Nu-Heat
UNDERFLOOR & RENEWABLES

AcoustiMax®14 quick start guide & installation manual

AMC14 – on a concrete separating floor
AMT14 – on a suspended timber sub-floor

UNDERFLOOR HEATING
HEAT PUMPS
SOLAR THERMAL

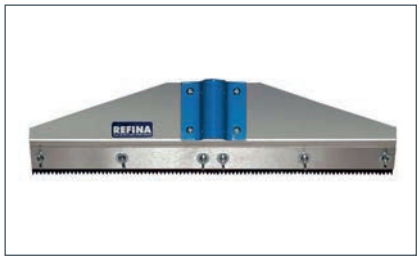
Tools & sundry items

Tools

- Long spirit level to check surface and flatness of sub-floor (SR2 standard required)
- Vacuum cleaner
- Paint tray and foam roller or pressurised garden spray for applying floor primer
- Sharp stanley knife and heavy-duty scissors
- Pipe cutter
- Mixing container capable of holding 25kg of self-levelling compound and container to measure water volume
- Drill and whisk for mixing self-levelling compound (depending on volumes required and contractor)
- Steel pole float and spiked roller on long handles for finishing surface of self-levelling compound
- Trowel with fine triangular notches for applying rubber glue
  Links: https://www.refina.co.uk/acatalog/index.html
  Ref: 647122: 22" Notched leveller (handle required)
  Ref: 201906R: 11" R Hand slotted trowel
  Ref: 201736A: 11" A1 Blade

Steel pole float

Spiked roller



Notched leveller

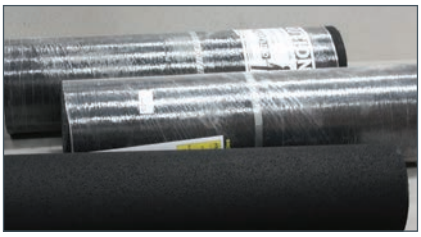
Sundries

- Chalk for marking acoustic rubber before cutting
- Water for mixing self-levelling compound

Floor components

Components supplied by Nu-Heat

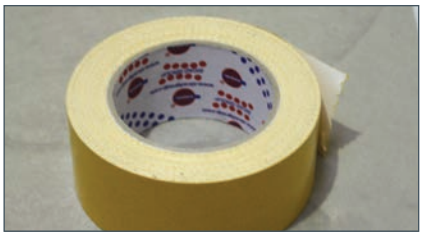
Castellated panel
A plastic castellated panel that holds 14mm floor heating pipe in place.



5mm acoustic IsoRubber-UFH-NH
Fitted below castellated panel in all areas as a resilient layer.

LoPro®QuickSet self-levelling compound
Used over castellated panel to level the floor.

Perimeter flanking strip
A self-adhesive foam that isolates the UFH layers from the wall acoustically and effectively forms a seal with the acoustic rubber base to prevent bridging.



Double-sided tape
Used to bond castellated panel to perimeter flanking strip.

Floor primer
Floor primer used to seal the sub-floor and allow IsoRubber to be glued down under castellated panel.

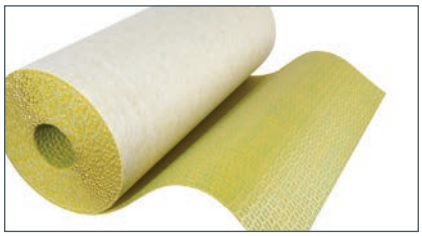
14mm floor heating pipe
Carries warm water from Optiflo manifolds to heat room zones.

Tape and adhesive
Tape used to seal adjoining strips of rubber. Adhesive used to glue down acoustic rubber. Use a 1.5mm V-notched trowel (A2) to apply.

Floor temperature sensor
Sets the maximum temperature that the floor can reach. Nu-Heat recommends that a sensor is fitted in all rooms and with all floor finishes.

Optional components supplied by Nu-Heat

Options are available online at: www.nu-heat.co.uk/loproextras or telephone 01404 549770



De-coupling membrane
For use with ceramic tiles and natural stone products (if specified).

Pipe de-coiler
Assists with de-coiling long lengths of UFH tube during installation.

Reinforced expansion strip
Used in floor areas greater than 40m^2. Supplied in lengths of 900mm.

Quick Start Guide

Please also read detailed instructions

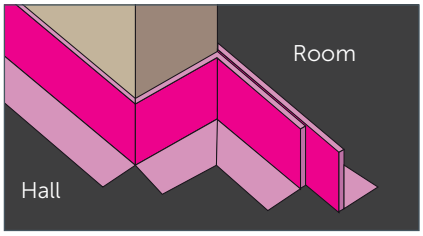
SEQUENCE FOR FITTING ACOUSTIMAX®14

Work on individual rooms/zones can be undertaken on a room-by-room basis up to installation of the underfloor heating tube.

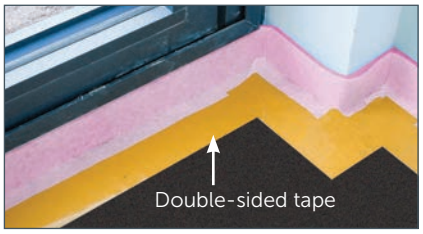
1 Prime all sub-floors using the primer supplied.

2 Glue down acoustic rubber.

3 Tape all joins in acoustic rubber to create a seal.

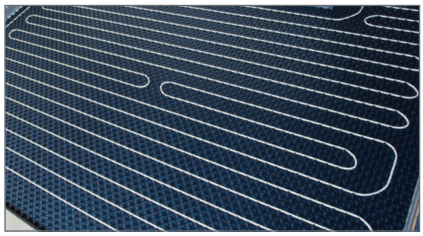


4 Install acoustic flanking strip, **taking it straight across doorways**. Ensuring there are no gaps will effectively tank the floor.



5 Fit double-sided tape – do not remove top cover strip until ready to lay castellated panel.

6 Install castellated panel across the entire floor in a brick-bond pattern. This should be protected from damage before pipe is laid.



7 Lay the UFH pipe.

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

9 Fit the floor temperature sensor supplied to all zones. This is essential for vinyl and engineered timber finishes. Inserting the sensor wire into an offcut of tube will make it easier to fit.

10 Whilst pipe is under pressure, pour self-levelling compound over the castellated panel.

Installation Manual

SCHEDULE OF WORKS

Before starting the installation:

1. Complete all first-fix construction, plumbing and electrical work.
2. Walls and ceiling should be plaster-boarded and plastered.
3. Do not fit skirting boards or doors.
4. Prepare floor (see below).
5. Thoroughly clean floor to remove debris – a heavy duty vacuum cleaner is ideal.
6. Install the floor components following the instructions in this manual.
7. Final floor finishes can be fitted 72 hours after the LoPro®QuickSet self-levelling compound has been poured, depending on its thickness and the ambient temperature/humidity.

INSULATION

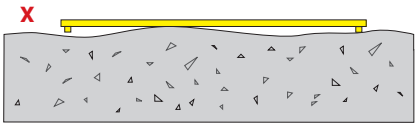
Additional insulation may be required to meet Part L of the Building Regulations. Where specified, this should be laid below the acoustic IsoRubber-UFH-NH.

Floor levels & flatness

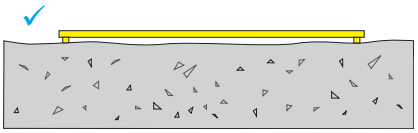
The sub-floor must be fully load-bearing in accordance with building regulations, and with a surface flatness that meets the **SR2 standard** – i.e. level with surface irregularity of no more than SR2 (5mm deviation over 2 metres).

Some very large format tiles or sensitive stone finishes may require SR1 flatness.

Measuring surface regularity – SR2



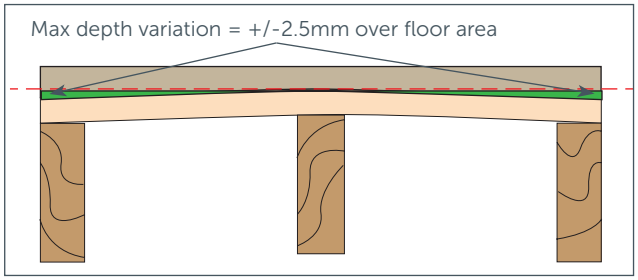
Fail – high spots should be ground down or the floor should be levelled to SR2 standard

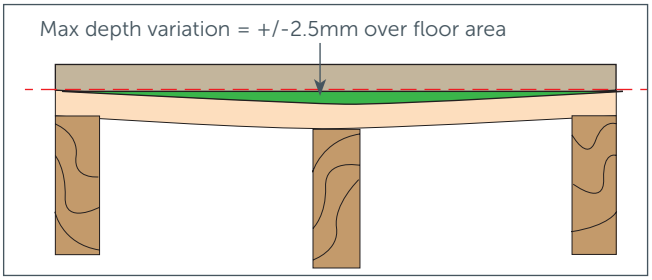


Pass – less than 5mm deviation over 2m.

CHECKING THE LEVEL OF THE FLOOR

Sufficient LoPro®QuickSet self levelling compound will always be supplied with the system to accommodate a floor height variation of +/-2.5mm, over part of the floor area. Floors outside of this tolerance should be levelled before fitting the AM14 castellated panel. Additional self-levelling compound can be ordered for this purpose.

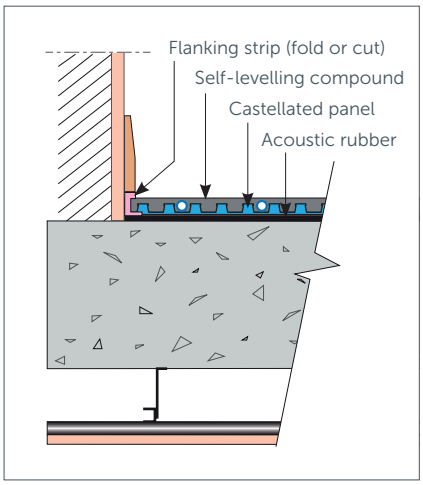




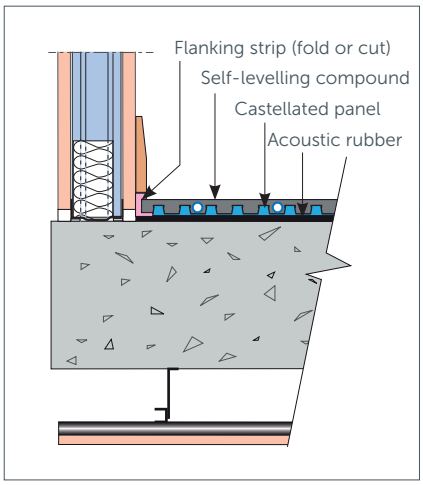
Floors that are outside the +/-2.5mm tolerance will either require levelling before the castellated panel is fitted or additional self-levelling compound will be required (this can be purchased from Nu-Heat).

RECOMMENDED METHODS OF ENSURING PART E COMPLIANCE

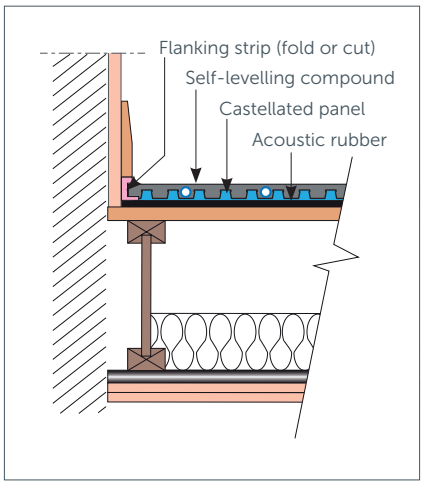
Standard wall construction on solid concrete slab



Metal stud partition on concrete slab



Suspended timber floor



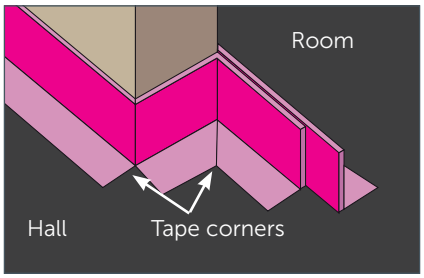
Note: With any acoustic floor cassette the edge treatment must be fitted carefully, as it can have a big impact on performance. Any holes cut in the sub-floor or UFH layers for services must be acoustically sealed and tanked.

Installing IsoRubber-UFH-NH

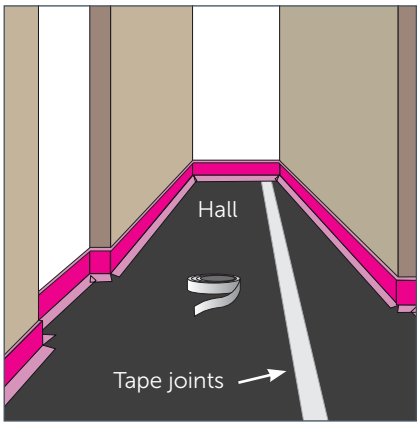
1 Glue down acoustic rubber over the whole room. It can be easily cut with a stanley knife.

2 Tape all joints ensuring there are no gaps, as seepage of self-levelling compound can cause acoustic bridging.

3 Install flanking strip around the perimeter of the room, continuing straight across doorways. Cut the adhesive web of the flanking strip at corners. If required, use additional tape to effectively tank the floor at the junction with the walls. **Seal all gaps with tape.**



4 At hall doorways, cut the flanking strip to sit neatly against the door frame in the recess. Cut the adhesive-backed web of the flanking strip at corners. **Seal gaps with tape.**



5 Fit double-sided tape – do not remove top cover strip yet.

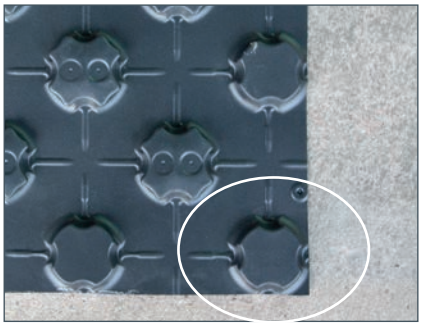
Installing castellated panel

Use a vacuum cleaner to remove dust and debris from the IsoRubber base to ensure good adhesion with the castellated panel.

Avoid damaging the castellated panel during installation by wearing flat-soled shoes, keeping foot traffic to a minimum and using a kneeling board. Keep other trades off site until castellated panel has been fitted and self-levelling compound has dried.

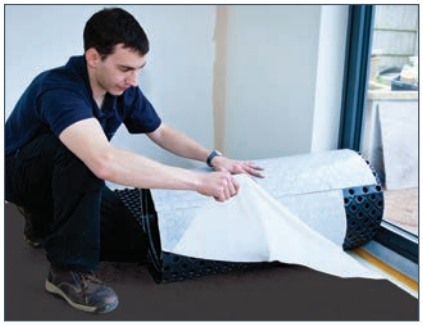
1 To aid alignment, the first row can be joined together and then rolled up to be laid as one strip.

With the backing left in place and starting in the farthest corner of the room, lay the panel out and cut to fit as necessary. The panel moulding must be laid with the corner pictured above facing towards the centre of the room. The slightly smaller castles fit under the next layer of panel.



2 Continue along one wall overlapping each panel by one castellation. Cut off any excess panel at the end of the run and use this at the start of the next run. This helps to achieve a brick-bond pattern.

3 Remove the self adhesive backing on the outside edge of the first panel and stick that corner to the IsoRubber pressing down firmly.



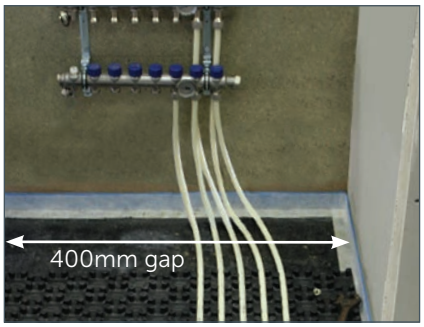
4 Roll the rest of the panels back towards the corner. Slowly unroll the strip pulling off the self-adhesive backing as you go.

5 Remove the cover strip on the double-sided tape at the edge of the room and secure the castellated panel firmly on top.

6 Use the castellated panel that was cut off to start the next row back at the top of the room. Repeat steps 3-4 overlapping the side of the panel with the first row to create a brick-bond pattern. After the first row, panels can either be joined before laying or laid individually.

7 Fill the entire room with castellated panel.

Note: Offcuts of castellated panel can be used in other rooms.



8 Leave a section approx. 400mm wide below the manifold clear of panel to allow close spacing of pipes. Seal the floor in this area to prevent seepage of self-levelling compound.

Note: Use a kneeling board to protect castellated panel in this area until the LoPro®QuickSet self-levelling compound is laid.

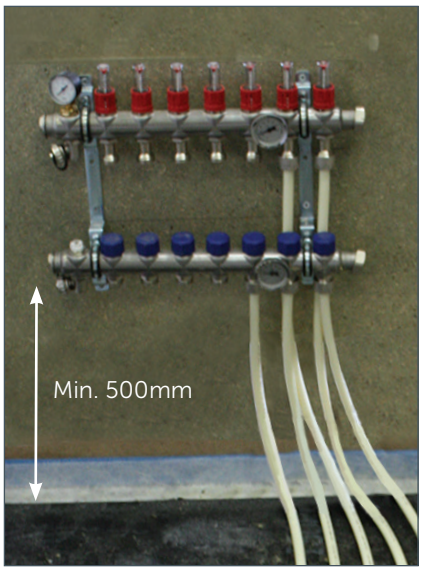
Installing the heating pipe

To be read in conjunction with the Nu-Heat UFH Installation Manual

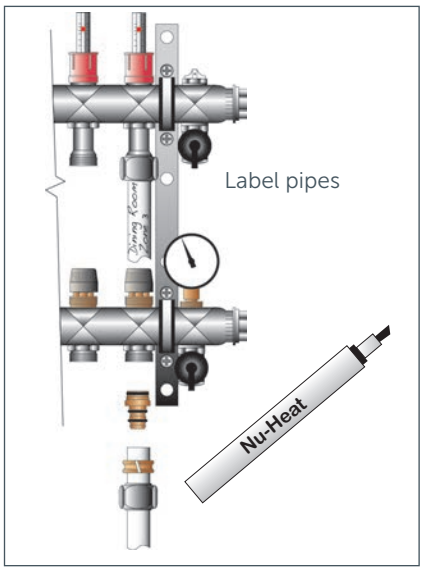
SEQUENCE OF LAYING UFH HEATING PIPE IN THE FLOOR

14mm UFH pipe is supplied in different coil lengths.

A pipe de-coiler can be used to dispense pipe off the roll (available from Nu-Heat).



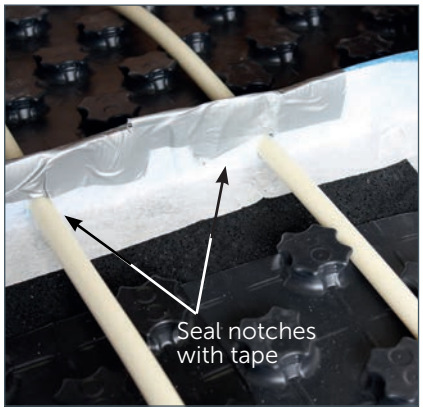
The manifold must be fitted high enough on the wall to accommodate multi[ple pipes leading into it.



1 Start the pipe laying from the manifold position and at the room closest to the manifold. Coil lengths for each room are shown on the *Pipe Layout Drawing*.

2 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.

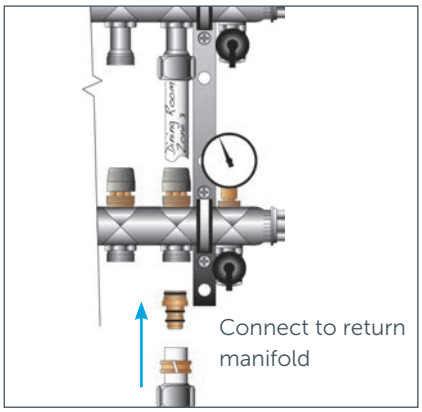
3 Following the layout shown on the *Pipe Layout Drawing* drawing supplied, roll out the pipe pushing it into the castellated panel. Unroll the pipe hand-over-hand to avoid twisting and push it into the panel.



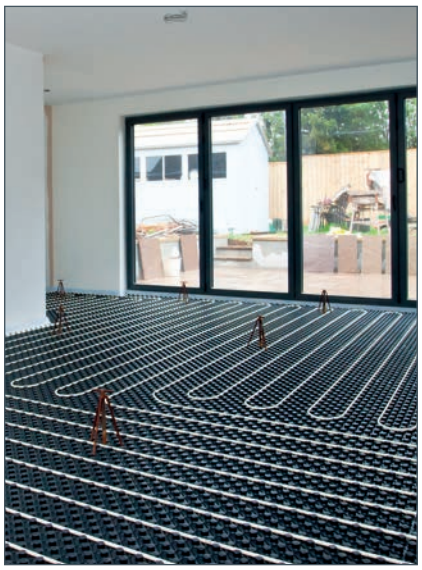
4 As pipe is installed through door-ways it is necessary to cut the flanking strip to accommodate the pipe. Seal the cut around the pipe with tape to ensure self-levelling compound cannot run into the adjoining room/hallway.

5 Continue installing the pipe until there is just enough remaining to return to the manifold at the cut length stated on the *Pipe Layout Drawing*.

The metre markings on the pipe can be used to help judge the amount of pipe used.

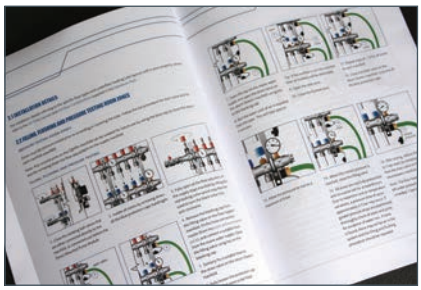


6 Once back at the manifold cut the pipe to length and connect it to the manifold as described in the *Warm Water Underfloor Heating Installation Manual.*



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

8 Repeat for all other rooms.



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

LoPro® QuickSet self-levelling compound

The self-levelling compound can now be laid.

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

MIXING THE SELF-LEVELLING COMPOUND

Note: Self-levelling compound can be laid room-by-room; the flanking strip at doorways will keep areas separated.

Method 1 – drill mixer

Suitable for areas up to 60m².

Do not mix a quantity greater than can be used within the 20–30 minute working time, and do not re-wet or add more water to the mix once it has begun to set. Using a different water volume than that specified on the packaging will alter the consistency, strength, finish and setting time of the self-levelling compound; leading to potential re-working to make good.

Use a spiked roller to help to remove air bubbles from the liquid compound.

LoPro®QuickSet

Mix one full **25kg bag** of LoPro® QuickSet self-levelling compound with **4.5–4.75 litres** clean water in a suitable container for 3-5 minutes until a lump free mixture is obtained.

Method 2 – forced action mixer

Suitable for areas up to 100m².

Operating instructions for individual models vary, so always read them carefully before starting to mix.

Do not mix a quantity greater than can be used within the 20–30 minute working time, and do not re-wet. Using a different water volume than that specified on the packaging will alter the consistency, strength, finish and setting time of the self-levelling compound; leading to potential re-working to make good.

Use a spiked roller to help to remove air bubbles from the liquid compound.

LoPro®QuickSet

Mix one full **25kg bag** of LoPro® QuickSet compound with **4.5–4.75 litres** clean water in a suitable container until a lump free mixture is obtained.

Method 3 – pump mixer

Suitable for areas over 100m².

To be used only by professional contractors. Nu-Heat has a list of national screeding partners that work in your area. They will be able to offer a price/m² for laying the self-levelling compound.

Consistency is measured via a slump test. When pouring into large areas, repeat the slump test at regular intervals to maintain consistency and ensure a smooth, level surface is achieved.

Use a spiked roller to help to remove air bubbles from the liquid compound.

LoPro®QuickSet

For details of the LoPro®QuickSet slump test procedure see the datasheet, *LoPro®Max Screed Mixers*.

To help to gauge the correct amount of self-levelling compound to use, a bag quantity is stated for each room on the *A3 Tube Layout* drawing.

Mix and pour the required quantity of QuickSet compound for the area of castellated panel. To ensure levels are maintained through doorways, cut back the flanking strip level with the top of the skim coat in adjoining rooms to provide a datum once dry.

The compound should be poured in a single coat to achieve a smooth surface throughout.

Apply at a minimum floor temperature of +5˚C.

Start from the farthest point, filling and skimming the compound across the castellated panel, working towards the exit of the property. Use all of the LoPro® QuickSet self-levelling compound allocated to that area.

Notes: If the floor is out of level and requires more than the quantity of self-levelling compound supplied, or castles are still visible, additional product can be purchased from Nu-Heat and a second layer of compound can be poured on top of the first layer. If more than 48 hours have elapsed the floor should first be primed with one coat of undiluted primer.

All tools and mixing containers should be washed and cleaned immediately after use and before material hardens.

DRYING THE QUICKSET SELF-LEVELLING COMPOUND

1 At normal temperatures LoPro® QuickSet will take light foot traffic after 3–8 hours and accept bonded floor coverings after 72 hours. A room temperature of between +13˚C and +18°C should be maintained with a subfloor temperature of at least +5°C (after 3–8 hours a passage of air can be used to assist drying times). For greater thickness and/or low temperature an extended drying time could be required.

Do not switch the underfloor heating on to assist drying for at least 3 days. See *Commissioning the UFH* in the *UFH Installation Manual*.

2 The underfloor heating must be switched off for at least 24 hours prior to laying/fixing any floor finishes.

3 The underfloor heating can be switched back on when flooring adhesives have cured but must be started at a low temperature and increased by 5˚C per day until the desired floor temperature is achieved. The UFH design water flow temperature is detailed on the CAD drawings.

4 In all screeded floors there is the possibility of surface tension fractures appearing, sometimes radiating from corners. This will not affect the structural integrity of the floor.

5 Drying times are for guidance only. Always check the floor is sufficiently dry by measuring the moisture content with a hydrometer and confirming it is within the range recommended by the flooring manufacturer before installing the floor finish.

Floor coverings

Carpet

See also Nu-Heat information sheet:
• *Floor finishes – Carpet*

Carpet and underlay specification

The combined tog value of the carpet and underlay should not exceed 2.5 tog, and preferably less than 1.5 for heat pump systems.

Consideration should also be given to the underlay used to ensure its tog rating is taken into account at the design stage. Felt and heavy crumb underlays should be avoided. Many manufacturers supply underlay specifically for use with underfloor heating.

Preparation

Ensure the floor surface is flat and repair any irregularities in the surface using Latexplan Trade from Mapei (or equivalent).

Fitting the carpet

Option 1 – gripper rod

If carpet grippers are required to stretch the carpet, they should always be glued in place in order to avoid damage to the underfloor heating pipes and the self-levelling compound.

Option 2 – adhesive

Carpet and underlay can be glued to the floor, as in the 'double-stick' system. The heating should be switched off 48 hours prior to laying and for 48 hours afterwards and then brought up to full working temperature gradually over 7 days.

Adhesives such as F. Ball F41 and F43 are suitable for use at normal UFH operating temperatures.

Primers and adhesives

Adhesives recommended for use with carpet and self-levelling compound include:

Floor finish	Adhesive	Preparation
Carpet (if glued down)	Mapei Ultrabond Eco VS90 F. Ball F41 and F43.	Ensure the levelling compound is clean and free of dust and contamination. For increased bond strength, prime the levelling compound using primer diluted by 50% with water. Always check the adhesive is suitable for use at normal UFH operating temperatures.

Engineered timber

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; where controls are supplied by Nu-Heat this is supplied as part of the system.

Moisture content

Premises with a relative air humidity above 60% must be dehumidified.

Self-levelling compound

Moisture content of the self-levelling compound should not have an RH value greater than 65%, which can be checked with a moisture meter. Alternatively, tape several, approximately 1m^2 clear polythene sheets in various places across the floor and leave for 24 hours. If there is no moisture present wood flooring can be laid.

The underfloor heating should be turned on and commissioned in line with the Nu-Heat commissioning procedure then turned off for 48 hours prior to laying the engineered timber floor.

Engineered boards

Laminate floors and engineered board should be allowed to acclimatise as advised by the supplier.

Expansion gap

The acoustic flanking strip will act as an expansion gap to allow the floor to expand and contract with atmospheric changes. It will usually be hidden by skirting.

Option 1 – glue down

Engineered hardwood floors can be glued to the self-levelling compound using an adhesive recommended by the supplier. The surface of the compound should be primed before the flooring is glued down.

Option 2 – free-float

Alternatively, they can be butt-jointed (using an adhesive recommended by the supplier), and free-floated over the surface of the self-levelling compound.

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

Primers and adhesives – Option 1

Adhesives recommended for use with timber and self-levelling compound include:

Floor finish	Adhesive	Preparation
Engineered Wood (if glued down)	Mapei Ultrabond Eco VS90	Floor covering must be acclimatised to area in which it is to be laid following supplier's instructions. Ensure the levelling compound is clean and free of dust and contamination. For increased bond strength, prime the levelling compound using primer diluted by 50% with water.

Always follow the supplier's installation instructions.

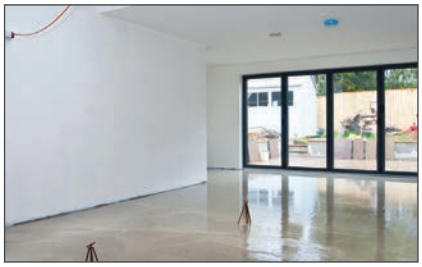
Solid hardwood floor finishes are NOT recommended for use with AcoustiMax®.

See also Nu-Heat information sheets:
• *Floor finishes – Hardwood floors*

Tile and Stone

Installation

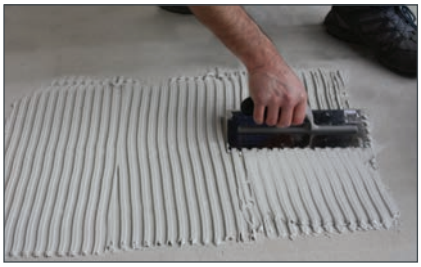
Where a de-coupling membrane is recommended by the flooring supplier this sequence should be followed:



1 The surface of the QuickSet should be flat and level. If required, additional compound or Latexplan Trade can be used to take out minor irregularities before laying the decoupling membrane.

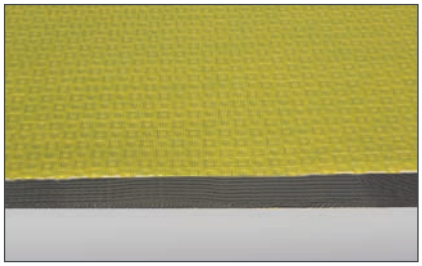
2 **Important:** Apply an appropriate primer ,such as EcoPrim T (available from Nu-Heat) or equivalent, using a brush, roller or spray.

3 Cut the decoupling membrane to fit.



4 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.



5 Quickly lay the cut rolls of decoupling membrane in position over the entire surface. Ensure that the decoupling membrane 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.

6 Tiles can be laid on a thin bed of flexible tile adhesive as soon as the the decoupling membrane is in place. The membrane has a green mesh on its top surface.

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

8 Apply a further thin bed of adhesive using an appropriate notched trowel as recommended by the flooring supplier.

9 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.

10 When adhesive is dry a flexible grout can be used.

Restrictions

Nu-Heat's decoupling membrane is not suitable for installation beneath very thin, large-format floor tiles ('slimline tiles').

Primers and adhesives

Where the surface of the self-levelling compound has become dusty it can be sealed with a suitable primer, applied using a pressurised spray, brush or roller.

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.

Adhesives recommended for use with tiles and self-levelling compound include:

Floor finish	Primer/Adhesive	Preparation
Ceramic tiles, poreclain tiles, natural stone.	Knauf Schnellgrund Mapei Eco Prim T	Ensure the levelling compound is clean and free of dust and contamination before applying a coat of Eco Prim T or Knauf Schnellgrund (or equivalent). Apply primer with a brush, roller or spray.
	Mapei Keraquick & Mapei Latex Plus with de-coupling membrane	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.

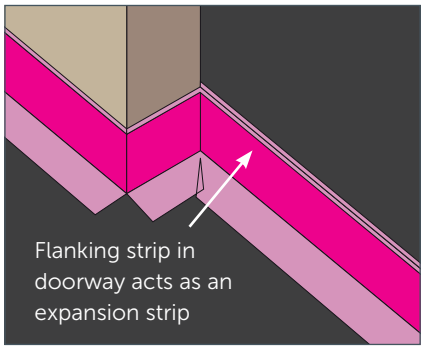
Movement joints – for large areas and doorways

To ensure that that a tile bed moves in unison with the individual substrate, flexible movement joints must be included.

According to BS5385 and *The Tile Association*, movement joints should be installed:

- At floor perimeters and at any fixed feature which interrupts the floor or when tiling meets other materials.
- Over existing movement joints ensuring that any movement joints are followed through the substrate and tiling layer.
- Between underfloor heating zones allowing each to operate independently.
- Whenever the substrate changes.

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



Notes:

- Nu-Heat always recommends the use of a decoupling membrane for tiled floors unless the tile/stone supplier specifically advises against it.
- In all cases manufacturer's instructions and recommendations should be followed. Please contact manufacturers for more information.
- The underfloor heating system should be turned off while tiling and remain off until adhesives and grouts have fully cured (see manufacturer's guidance).

Although the technical information and recommendations contained in this manual are correct to the best of our knowledge at the time of publication, they should be taken as indicative only. In all cases it is the responsibility of the installer/tiler alone to select the correct products to ensure a suitable surface for tiling.

See also Nu-Heat information sheets:
- *Floor finishes – Tile and Stone*
- *LoPro® Decoupling membrane*
- *Floor Primer*

Linoleum and vinyls (including Marmoleum, Amtico, Karndean, etc.)

Linoleum and vinyl floor finishes are sensitive to excessive heat and uneven surfaces, and should not be used in corridors or areas that have a large number of closely spaced UFH pipes with no zone or floor temperature control, as there would be no effective method of regulation. For other areas, floor temperature sensors are supplied by Nu-Heat.

Coverage per pack of Latexplan Trade floor leveller (2-parts)

THICKNESS	COVERAGE
6mm	3.0m²
7mm	2.6m²
8mm	2.3m²
9mm	2.0m²
10mm	1.8m²

Additional levelling

Most vinyl coverings require a mirror finish to stop irregularities in the surface showing through. The easiest way to achieve this is to use a fine levelling compound such as Latex Plan Trade to create a smooth finish.

Moisture Content

In most cases a maximum moisture content of 75%RH is required when laying marmoleum or vinyl flooring over AcoustiMax®14 or any other screed floor.

Primers and adhesives

Adhesives recommended for use with vinyl or linoleum and self-levelling compound:

Floor finish	Adhesive	Preparation
Vinyl & linoleum	Mapei Ultrabond Eco VS90	Floor covering must be acclimatised to area in which it is to be laid following supplier's instructions. Ensure the levelling compound is clean and free of dust and contamination. For increased bond strength, prime the levelling compound using primer diluted by 50% with water. Mapei Latexplan Trade can be used if a final smoothing coat is required.

Installation

- Vinyl flooring requires acclimatisation to the environment in which it is to be installed. It should be unwrapped and laid flat for a minimum of 24-hours prior to installation.
- The room temperature should be between 18–26˚C but the underfloor heating should not be used to achieve this.
- The adhesive used to fix the flooring should be able to accommodate the working temperature of the underfloor heating, maximum 27˚C.
- The underfloor heating should have been tested and switched off 48-hours before installation of the flooring and remain off during installation and for 48-hours after.

Always follow the flooring manufacturer's recommendations.

See also Nu-Heat information sheet:
• *Floor finishes – Vinyl floors*

Microtop and polished concrete

Polished concrete floor finishes suitable for use with AcoustiMax®14 are:

Microtop polished concrete coating (0.5–3mm):
A polymer modified coating applied at 0.5mm to 3mm that looks like polished concrete.

- Prime the surface of the QuickSet self-levelling compound.
- If necessary, cover the compound with a layer of Latex Plan Trade fine levelling compound (up to 10mm) to provide a strong, level, mirror surface ideal for the final microtop coating.

Polished concrete overlay (10–40mm):
A cement based overlay applied at 10mm to 40mm that can be diamond polished.

- Prime the surface of the self-levelling compound before applying the concrete overlay.
- The floor heating should not be switched on for up to 7 days depending on conditions and manufacturer's recommendations.

See also Nu-Heat information sheet:
• *Floor finishes – Microtop & polished concrete*

Always follow the manufacturer's guidelines

Resin

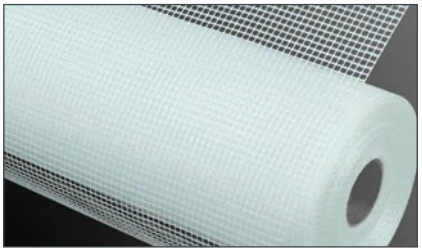
Synthetic resin finishes typically have a thickness of 0.15mm to 6mm. The type and thickness of the resin used relates to the location in which they are to be laid, the durability required and the volume of foot traffic that they will encounter.

Glass fibre rendering mesh
With a resin floor finish, Nu-Heat recommends the addition of a layer of glass fibre render mesh – this can be purchased from a standard builders' merchant. Render mesh will reduce the potential for stress fractures in the self-levelling compound (stress fractures do not affect the structural strength of the floor).

After the castellated panel and underfloor heating tube have been laid and pressure tested, roll out the render mesh over the entire floor and then glue tack to the top of the castellated panel using a glue-gun. Use sufficient glue to stop the mesh from lifting whilst the self-levelling compound is poured.

Always follow the resin manufacturer's installation guidelines. In general, the following sequence applies:

- The self-levelling compound should be left to dry for a minimum of 5 days.
- The floor heating should be tested and working before installation of the resin and switched off 48 hours prior to installation.
- Repair any stress fractures using a product recommended by the resin supplier to create a flat, level surface.
- Check that the moisture content of the self-levelling compound meets the resin supplier's guidelines before proceeding.
- Use a primer and/or glass-fibre base coat recommended by the resin supplier.
- Lay the resin finish in accordance with the supplier's guidelines.
- The floor heating should not be switched on for up to 7 days depending on conditions and supplier's recommendations.
- Commission the underfloor heating system in accordance with the Nu-Heat instructions – increase the temperature by 5°C per day up to the stated design flow temperature.



See also Nu-Heat information sheet:
• *Floor finishes – Resin*

Always follow the manufacturer's guidelines

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 A3 CAD drawings for floor tube layouts.

Problem solving

Minor deviation in floor surface levels that will have fine tolerance floor finishes, e.g. vinyl, Amtico, Karndean, etc.

A Prime the surface of the LoPro® QuickSet self-levelling compound with Mapei Eco Prim T or equivalent.

B Level the floor using Mapei Latexplan Trade or equivalent to a maximum depth of 10mm.

Surface is not level due to floors being outside Nu-Heat's stated tolerance

A Prime the surface of the LoPro® QuickSet self-levelling compound with Mapei Eco Prim T or equivalent.

B Where the floor requires no more than 10mm of filler to make it level Mapei Latexplan Trade can be used. Where the difference in levels is greater than 10mm a second coat of LoPro® QuickSet self-levelling compound should be used.

Sink holes caused by damage to the castellated panel or poorly aligned panel joints allowing the compound to seep away
OR
Loss of compound at junction of interior/exterior walls allowing castellated panel to show

This problem is usually caused by poor installation of the foam perimeter expansion/sealing strip meaning that compound can escape through gaps into the floor below.

A If necessary, repair or fill any holes with expanding foam.

B Prime the affected area with Mapei Eco Prim T or equivalent.

C Fill the affected area using Mapei Latexplan Trade or equivalent to a maximum depth of 10mm.

Spider-web fractures caused by rapid drying

These small fractures are not structural and need no remedial action except where a floor finish with a fine surface tolerance is to be fitted (vinyl, etc.).

In this case:

A Prime the affected area with Mapei EcoPrim T or equivalent.

B Fill the fine fractures using Mapei Latexplan Trade or equivalent.

Please see individual information sheets for detailed product installation and specification data.

Nu-Heat recommends the following products for repair or further levelling of LoPro®QuickSet self-levelling compound:

- Mapei Latexplan Trade – latex floor leveller (available from Nu-Heat or obtained locally if more convenient).
- Mapei EcoPrim T – floor primer (a quantity is supplied with the AcoustiMax® floor construction. If required, further quantities an be purchased from Nu-Heat or obtained locally if more convenient).

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