Nu-Heat
UNDERFLOOR & RENEWABLES

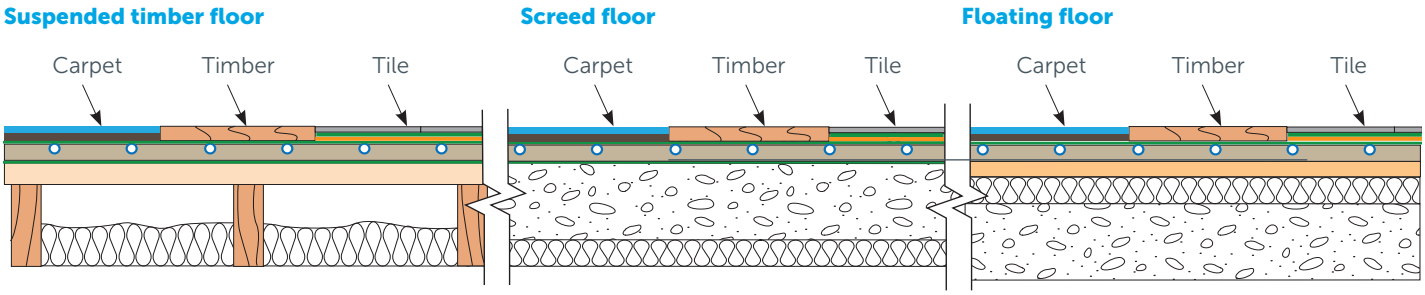
LoPro™10

quick start guide & installation manual

UNDERFLOOR HEATING
HEAT PUMPS
SOLAR THERMAL

Quick Start Guide

Please also read full instructions that follow



Finish all other major renovation work and 1st-fix all plumbing and electrical work before laying LoPro™10 – dirty trades should be finished on the site. For more details please see the *LoPro™10 Specification Guide*.

At second-fix stage of the build schedule, when other trades have completed their work, the LoPro™10 floor heating can be fitted.

Sequence for fitting the LoPro™10

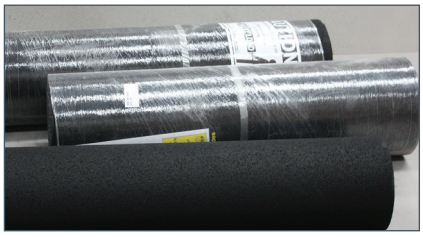
1 Fit insulation between joists on suspended timber ground floors from above or below.

Repair uneven concrete floors using self-levelling compound.

2 Repair and level the subfloor, then clean and vaccum.

Screw down uneven floorboards or replace with T&G chipboard deck. Level the deck using self-levelling compound where required.

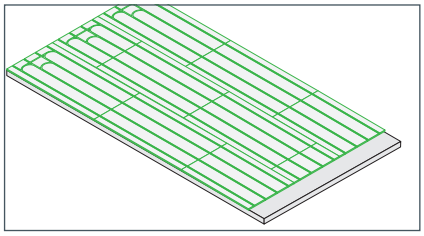
3 Refer to the coverings table to determine installation method of the LoPro™10 panels – this varies depending on floor covering.



4 Lay Nu-Heat's 5mm acoustic IsoRubber if specified. Glue down in areas that will be covered by castellated panel.

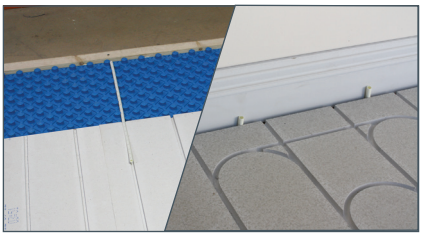
5 Mark out areas of castellated panel as on *CAD* drawings. Prime the floor in those areas using the primer supplied using a brush or roller.

6 Lay LoPro™ panels – refer to *Pipe Layout* drawing.



Lay LoPro™ panels in a brick-bond pattern. Glue edges, and screw to sub-floor where required.

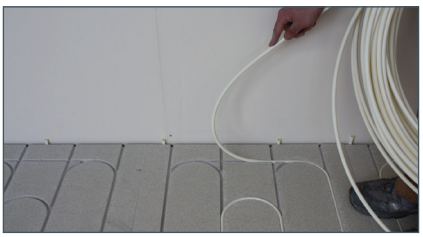
See also *LoPro™10 fixing guide* on page 7 and information sheets on floor finishes.



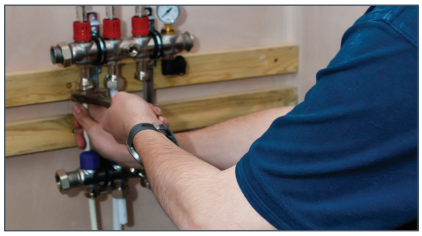
Turns panels are only used at one end of the room. Castellated panel is used at the other end.

7 Fit 16mm x 50mm edge batten where indicated on pipe layout drawing around perimeter of castellated panel area only.

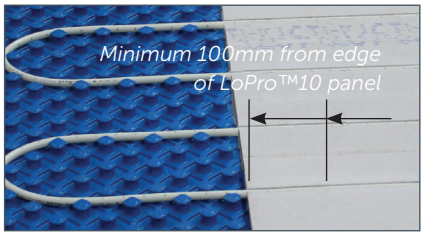
8 Fix the castellated panel in place with the self-adhesive backing where shown on the *CAD*. The floor should already have been primed with the EcoPrim T supplied.



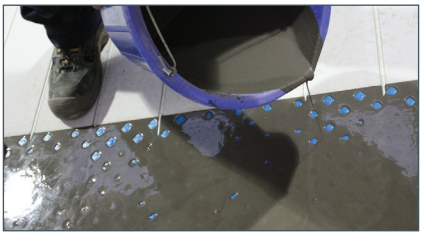
9 Install UFH pipe as per the *Pipe Layout* drawing.



10 Connect each coil to UFH manifold in turn. When all are connected they can be pressure tested.



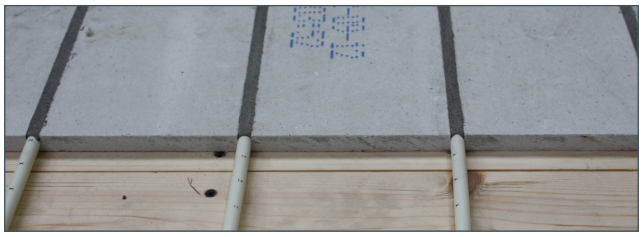
11 Fit floor temperature sensing probe if specified for timber floors.



12 Whilst pipe is under pressure, fill castellated panel areas with self-levelling compound to the height of the routed LoPro™ panel and edge batten.

13 Apply the floor covering:

Carpet



a For carpet only, grout pipes channels using FeatherEdge compound and allow to dry.

b Lay underlay and carpet, gluing down the gripper.

Engineered timber

a Float in a continuous raft across the floor following supplier's guidance. A maximum 2mm thick foam underlay can be used below the timber if recommended by the supplier.

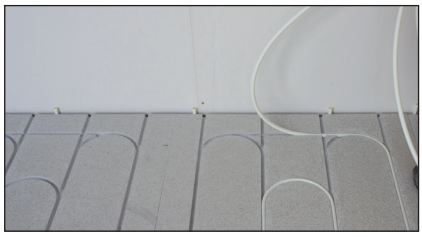
Tile/stone

a Prime the LoPro™10 boards using Schnellgrund primer, then lay a decoupling layer over a continuous bed of flexible tile adhesive, followed by another layer of flexible adhesive and the tiles. Always follow manufacturer's guidance.

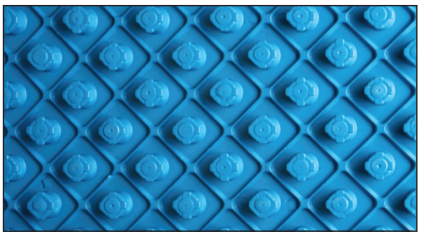
Please refer to Nu-Heat information sheets for detailed information on laying and fixing different floor finishes.

LoPro™10 components

Supplied by Nu-Heat

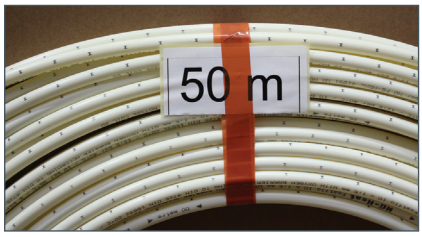


LoPro™10 pre-routed panels
1200 x 600 x 15mm pre-routed gypsum based panels designed to carry 10mm Fastflo™ floor heating pipe in room zones.



LoPro™10 castellated panels
A self-adhesive castellated tray panel that carries 10mm Fastflo™ floor heating pipe from Optiflo manifolds to room zones. Note: colour may vary.

LoPro™QuickSet self-levelling compound
Covers the castellated tray panels to the same depth as the routed LoPro™10 panels.



10mm Fastflo™ floor heating pipe
Carries warm water from Optiflo manifolds to heat room zones.

Adhesives
PU glue is used to bond LoPro™10 panel edges together.

Mapei Eco Prim T floor primer
Supplied to seal the sub-floor under areas of castellated panel.
Size: 5kg tubs.

Optional components available from Nu-Heat

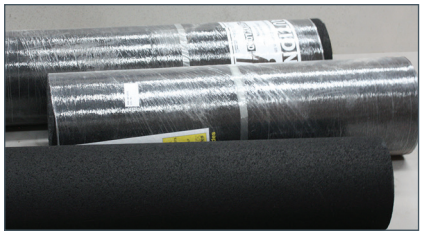
LoPro™FeatherEdge compound
Used to grout pipe channels to create a smooth surface under carpet floors.

Coverage: 1x5k bag = 20m² area.

Schnellgrund floor primer
If required, primer can be purchased to seal gypsum panels before tile adhesive is applied.

Size: 5kg tubs.

Floor temperature sensor
Used to top-limit the floor temperature under sensitive floor coverings such as engineered timber.



IsoRubber-UFH-NH
5mm acoustic IsoRubber for use where height build-up allows.

Size: 1000mm x 10m x 5mm (10m²).

UltraBond Eco VS90
Adhesive used to secure IsoRubber.
Size: Supplied in 5-litre tubs. To apply adhesive, use a 1.5mm V-notched trowel, commonly known as an A2 trowel.

LoPro™10 Installation Manual

Insulation

Recommendations for solid ground floors with no insulation:

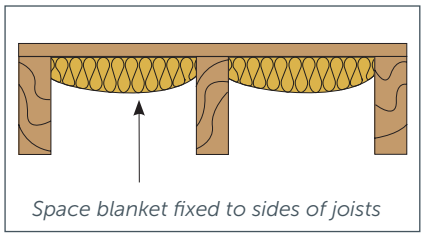
Solid sub-floors sit above a stable ground temperature of approximately 10˚C and have good thermal characteristics meaning that downward heat loss is limited to between 6% and 10% of the total heat output. This represents a small percentage of the annual heating cost for the property and it is offset by the energy-saving features of underfloor heating, which means it will provide running costs generally equivalent to (or better than) a traditional radiator system.

Removing an existing concrete floor that is in good condition in order to install insulation does not generally make financial sense. Where no insulation is present, the downward energy loss for a typical 3-bedroom house would cost around £35p.a. With the cost of replacing the slab running into thousands of pounds the return on investment could be over 100 years, making it uneconomical.

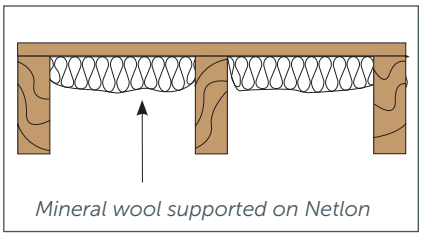
However, where it is practical and sufficient height build-up is available, a layer of insulation plus an 18mm T&G deck can be fitted over the slab and below the LoPro™10 (see below).

Suspended timber ground floors with no insulation:

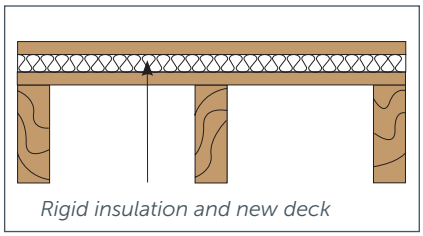
The heat loss characteristics of a suspended timber ground floor are very different to those of a solid floor. The low ambient temperature plus air movement/draughts caused by air bricks means that the suspended timber sub-floor construction provides little resistance to downward heat transfer and must be insulated to prevent excessive heat loss. This can be achieved quite easily and economically using one of the following methods. This also applies for suspended timber floors over unheated areas.



Option 1
Space Blanket can be used to insulate between joists and suspended timber ground floors

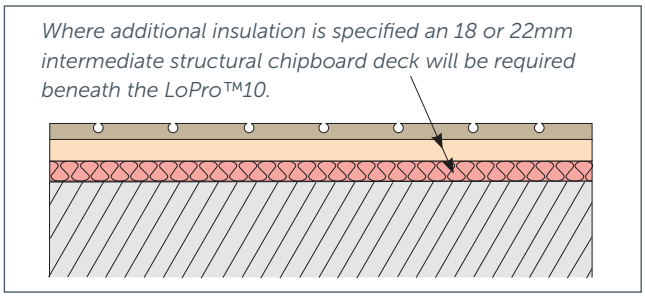


Option 2
Where floor deck is being removed or replaced use Netlon and mineral wool to insulate between floor joists.



Option 3
Where height allows, lay 80mm rigid insulation over existing floor deck with an 18 or 22mm structural T&G floor deck over before fitting the LoPro™10.

Concrete floors – optional insulation

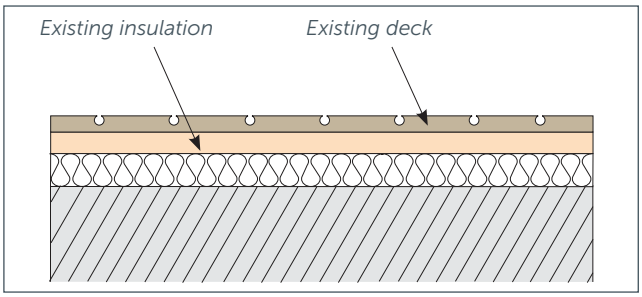


Optional insulation
Either: Where insulation greater than 10mm thick is specified below LoPro™10 a structural deck of 18 or 22mm T&G chipboard must be incorporated.

Or: Tile backer board may be used – this is a product that combines insulation and structural, load-bearing surface. For more dtails see Nu-Heat information sheet *LoPro™ & Tile Backer Board*.

Properties built within last 20 years
No additional insulation is required as insulation will already be present beneath the slab.

Floating floors – no insulation required



No additional insulation needed
LoPro™10 is ideal for use with existing floating floors as their construction already incorporates insulation.

Additional considerations for retro-fitting

The acoustic performance of hardwood floors can be improved with the addition of Nu-Heat's 5mm IsoRubber laid below the LoPro™10 panels; suitable for both ground and upper-floors.

Whilst the height build-up of LoPro™10 is small, its impact must be properly considered.

- Skirting: Dependent on the floor finish chosen and the existing skirting height, it may be possible to install the LoPro™10 panels without removing it, especially for carpets. Tiled and engineered timber floors would normally finish under the edge of the skirting and also require a 10mm expansion gap around all perimeter walls.
- Doors: At door thresholds, the panel is likely to impact on door clearance. Doors normally need to be removed and trimmed.
- Stairs/steps: On ground floors, 15–19mm build up can normally be accommodated without affecting stairs, but if LoPro™10 is fitted at the top of a staircase it may be necessary to adjust the height of each tread.

Coverings table – LoPro™10 panel fixing methods

Before starting any work please use the following table to determine the installation method that suits the chosen floor covering.

The subfloor and the chosen floor covering will affect the method of laying the LoPro™10 panels. Refer to the table below for details.

Note: Always ensure that the floor is suitably flat and load-bearing. Repair/level the floor before fixing the LoPro™10 panels in place.

Key: ✓ Allowed; X Not allowed

Sub-floor	Floor covering	LoPro™10 panel fixing method: Free-floated raft (glued edges)	LoPro™10 panel fixing method: Panel screwed to sub-floor (glued edges)	Covering fixing (always refer to suppliers' guidance)
Screed/concrete floors	Ceramic/stone	✓	X	Flexible adhesive and decoupling layer
	Engineered timber	✓	X	Floated raft or glued to LoPro™ panel
	Carpet & underlay	✓	X	Spray adhesive or gripper rods
Floating floors (chipboard over insulation)	Ceramic/stone	X	✓*	Flexible adhesive and decoupling layer
	Engineered timber	✓	X	Floated raft or glued to LoPro™ panel
	Carpet & underlay	✓	X	Spray adhesive or gripper rods
Suspended timber floors	Ceramic/stone	X	✓*	Flexible adhesive and decoupling layer
	Engineered timber	✓	✓*	Floated raft or glued to LoPro™ panel
	Carpet & underlay	✓	✓*	Spray adhesive or gripper rods

* Optional 5mm IsoRubber beneath LoPro™10 panels that are screwed to the sub-floor – the acoustic performance of the IsoRubber could be affected due to the effect of acoustic bridging.

Floor preparation

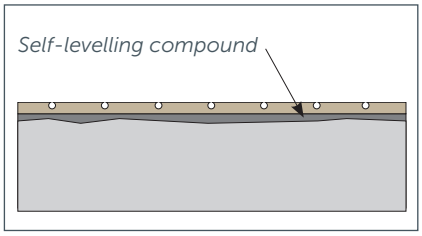
Floor preparation

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

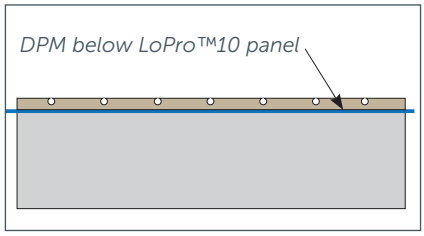
It is important that the underlying substrate is flat and level to at least SR2 standard (5mm deviation over 3 metres) so that deflection is minimised. This is particularly important if the floor is to be tiled.

Note: If the floor is level and flat LoPro™10 panel can be laid/floated directly on top. If not up to standard then repair should be made.

Solid screed or concrete

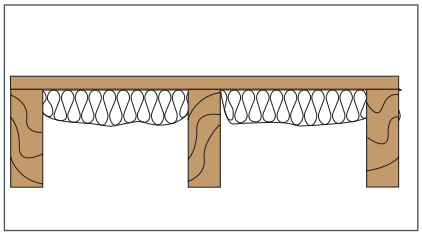


If required, level the surface of the concrete before laying LoPro™10 panel.

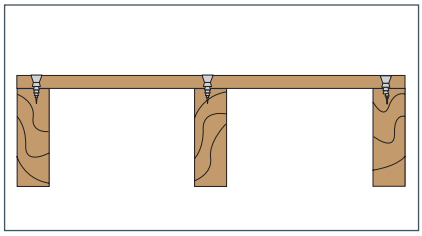


If required, fit a new damp proof membrane (DPM) below the LoPro™10 panel.

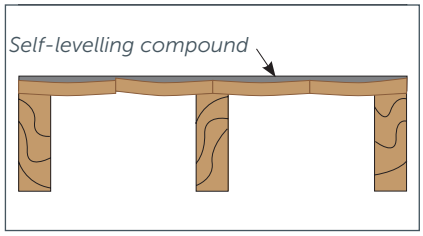
Suspended timber floors



1 Firstly fit insulation between joists on ground floors by either stapling 'space blanket' to the sides of the joists from below or placing Netlon over the joists from above to support mineral wool before replacing the floor deck (see *General Insulation*).



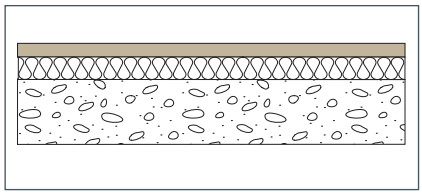
2 Loose floorboards/chipboard must be repaired and screwed down securely before laying the LoPro™10 panels.



3 Uneven or sloping floors should be levelled using an appropriate primer and self-levelling compound (not supplied).

Note: Insulation is only required for ventilated ground floors, first floors are not affected.

Floating floors



Note: This floor must be in good order. Depending on its condition it may need to be strengthened through doorways.

No additional insulation is needed, simply fit the LoPro™10 panels over the existing structural deck.

Installing the LoPro™10 panels

Installing the LoPro™10 panels

Before starting to lay the floor all 'dirty trades' should be completed and away from the areas where LoPro™10 is being fitted.

1st fix mechanical and electrical work should be complete, including:

- UFH Optiflo manifolds and wiring centres
- Room thermostat cabling (if required)
- Towel rail first fix – either independently zoned/timed pipework or electric cabling
- All general building work/plastering, etc.

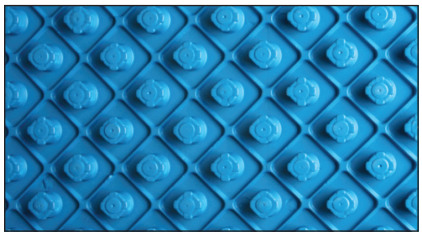
Remove existing doors and skirting boards. It is advisable to foam-fill the perimeter of suspended timber ground floor rooms to improve air-tightness.

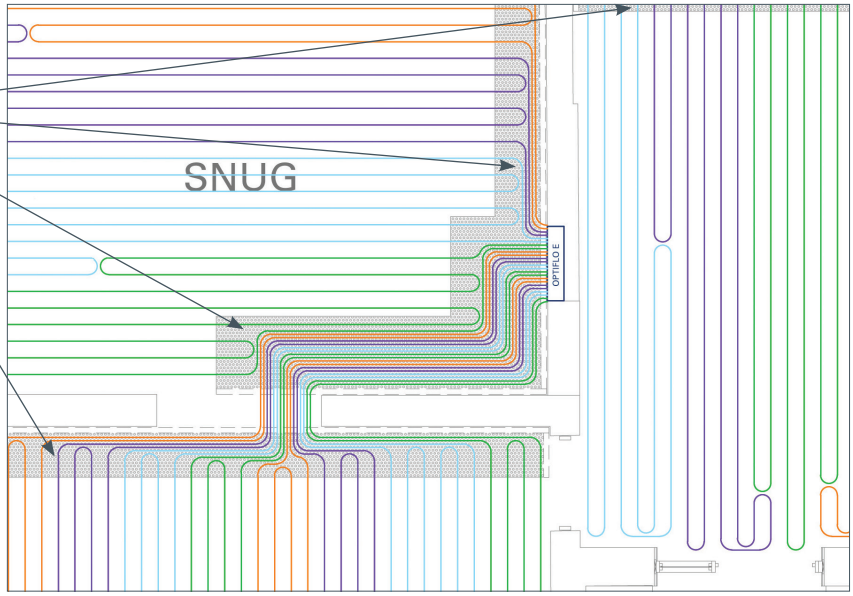
Thoroughly clean floor to remove debris – a heavy duty vacuum cleaner is ideal.

1 Using the pipe layout drawing supplied, accurately mark out the area of floor in each room/corridor that will be covered by castellated panel using a chalk line or marker. Remember to leave sufficient room around the manifold to accommodate multiple pipes.

Do not fit the self-adhesive castellated tray at this stage.

Areas to be covered by castellated panel are shaded on the CAD drawing as shown.

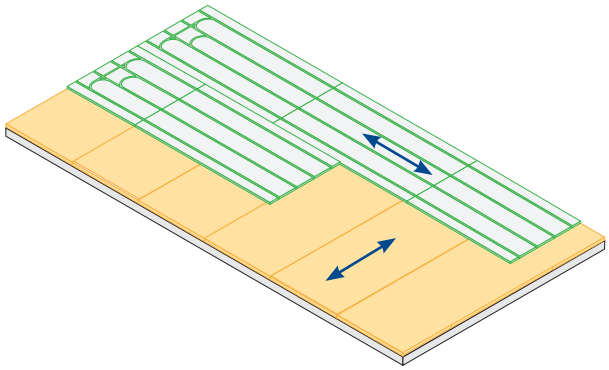




Optional acoustic layer

Before moving on to *Step 2* the optional layers that are fitted below the LoPro™10 panel should be installed:

Optional Nu-Heat 5mm acoustic IsoRubber



Lay IsoRubber at right angles to LoPro™10 panels

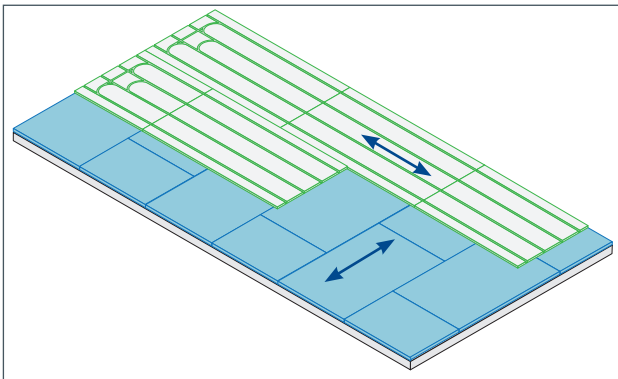
Usually specified for intermediate suspended timber floors to improve acoustic performance.

a Lay the 5mm IsoRubber on the sub-floor at right angles to the LoPro™10 panels (see *Pipe Layout* drawings). The 5mm IsoRubber can cover the entire floor and no expansion gap is needed. It should be glued down in areas where castellated panel will be laid.

b Mark the position of the castellated panel with chalk as per instruction 1 on previous page.

Structural cement-faced insulation boards

Tile backer board (Marmox, Wedi, etc. not supplied by Nu-Heat)



Lay tile backer board panels at right angles to LoPro™10 panels in a brick-bond pattern

High density tile backer board (e.g. Marmox, Wedi, etc.) can be a combined solution for insulation and sub-deck. It is lightweight, easy to cut and can be applied to floors below Nu-Heat LoPro™10, giving an ideal surface on which to lay stone, tile , engineered wood, carpet and most other floor finishes.

a Stagger the boards and fix to the sub-floor in accordance with manufacturer's instructions.

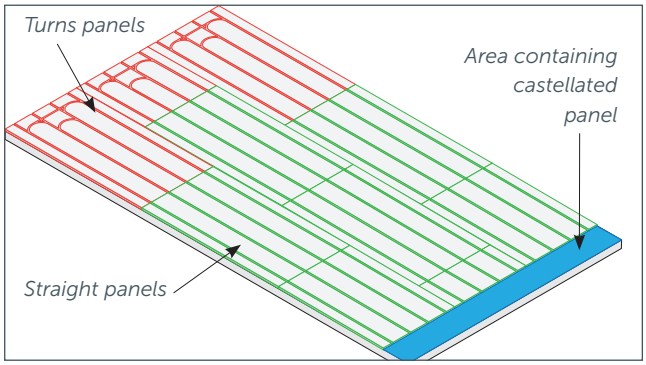
See information sheet *LoPro™ & Tile Backer Board* for more information.

LoPro™ panel layout and installation

2 The LoPro™ panels can now be laid. There are two types: **turns panels** and **straight panels**.

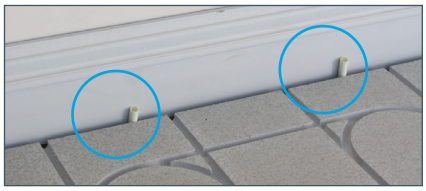
Turns panels are only used at one end of each room. Where the pipe layouts are hatched castellated panel is used.

LoPro™10 uses a combination of pre-routed boards and castellated panel. Small rooms such as en-suites, WCs, etc. may be covered entirely with the castellated panel providing a more flexible installation and higher heat output. The majority of rooms will be designed with varying proportions of each product.



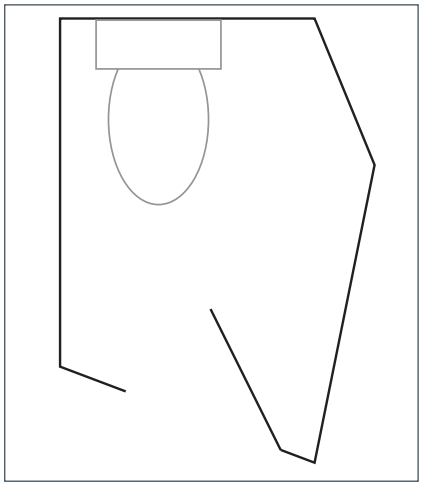
There is no set rule for the installation sequence of rooms, although generally it is best to start with the room farthest from the manifold and work back. Begin laying the LoPro™ panel in the furthest corner. It should be offset from all walls by 10mm to allow for expansion.

Offcuts of 10mm Fastflo™ pipe can be used to space the board from the wall if necessary.

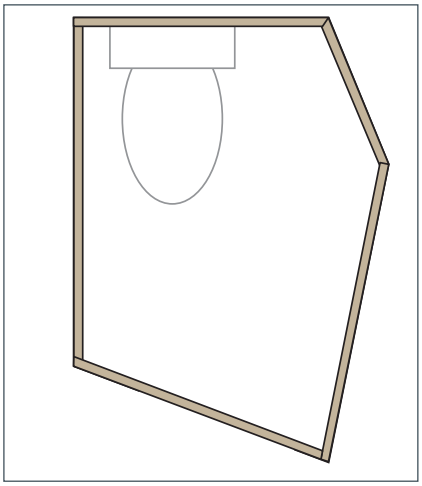


Small, irregular or high heat loss rooms

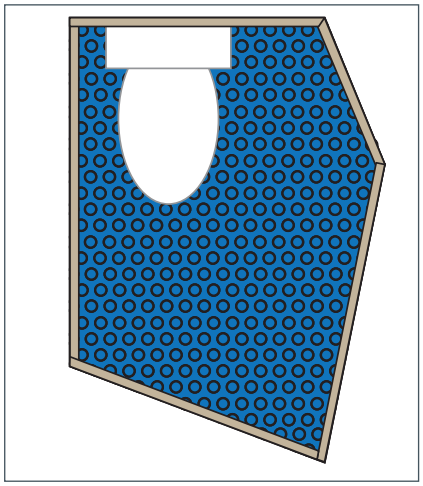
3 In small or awkward-shaped rooms or those with a high heat loss Nu-Heat will sometimes supply castellated panel to cover the entire floor area. This provides the opportunity for more flexible pipework layouts and increases heat output for these areas.



a Prime floor with the EcoPrim T supplied.



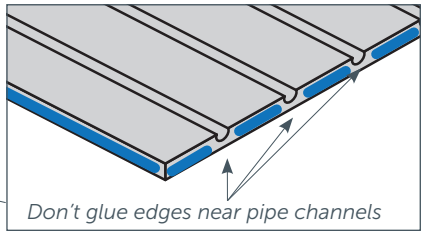
b Fix perimeter batten around edges of room and across doorway.



c Lay self-adhesive castelated panel in area illustrated on the CAD.

Alternative methods of fixing the LoPro™10 panel

See *Coverings Table* for which method to use

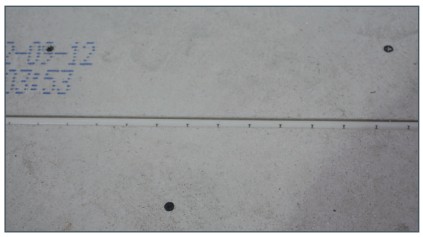


Free-floated

Where the underlying surface (sub-deck) is suitably flat 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 floor, then close the next board up to the joint. The joint will also stick to the sub-deck, to aid solidity. 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.

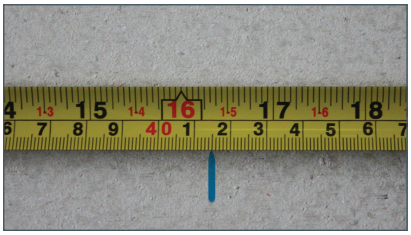


Screwed to sub-floor *(with/without optional IsoRubber) – suspended timber and floating floors with tile/stone finish only.*

Screw the LoPro™10 panels to the sub-deck at minimum 300mm centres. Pull screw heads tight or countersink below the surface of the panel. This laminates the LoPro™ to the sub-deck removing the need for a ply layer.

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

Installing the LoPro™10 panels – continued



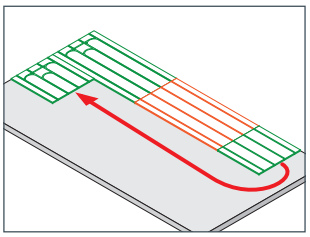
4 Start with a turn panel then continue the row using straight panels.

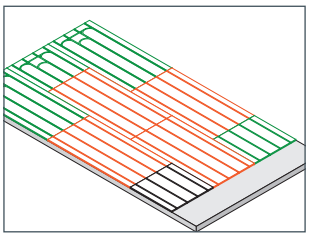
5 At the end of the row of panels a gap must be left for castellated panel as marked. Dimensions are shown on the *CAD*. The gap width should be:

- 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)

Panels can be cut using a saw. If the remaining piece of board is 400mm or more, then a LoPro™ turns panel can be used, with the turns part being used for the start of the next run, otherwise a LoPro™ straight panel should be used.

6 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.





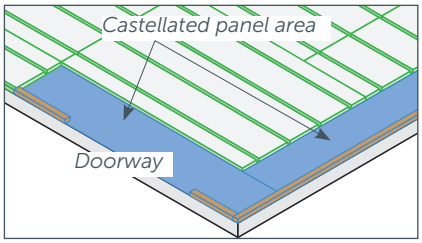
6 Continue across the room, maintaining the brick-bond pattern. To keep the floor height consistent, panel is supplied for unheated areas, such as under kitchen units.

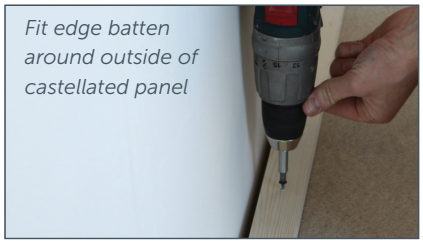
7 If the design calls for turns in the middle of the floor the board must be modified. This can be done in one of two ways:

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.

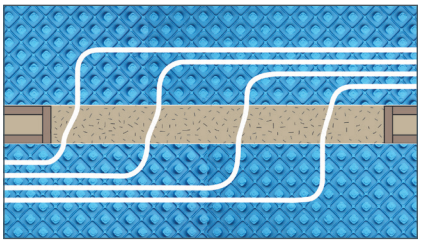
b Alternatively a hole can be cut 180mm long, between two grooves and castellated panel used to secure the pipe.

- 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.

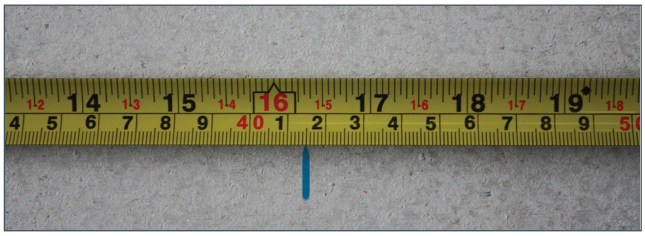




8 Once the panel is laid over the whole zone, fix a 16mm x 50mm batten around all perimeter edges that are to be covered by castellated panel. The batten should be securely fixed to the sub-floor.



Detail: In order to deal with misaligned panels, do not lay panel through doors. Cover this area with self-levelling compound.



a Firstly double-check that the correct area has been marked for the castellated panel and all edge batten is fitted. This is especially important in corridors and in the area around manifolds where the most pipe will be present.

- 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.
- If insulation/acoustic foam underlay has been specified, this must be glued down in ALL areas covered by castellated panel (see insulation fixing section for details).

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

c **Where the sub-floor is to be covered by castellated panel it must be thoroughly vacuumed then primed using the EcoPrim T supplied.**

d There are two ways of installing castellated panel:

- Either – when all castellated panels have been cut to size and lined up, they can then be fixed down. Remove the panels and follow the sequence in order.
- Or – cut and fix the panels as you go.

e Remove the panel's self-adhesive backing and fix the castellated panel down to the floor or PE foam or fibreboard, pressing firmly.

f Align the castellated panel with the grooves of the gypsum panel then press firmly onto the floor ensuring that the panel is flat and that there are no gaps that could allow liquid screed to seep out.

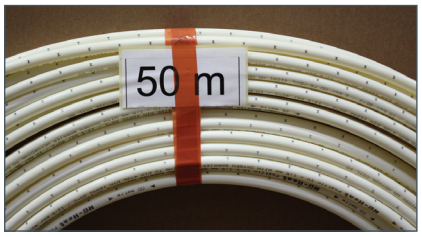
g Follow the same procedure for all other areas of castellated panel.

Notes: The castellated panel may not line up with the pre-routed pipe channels at some points. Where this happens simply trim the castle out of the way as the pipe enters the tray.

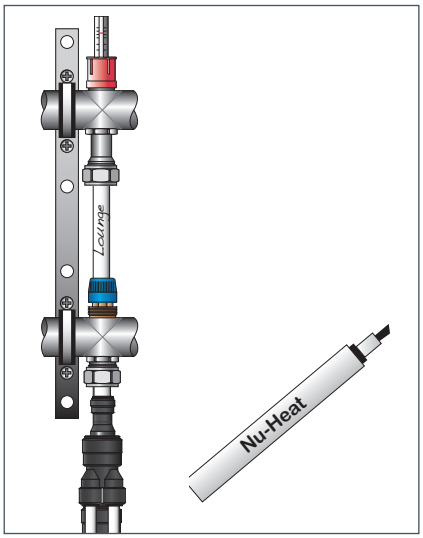
To avoid self-levelling compound seeping out, use mastic to seal any gaps in the perimeter; this will provide a tanked, leak-proof area.

Laying the heating pipe

9 Laying the heating pipe



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 *Pipe Layout* drawings.



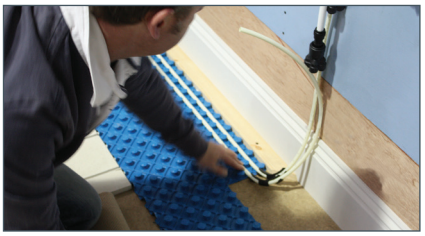
b Connect one end of the coil into the correct port of the manifold – see *Warm Water Underfloor Heating Installation Manual*. The pipe should be clearly labelled with the room name.

c Lay the pipe from the manifold to the zone following the *Pipe Layout* drawing.

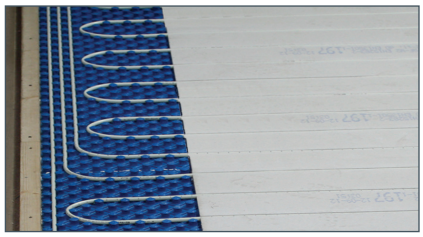
d Lay the coil as shown on the *Pipe Layout* drawings, securing it into the castellated panel and LoPro™ panel. Flat-soled shoes make this process easier. Take care on turns not to kink the pipe:

- Sufficient length must be allowed.
- The coil should be unrolled hand over hand.
- The coil should be led round the turns to avoid twisting the pipe.
- Make sure that the pipe is pressed fully into the channel and does not protrude above the surface.

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



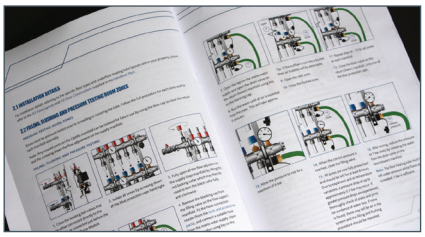
f Once back at the manifold cut the pipe to length using sharp pipe cutters and connect it to the manifold as described in the *Warm Water Underfloor Heating Installation Manual.* A clear space on the floor below the manifold will allow multiple pipes to sit neatly. The floor in this area should be sealed to prevent seepage of self-levelling compound.



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

h Repeat for all other rooms.

Note: To prevent damage, protect castellated panel in the area near the manifold with a sheet of board until the LoPro™QuickSet self-levelling compound is laid. The manifold must be fitted high enough on the wall to accommodate multi[ple pipes leading to it.

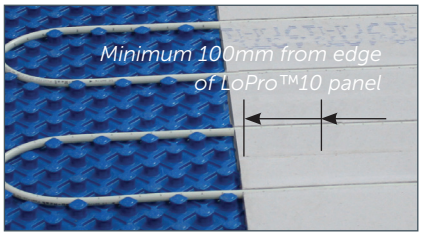


i The system should be filled, flushed of air, and pressure tested as described in the *Warm Water Underfloor Heating Installation Manual*.

Optional floor temperature sensor

Optional floor temperature sensor

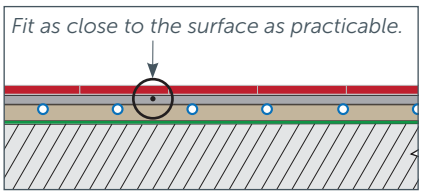
10 Flooring manufacturers generally recommend a floor temperature sensor for sensitive coverings such as engineered timber and bamboo; these can be supplied free of charge by Nu-Heat if required. See *Floor Sensor* information sheet.



a Ensure the sensor is positioned at least 100mm away from the area to be covered with self-levelling compound midway between the UFH pipes – if necessary the sensor wire can be laid across this area. Do not fit the sensor where pipes are spaced very closely together.

b Engineered timber floors
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 close to the surface of the LoPro™10 panel – for timber floors it must not protrude above the surface.

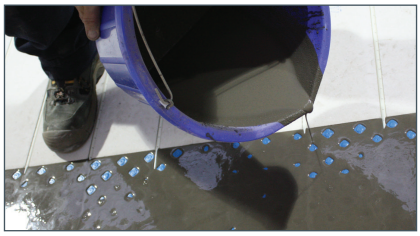


QuickSet self-levelling compound

For covering areas of castellated panel *(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.

11 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. Mix the compound thoroughly to a thick, creamy consistency using a drill and paddle.

b Using the edge batten and 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 batten and LoPro™10 panel.

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

e Remove the spacers (10mm pipe off cuts) from around the edges of each floor.

The areas of levelling compound will be able to take light foot traffic after 8 hours.

Floor coverings

For further information see also the *Product Information* sheets attached.

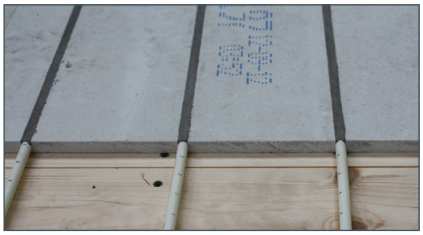
Carpet

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.

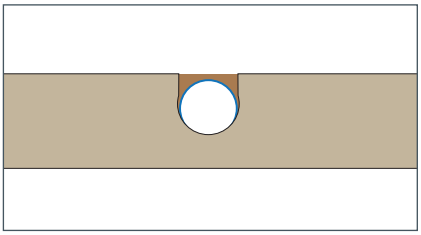
To do this:

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.

g Carpets can be fitted using spray glue. Alternatively, if carpet grippers are required to stretch the carpet, they should always be glued in place over areas of LoPro™QuickSet self-levelling compound to avoid damage. When laid over LoPro™10 routed panel, the gripper rod should be glued and nailed, as nails alone will not secure the gripper rod adequately to the gypsum board. **Care should be taken ensure that UFH tube is not damaged.**

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 *Hardwood Floors* information sheet

All floor surfaces must be clean and dry before laying the engineered timber floor. 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 can be supplied free of charge by Nu-Heat if required.

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 before the hardwood is glued down – primer left over from sealing beneath castellated panel can be used or additional can be purchased from Nu-Heat if required.

Tiles

Ceramic, stone, marble, travertine, etc. – see also information sheets *Decoupling Membrane* and *Tile & Stone with UFH*

All tiles should be fitted over a de-coupling layer – this is standard practice for a professionally tiled floor.

Primers and adhesives

To install the decoupling membrane and tiles a flexible tiling adhesive suitable for underfloor heating should be used. The *Tile Association* recommends using a category C2 adhesive when installing tiles on underfloor heating or a category C2 FTE S1 or S2 (where applicable) for large-format tiles adhesive.

The following table contains details of adhesives recommended for use with tiles and LoPro™QuickSet self-levelling compound.

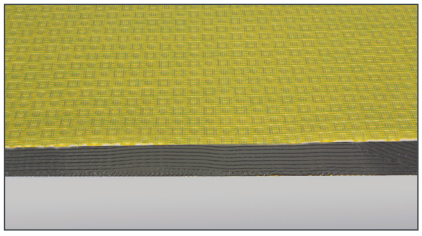
Floor finish	Adhesive	Preparation
Ceramic tiles Porcelain tiles Natural stone	Mapei Keraquick & Latex Plus with de-coupling membrane	Ensure the levelling compound and LoPro™ gypsum panel are clean and free of dust and contamination before applying 2 coats of Schnellgrund primer. Apply Keraquick mixed with Latex Plus with a small notched ceramic trowel and bed the de-coupling membrane into the wet adhesive. Allow to dry before laying natural stone or tiles on the de-coupling membrane using Keraquick adhesive mixed with Latex Plus.

Installation

a Important: Apply 2 coats of Schnellgrund primer (available from Nu-Heat as an optional extra) or equivalent, using a brush, roller or spray gun to avoid surface pooling.

b Using a 4x4mm serrated trowel apply a thin-bed of flexible tile adhesive.

Note: The decoupling effect of the matting will be impaired if a larger serrated trowel is used. This in turn will create a crunching sound underfoot.



c Quickly lay the cut rolls of decoupling membrane in position. Ensure that it is laid with the fleece backing face down on the adhesive. The membrane can be pushed into position using a roller or suitable tool.

Important: Ensure the decoupling membrane is laid before the adhesive is dry.

Note: To prevent the membrane from damage once it has been laid, it is recommended that boards are temporarily laid on top if tiling is likely to be delayed for any length of time.

d Using a thin bed of flexible tile adhesive the tiles can be laid as soon as the decoupling membrane has been fitted.

e Apply the adhesive to the matting taking care to ensure that it passes through the mesh and fills the depressions.

f Apply a further thin bed of adhesive and roughen it in preparation for the tiles.

g Bed the tiles down into the adhesive ensuring that the entire surface is covered. The depth of the serrations on the trowel must be appropriate for the tile. It is important that the tiles are solidly bedded ensuring there are no voids in the adhesive bed.

Important: The tiles must be laid before the adhesive has hardened.

h Once the adhesive has dried, grout the tiles.

Notes

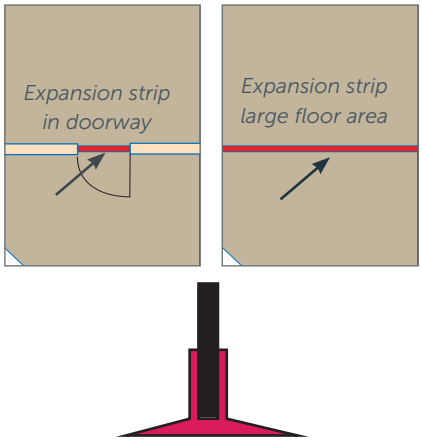
- Always use a flexible grout.
- A minimum 10mm expansion gap is required around all perimeter walls to allow the floor to expand and contract as required; this is usually hidden by the skirting board or perimeter tile upstand.
- Expansion joints should be installed at doorways where tiles are to follow 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.

Movement joints

To ensure that that a tile bed moves in unison with the individual substrate, flexible movement joints must be included in large floor areas with expansion gaps at the edges of the substrate. The recommendations of BS5385 and *The Tile Association* relevant to LoPro™10 say that movement joints should be installed:

- At floor perimeters, at any fixed feature which interrupts the floor and in high stress areas such as doorways.
- Between underfloor heating zones allowing each to operate independently.

In all situations BS5385 and the recommendations of the *Tile Association* should be followed.



Tools & sundry items

Tools

- Handsaw or circular saw.
- Chalk line for setting out LoPro™10 panel and castellated tray position.
- Paint tray and foam roller for applying primer to all floor surfaces that will be covered by castellated panel.
- Sharp stanley knife.
- Drill and whisk for mixing LoPro™ QuickSet self-levelling compound.
- Mixing container capable of holding 50kg of LoPro™ QuickSet self-levelling compound.
- Steel hand float for finishing LoPro™ QuickSet self-levelling compound.
- Long spirit level to check surface and flatness of sub-floor.

Sundries

- 15/16mm prepared timber edge battens for perimeters adjacent to castellated panel and LoPro™ QuickSet self-levelling compound.
- Screws for fixing LoPro™10 panels to a timber sub-floor where tiles are to be fitted.
- De-coupling membrane for areas where tiles or stone are to be fitted (can be purchased from Nu-Heat).
- FeatherEdge compound to fill pipe channels where carpets are to be fitted (can be purchased from Nu-Heat).

UFH installation information

- Please refer to Nu-Heat mechanical and electrical drawings for 1st and 2nd fix plumbing and electrical information.
- Please refer to the Nu-Heat UFH Installation Manual for detailed information on manifold positioning and instalation, pipework connections, filling, flushing and pressure testing, etc.
- Please refer to Nu-Heat information sheets on floor coverings where noted in this manual.
- Please refer to project-specific CAD drawings for floor tube layouts.

Notes:

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