FoilBoard Battened Installation Guide

TI 5003

timoleon

FoilBoard System for Battened Floor Constructions

INTRODUCTION

Our FoilBoard system can be laid between timber battens. The FoilBoard panels are manufactured from XPS insulation with pre-bonded soft temper aluminium. As no thick rigid plates are used the panels can be easily trimmed on site.

The panels are designed so that when a floor deck is laid over and fixed to the battens it will be in direct contact with the heat diffuser, ensuring good thermal transfer. The nature of the FoilBoard panel to transfer heat efficiently increases performance by over 30% compared to systems that do not use heat diffusers.

The standard product is available in thicknesses from 25mm to 75mm and for a variety of batten centres. However, FoilBoard can be manufactured to a specification to suit your construction.

INSTALLATION

1. Lay 50mm battens at 400mm centres and to best practice.
2. Between each batten lay the FoilBoard loop panels at each end of the run.
3. Lay FoilBoard straight panels between the loop panels, trimming where necessary.
4. Notch the batten wherever the pipe will cross.
5. Starting at the manifold, lay the pipe into the FoilBoard according to the design.
6. Pressure test prior to laying the floor deck and finish. Keep under pressure.

Note : Please refer to installation guides for full installation details

SPECIFICATION

Timoleon Foilboard Batten system using 16mm PE-RT pipe installed into FoilBoard panels comprising of 50mm XPS with pre-bonded heat diffusers to be installed between 50x50mm battens at 400mm centres. Floor Deck to be laid and fixed over. The system to be designed, installed and commissioned to BS1264.

TECHNICAL INFORMATION

Pipe – 16mm PE-RT Pipe

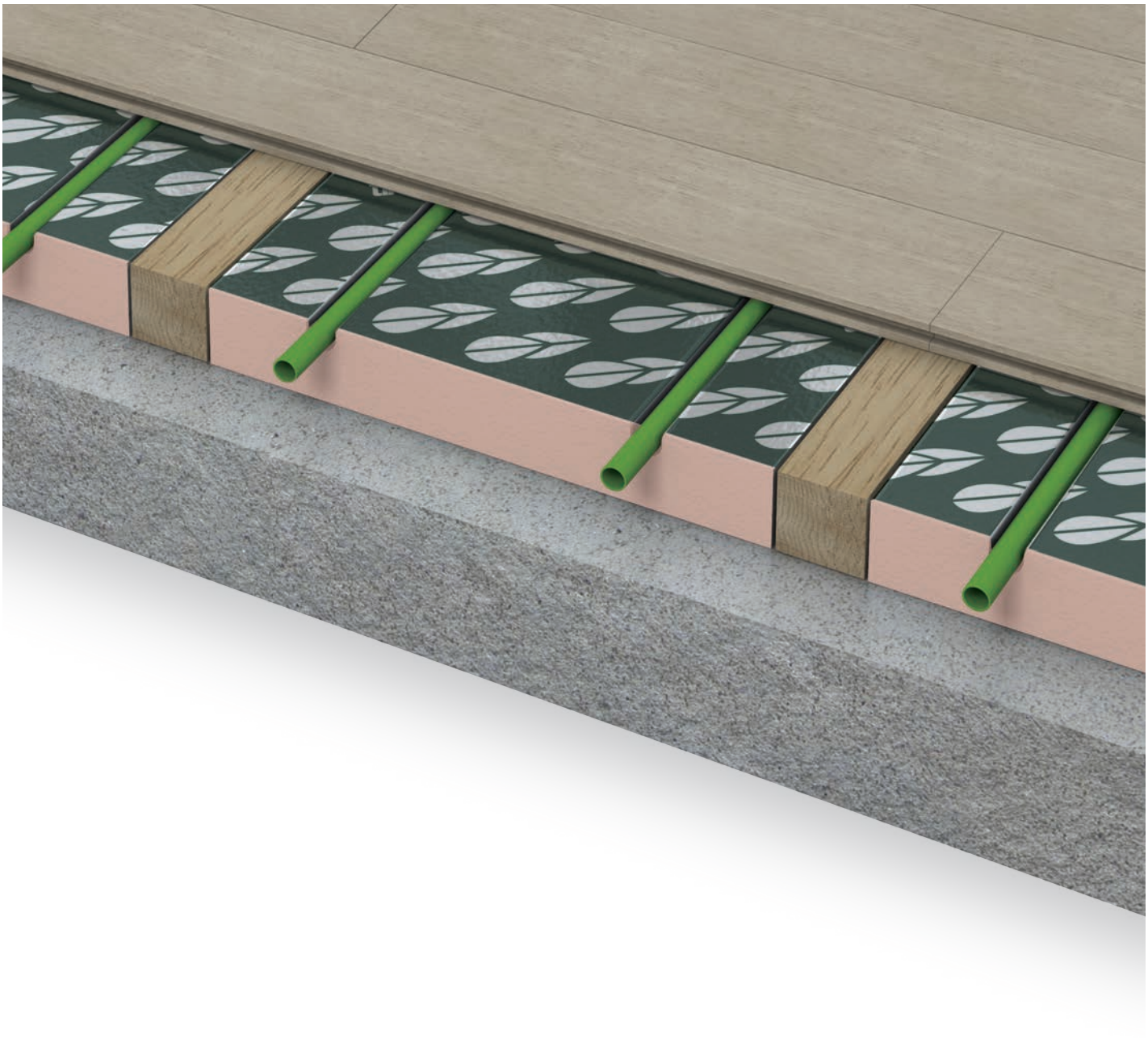
Foilboard Batten Panel – XPS polystyrene panel with pre-bonded soft temper aluminium (k=0.033W/mK).

Heat outputs are dependent on the water temperature, floor construction, system dimensioning, floor finish & design conditions. Please call 01392 363605 for advice.

		Flow & return water temperature (˚C)		
Heat Output Table (W/m²)		50/40	45/35	40/30
Floor Finish	Tile Finish (0.01m²K/W)	46	37	27
	15mm Wood Finish (0.1m²K/W)	41	33	24
	Carpet & Underlay (0.15 m²K/W)	37	29	22

Based on 16mm PE-RT pipe at 200mm centres using standard product (**high performance configurations available**) with 18mm chipboard laid over (plus 10mm ply for tiles). 0.15 m²K/W = 1.5 TOG. Air Temperature = 20˚c

FoilBoard Battened
Installation guide TI5003



The FoilBoard panels are manufactured from XPS insulation with pre-bonded soft temper aluminium heat diffusers. As no thick rigid plates are used the panels can be easily trimmed on site.

The panels are designed so that when a floor deck is laid over and fixed to the battens it will be in direct contact with the FoilBoard panels, ensuring good thermal transfer. This increases performance considerably compared to systems that rely on rigid diffuser plates, and reduces the risk of creating squeaky floors.

Using expanded insulation has the benefit of being able to absorb some minor undulations in the subfloor maintaining this essential contact. The standard product is available in any thickness from 25mm and for a variety of batten centres.

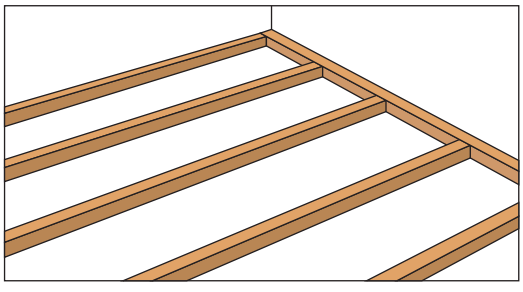
PRIOR TO INSTALLATION

If it is necessary to store the system once you have taken delivery ensure it is kept it dry, out of direct sunlight and away from sharp objects or possible chemical spillage. Ensure the area is weather tight.

1

Ensure existing slab/floor deck meets at least SR2 (5mm deviation in 2m) requirements for floor regularity (BS8204) and preferably SR1 (3mm deviation in 2m). Note the floor batten or floor finish manufacturer may have their own requirements which take precedent.

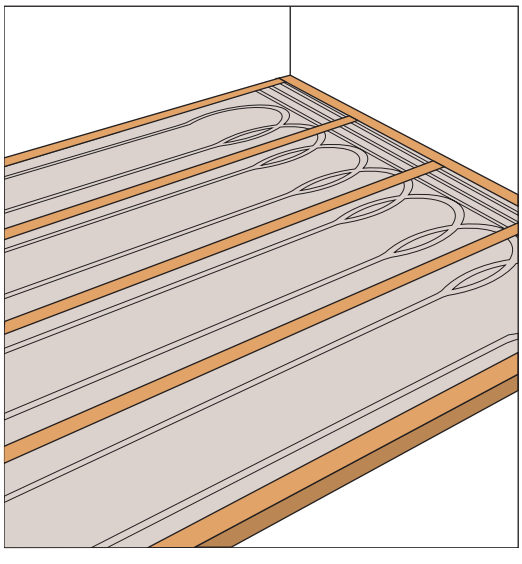
2



NOTE: These instructions are for 50mm battens at 400mm centres.

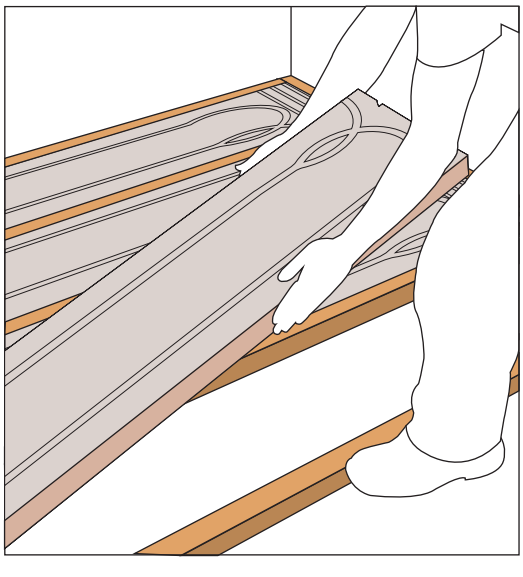
Fix the 50mm wide battens at 400mm centres to the subfloor referring to the architects notes and design. The FoilBoard Batten panels can be used as spacer to ensure battens are installed at correct centres.

3



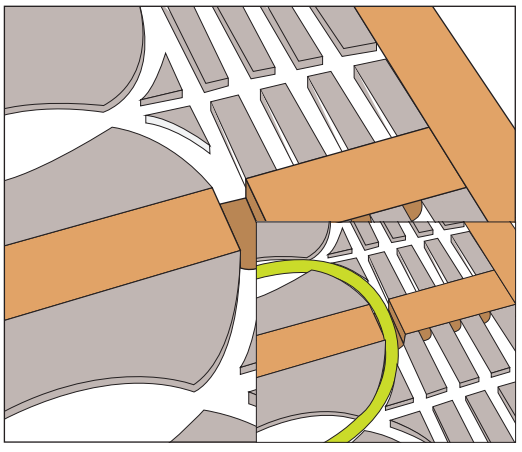
Starting from one corner lay a 50mm thick FoilBoard loop panel at each end of the batten space onto the subfloor as shown on the underfloor heating design.

4



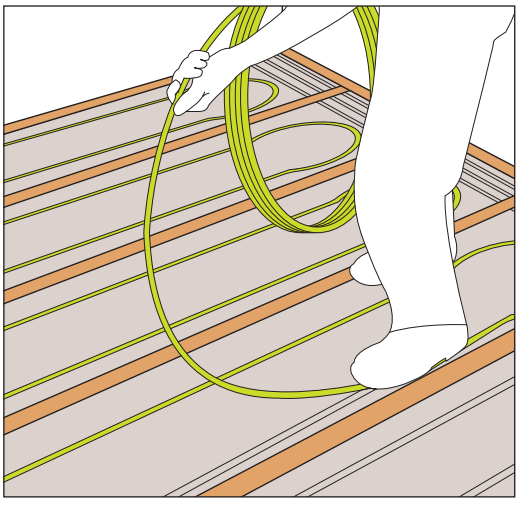
Lay 50mm FoilBoard panels between the loop panels, trimming where necessary and using the panel off-cut in the next batten space.

5



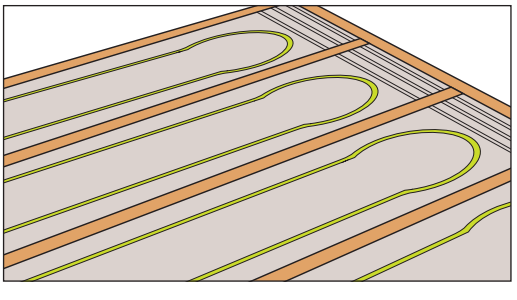
Notch the battens wherever the pipe will cross.

6



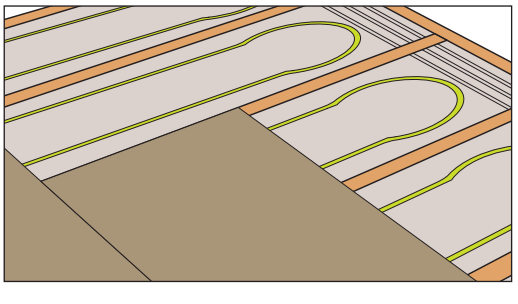
Starting at the manifold and referring to the Timóleon CAD design, lay the pipe into the FoilBoard panels. Additional channels in the insulation may be required, to do this we recommend using a hot blade cutter (available from Timóleon).

7



Repeat until all circuits are laid.

8



Pressure test and keep under pressure whilst the floor deck and floor finish are being laid.

WARNING

If the pipe work is kinked during the installation, the coil must be replaced or the pipe repaired with a Timóleon connector and then pressure tested.
No connections should be made unless accessible.

Filling/pressure testing

1. If the manifold is being used to pressure test all circuits at once close both primary isolation valves.

2. Connect a pressure tester to any drain valve, vent the system of air and increase the pressure to 6 bar.

3. Once at this pressure, leave for 60 minutes. If the pressure has dropped examine the pipework. It may be necessary to pressure test individual circuits to determine if there has been damage to the pipe.

4. If the pressure is maintained and passes the test record the results on the pressure test certificate. Have the test witnessed and certified by a third party.

5. Maintain this test pressure whilst the screed is being laid.

Wood floors

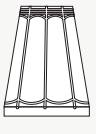
When hardwood floors are laid, the moisture-content of the timber should be 8-10%. Please check with the flooring supplier that the proposed floor is suitable with underfloor heating.

Tongued and grooved joints in the floor deck should be glued with PU adhesive or a PVAC adhesive conforming to durability class D3 of BS EN 204. It is essential that a clear gap of at least 10mm is left all the way around the periphery of a timber floor deck, under the skirting, to accommodate any swelling of the floor deck due to change in moisture-content. All wedges used during the floor deck installation, to press panels together, must be removed when the floor deck is complete.

Always refer to the manufacturers' instructions.

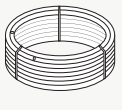
During the initial heat up, the mixing valve should be set to supply temperature between 20°C and 25°C which needs to be maintained for at least 3 days. After this period, the flow temperature can then be increased to the design maximum and should be held for a further 4 days to complete the process.

Accessories for this system



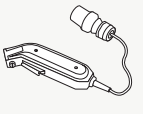
FoilBoard batten

Code	UFU-050BT
Dimensions	1200 x 340 x 50



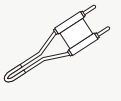
16mm Underfloor heating pipe

Code	UPI-16XXX
Dimensions	16mm



110V
Hot blade cutter

Code	UAC-HBCUT
Dimensions	-



Blade 16mm

Code	UAC-HBL16
Dimensions	16mm

*Other Foilboard products and pipe sizes are available.

Polyethylene RT (PE-RT)
Plastic pipe for underfloor heating

INTRODUCTION

Timoleon uses high quality PE-RT underfloor heating pipes from HakaGerodur AG. The five-layer structure achieves a high degree of oxygen tightness and ensures that this is retained even under rough building site conditions.

The entire HakaGerodur range is backed by decades of experience in plastics processing.

STRUCTURE/ MATERIAL

PE-RT heating pipes use a specially modified polyethylene of medium density, the molecular structure and composition of which ensures very good thermal stability and a high degree of mechanical strength.

The five-layer pipe structure is manufactured by means of extrusion in one single process. The EVOH layer provides a very good oxygen barrier while the outer PE-RT layer protects the pipe from damage.

DIMENSIONS & APPLICATIONS

- 12mm, 16mm, 20mm
- Not potable
- Not for high temperature systems
- Underfloor heating
- Ceiling cooling

APPROVALS & STANDARDS

- KOMO approval: K14254
- SKZ (Southern German Plastics Centre) monitored (SKZ symbol A236)
- Properties in accordance with DIN 16833 / 16834

ADVANTAGES

- Oxygen-tight with co-extruded EVOH layer in accordance with DIN 4726.
- Operational range max. 6 bar, max constant temperature 60 °C.
- Pipes made of PE-RT are corrosion free.
- Excellent stress crack resistance.
- Flexible and easy to lay.
- Tight bending radius.
- Resistant to numerous chemicals (details on request).
- No incrustation due to smooth inner pipe surface.
- Low weight.

timóleon

PRESSURE TEST REPORT

PAGE [ ] OF [ ]

UFH Installed by:	Project Address
Date completed:	

Floor	Room	Circuit No.	Pass	Notes

Signed by Tester: Print name: Date:

Witnessed by: Print name: Date:

Please complete, sign and return to Timóleon to validate warranty

? Call the project team on 01392 363605