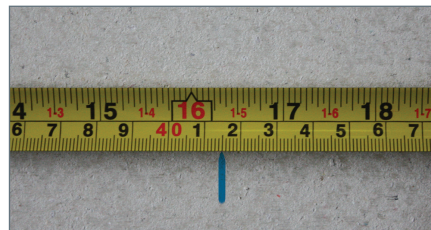
## INSTALLING THE LOPRO™ PANEL



- 1 Start with a turn panel then continue the row using straight panels.

At the end of the row of panels a gap must be left for castellated panel as marked. Dimensions are shown on the CAD drawing.

The gap width should be:



- 415mm for rooms with 1-5 coils of pipe (half width of castellated panel).
- 830mm for rooms with 6-10 coils of pipe (one full width of castellated panel).



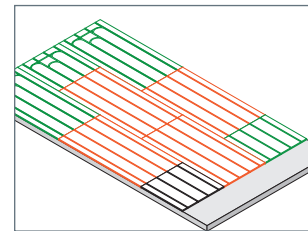
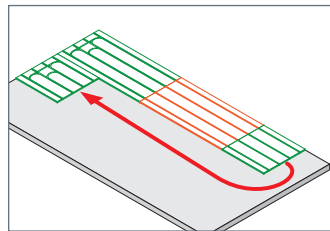
When installing the last panel of a run, if the space is less than 800mm long then a turns panel may be cut to length and the straight section used. The remaining turns section can be used to start the next run. Alternatively where the space is greater than 800mm a straight panel must be used. Panels can be cut using a saw.



## INSTALLING THE LOPRO™ PANEL — continued



- 2** Use a turns panel to start the next run at the far end of the room; either the offcut from the previous run, or a full panel. Panels must be laid in a brick-bond pattern, in order that the joints are staggered, so if a full panel is used then it should be cut in half, with the offcut used elsewhere.



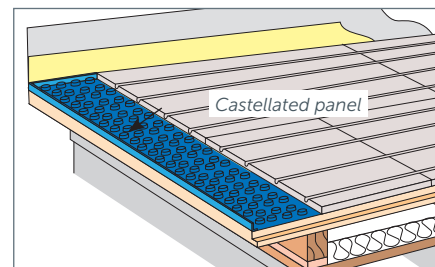
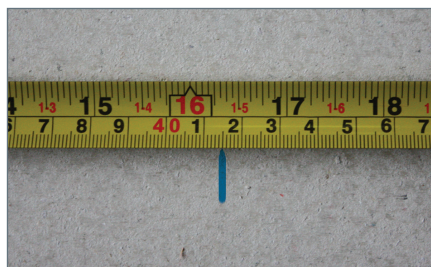
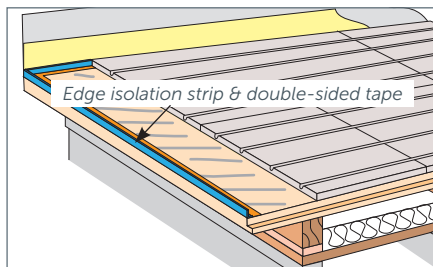
- 3** Continue across the room, maintaining the brick-bond pattern. To keep the floor height consistent, panel is supplied for unheated areas, such as under kitchen units.



- 4** If the design calls for turns in the middle of the floor the board must be modified. This can be done in one of two ways:
- a** Using a router with 1/2" (12mm) cutter to follow path of the pipe. This is the best method if the LoPro™ panels are stuck down. Make the groove deeper than 10mm to ensure that the pipe does not end up proud of the surface.



- b** Alternatively a hole can be cut 180mm long, between two grooves and castellated panel used to secure the pipe.
- A circular saw, or an oscillating multi-cutter is the easiest way to make the cutout.
- The castellated panel is stuck in place as detailed later, then filled with self-levelling compound before the floor finish is fitted.

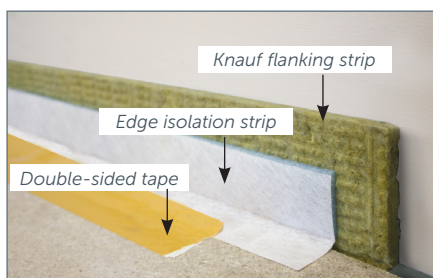


- 5** Once the panel is laid over the whole zone, fix the blue edge isolation strip supplied by Nu-Heat around areas where castellated panel will be fitted. Then lay a strip of double-sided tape as well.
- a** Firstly double-check that the correct area has been marked for the castellated panel and the edge isolation strip has been fitted.

- \* A half width (415mm) is sufficient for rooms with up to 5 coils, a full panel width being used for up to 10 coils. Panel widths will vary in halls and near manifolds.**

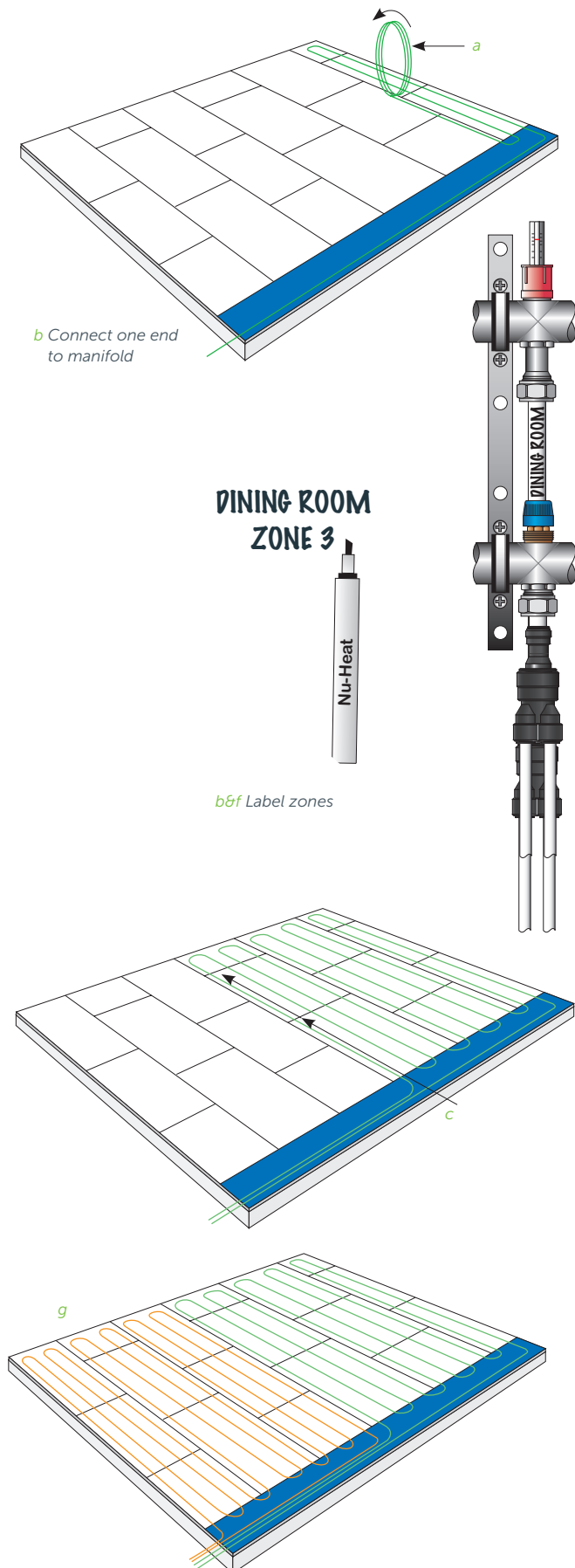
- b** Measure width of castellated panel required; use a knife to cut the correct number of panels to size for the room.

- c** Remove the panel's self-adhesive backing and the backing on the double-sided tape and fix the castellated panel down.
- d** Press the castellated panel firmly onto the floor, edge isolation strip and double-sided tape ensuring the panel is flat and that there are no gaps that could allow liquid screed to seep out. Use mastic to seal any gaps in the perimeter; this will provide a tanked, leak-proof area.
- e** Follow the same procedure for all other areas of castellated panel.





## SEQUENCE OF LAYING THE HEATING TUBE IN THE FLOOR



**a** Firstly install the furthest room from the manifold. Ensure that the correct coil is selected for the room to be installed. The coil is marked every metre with its overall length and remaining coil length. The coil lengths for each room will be shown on the CAD layouts.

**b** Connect one end of the coil into the correct port of the manifold as described in the *Installation Manual*. The tube should be clearly marked with the room name.

**c** Lay the tube from the manifold to the zone following the CAD and example layouts in this guide.

**d** Lay the coil as shown on the CAD layout pushing the tube firmly into the pre-routed grooves in the LoPro™10 panel.

**Note:** Do not kink the tube.

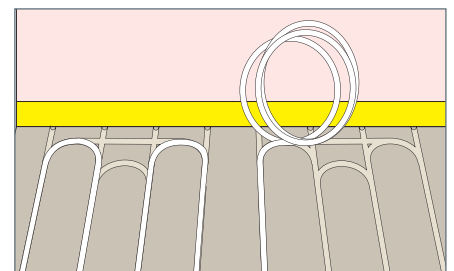
**e** Continue installing the tube until there is just enough tube remaining to return to the manifold **plus any difference in supplied length and cut-length** as stated on the CAD layout. The metre markings on the coil can be used to help judge the amount of pipe remaining.

**f** Once back at the manifold cut the tube to length and connect it to the manifold.

**g** All remaining coils for the zone can now be installed in exactly the same way until the room is fully covered with tube.

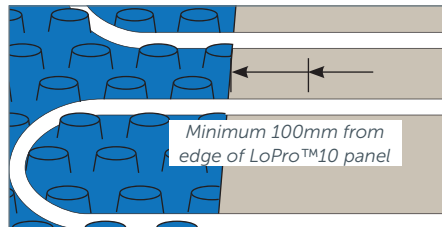
**h** The system should be filled, flushed of air, and pressure tested as described in the *Installation Manual*.

**Note:** If the castellated panel does not line up with the grooves in the LoPro™10 panel when the Fastflo pipe is installed, just cut off one of the castles to allow the pipe free entry. This will not affect the LoPro™QuickSet self-levelling compound.

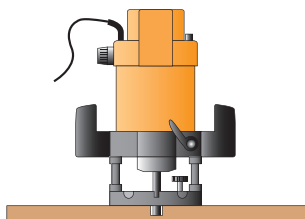


### OPTIONAL FLOOR TEMPERATURE SENSOR

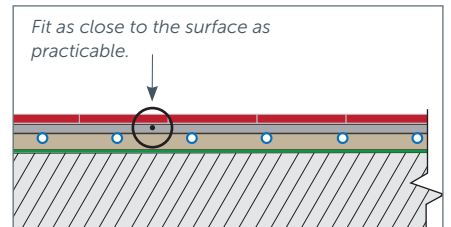
Flooring manufacturers generally recommend a floor temperature sensor for sensitive coverings such as engineered timber and bamboo; these can be supplied by Nu-Heat if required as a no-cost option when the system is purchased.



- a** Ensure the sensor is positioned at least 100mm away from the area to be covered with self-levelling compound – if necessary, the sensor wire can be laid across this area.



- b** Rout a narrow channel into the LoPro™10 panel to take the wire – this should later be filled in with self-levelling compound.



- c** The exact positioning of the sensor tip depends on the final floor finish. Position the tip of the floor temperature sensor as close to the surface of the final floor covering as practical – it must not protrude above the surface or it could be damaged.

### SELF-LEVELLING COMPOUND – see also [LoPro™QuickSet information sheet](#)

Ensure any potential gaps have been filled before laying the self-levelling compound. Damaged castellations should be filled with foam or sealant to avoid sink-holes. The self-levelling compound can now be laid.

**Note:** The UFH pipes should be left under pressure during this process.



- a** The self-levelling compound should be mixed following the instructions printed on the bag.

- b** Using the top edge of the LoPro™10 panel as a guide, fill the space around the castellated panel fully with self-levelling compound.

- c** Any areas that settle or sink should be topped up level with the surface of the LoPro™10 panel.

- d** Remember to fill any turns in the floor whilst applying self-levelling compound.



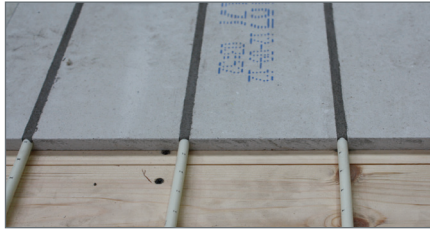
## FLOOR COVERINGS

### CARPET

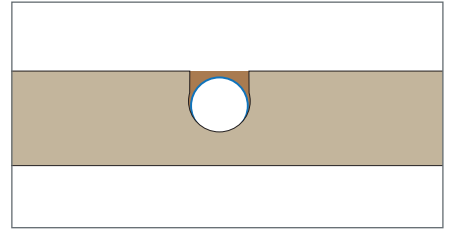
Where carpet and underlay is the final floor covering, the pipe channels should be filled in using Nu-Heat's FeatherEdge grout to protect the UFH pipes, improve thermal output and avoid pipe channels showing through the final finish. To do this:



- a** Clean all dust and debris from the pipe channels to ensure good adhesion of the grout.
- b** Mix the FeatherEdge grout in accordance with the manufacturer's instructions, as printed on the packaging. Mix the grout thoroughly to a creamy, lump-free consistency using a drill and paddle.



- c** Use the grout to fill in all the pipe channels in the LoPro™10 panel using either a plastering trowel or large tile grouting tool. Start at the far corner of the room and work your way back to the door.



- d** The grout should be finished level with the top of the LoPro™10 panel to ensure a smooth and ridge-free finish



*LoPro™FeatherEdge for carpet floor finishes is available as an option from Nu-Heat.*

- e** The LoPro™10 panels can be walked on after approximately 3 hours. Before laying carpet/underlay, clean off any excess material/dust using a soft brush.
- f** The underlay should be fitted using suitable spray glue. The carpets can be fitted using spray glue or gripper rods but be extremely careful not to damage any underfloor heating pipes in the process.

Use an underlay recommended for use with underfloor heating in conjunction with hessian-backed carpet. The combined tog value should be no greater than 2.5.



### SOLID HARDWOODS

Nu-Heat does not recommend the use of solid hardwood floors when used in conjunction with LoPro™10 underfloor heating systems due to the higher heat outputs generated. Other Nu-Heat underfloor heating floor constructions are suitable for solid hardwoods.

High quality engineered hardwood flooring provides excellent dimensional stability as well as aesthetic appeal equal to that of a solid hardwood floor.

### ENGINEERED HARDWOODS – see also *Engineered Hardwood information sheet*

The recommended board thickness for engineered timber is 14mm – 16mm, maximum 18mm.

- Always use a good quality engineered board and check with the manufacturer that it is suitable for use with UFH.
- Flooring manufacturers generally recommend a floor temperature sensor for sensitive coverings such as engineered timber; this is supplied by Nu-Heat.



Engineered hardwood floors can be butt-jointed (using an adhesive recommended by the supplier), and free-floated over the LoPro™10 panel.

- 2mm foam underlay can be used below engineered hardwood where recommended by the supplier.



Alternatively they can be glued to the LoPro™10 panel using an adhesive recommended by the supplier. The surface of the LoPro™ boards should be primed using Eco Prim T (available from Nu-Heat) or equivalent before the hardwood is glued down.

### TILES (ceramic tiles, stone, marble, travertine, etc.) – see also the information sheet *Decoupling Membrane*

All tiles should be fitted over a de-coupling layer.



- a** Prime the surface of the LoPro™ panels with 2 coats of Eco Prim T (or equivalent), diluted 1:2 with water using a brush or roller to prevent pooling.



- b** Fix the decoupling layer using a continuous bed of flexible adhesive.



- c** The tiles are then fixed over the decoupling layer using the same adhesive in a continuous operation.

#### Notes

- Always use a flexible grout.
- A minimum 10mm expansion gap is required around all perimeter walls to allow the floor to expand and contract as required; this is usually hidden by the skirting board or perimeter tile upstand.
- Expansion joints should be installed at doorways where tiles are to follow through into an adjoining space.
- Extra care should be taken with soft stones, such as travertine, etc. Where possible, adhesive and grout should be of a similar colour to the stone to prevent potential staining/shading of the surface. The stone supplier should be able to offer advice.

