Staple System Installation Guide

TI 5001

timoleon

Staple system for Concrete & Screeded Floor Constructions

INTRODUCTION

The staple system provides a quick, flexible and simple method of installing underfloor heating into a screeded floor.

The pipe is easily fixed to the insulation using staples. The barbs on each staple fix into the insulation and hold the pipe in place. The Timóleon Gridded insulation has a laminated foil surface that provides an even stronger fix than plain insulation alone. The foil also provides a convenient grid guide that can easily help with the layout of the piping system. To speed up the process further a Pipe Stapler is available, making installation even easier and faster.

INSTALLATION

1. Around the perimeter of the room lay 8mm expansion foam against the wall with the gaiter coming into the centre of the room.
2. Lay the Gridded Insulation (or plain insulation and polythene sheet if not using Gridded Insulation), covering the entire floor ensuring the gaiter of the expansion foam is sitting on the Insulation.
3. Lay the pipe to and from the manifold on the grid at the appropriate centres fixing with staples (by hand or using a Pipe Stapler).
4. Pressure test prior to the screed being laid. Keep under pressure whilst screed is being laid.

Note : Please refer to installation guides for full installation details

SPECIFICATION

Timoleon Staple system using 16mm PE-RT pipe fixed using staples to Timoleon Gridded Insulation. The Gridded Insulation having a laminated film to aid the fixing of staples. Expansion foam to be installed to the perimeter of the room. The system to be designed, installed and commissioned to BS1264.

TECHNICAL INFORMATION

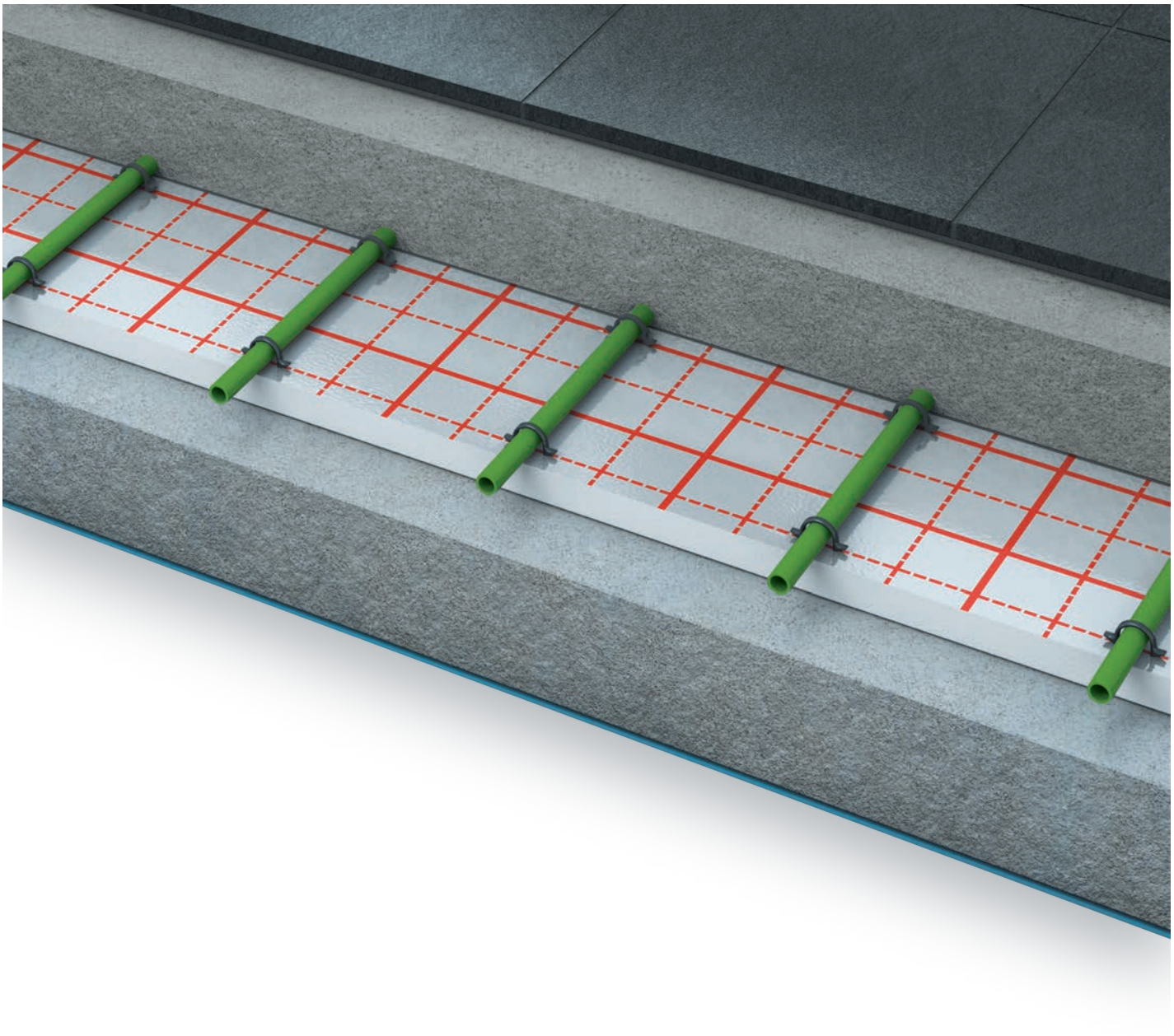
Pipe – 16mm PE-RT pipe with EVOH oxygen barrier.
Gridded Insulation – 25mm thick SDN expanded polystyrene (K=0.038 W/mK) laminated to provide increased fixing.

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/m^2)		50/40	45/35	40/30
Floor Finish	Tile Finish ($0.01 m^2K/W$)	118	94	69
	15mm Wood Finish ($0.1 m^2K/W$)	83	66	48
	Carpet & Underlay ($0.15 m^2K/W$)	70	55	41

Based on 16mm PE-RT pipe at 150mm centres with 65mm sand/cement screed laid over. $0.15\ m^2K/W$ = 1.5 TOG.
Air Temperature = 20°c

Staple System
Installation guide TI5001



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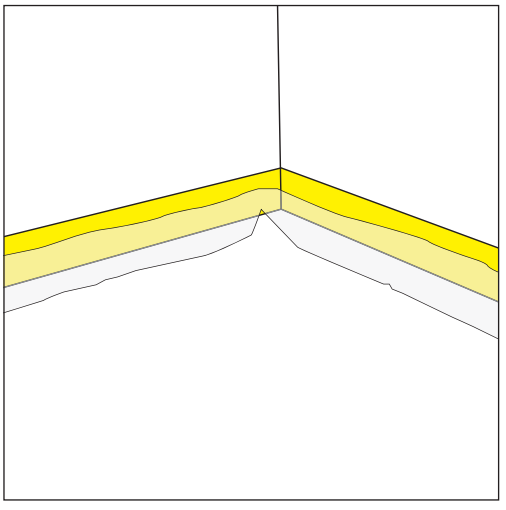
The pipe is easily fixed to the insulation using staples. The barbs on each staple fix into the insulation and hold the pipe in place. The Timóleon Gridded insulation has a laminated foil surface that provides an even stronger fix than plain insulation alone. The foil also provides a convenient grid guide that can easily help with the layout of the piping system. To speed up the process further we can also supply a Pipe Stapler with the staple system, making installation even easier and faster.

PRIOR TO INSTALLATION

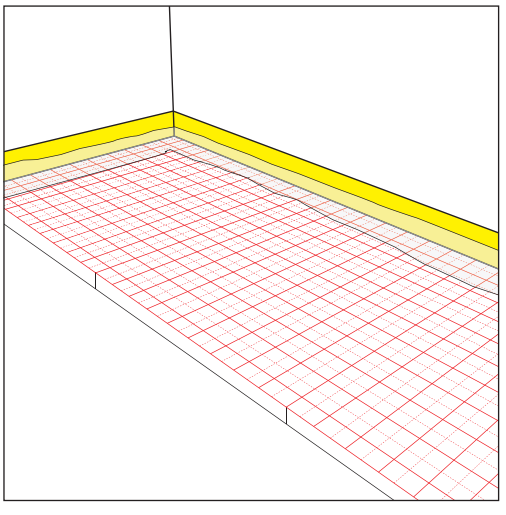
If it is necessary to store the system once you have taken delivery ensure it is kept it dry, out of direct sunlight and away from sharp objects or possible chemical spillage. Ensure the area is weather tight.

1



Lay the expansion foam around the perimeter of the room ensuring the gaiter is facing into the room.

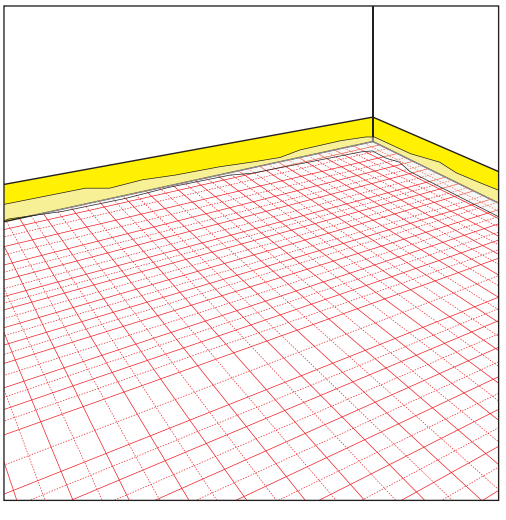
2



Lay the insulation in accordance with Building Regulation requirements. Insulation should be laid so that there are no gaps and is installed hard up against the expansion foam.

If conventional regular insulation is used it must be suitable to hold the staples and pipe in place.

3

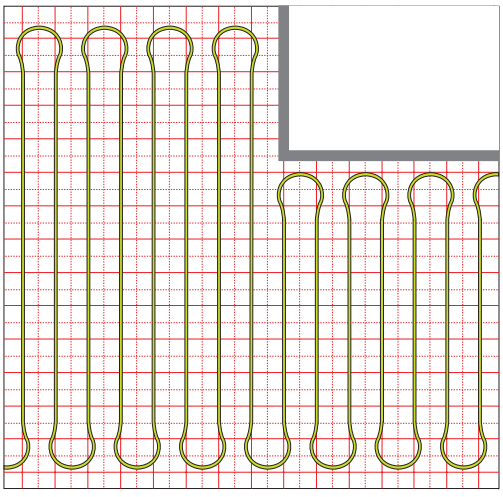


The expansion foam gaiter must be resting on the top of the insulation to stop screed from flowing under the insulation.

4

If using plain insulation rather than Gridded Insulation, prior to laying the underfloor heating pipe, the insulation layer shall be covered with a polyethylene film of at least 0.15 mm thickness or with another product that has the same capability. The individual polyethylene sections shall overlap at the joints by at least 80 mm.

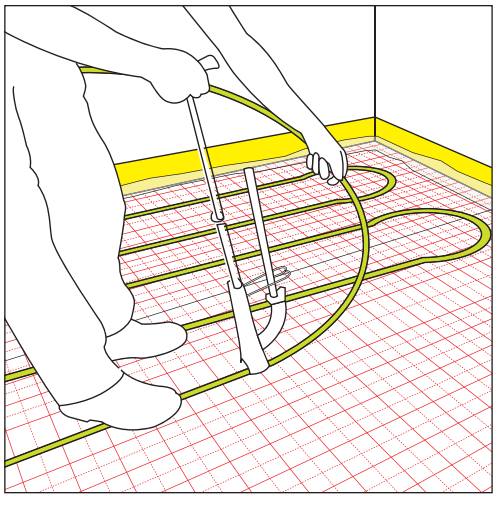
5



Referring to the Timoleon CAD design, lay the pipe to and from the manifold on the gridded insulation (if installed) at the appropriate centres using the printed grid as a guide.

Fix the pipe in place with staples by hand or using a Pipe Stapler (available from Timoleon) with one fixing every metre and with up to 6 around a loop. If using plain insulation additional staples maybe necessary depending on the grade of the insulation.

6



Repeat until all circuits are laid.

7

Pressure Test each circuit and keep under pressure whilst screed is being laid.

WARNING

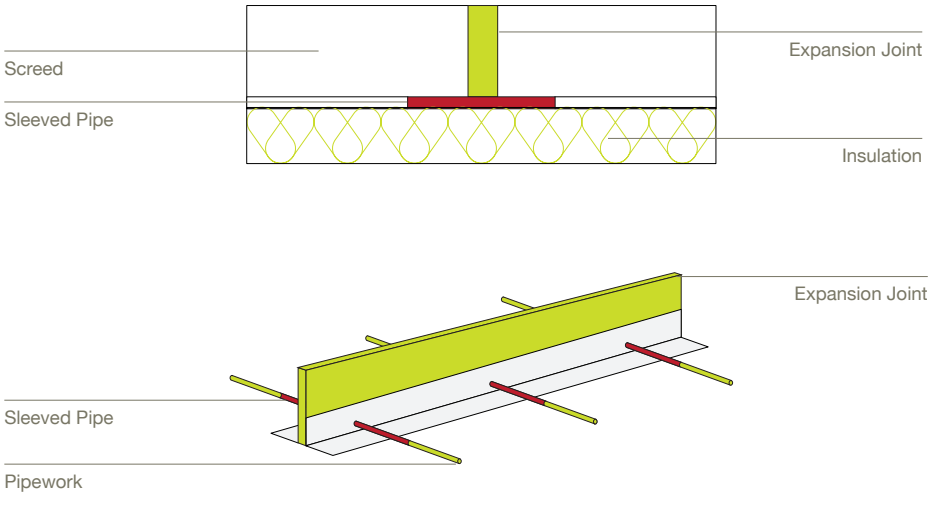
If the pipe work is kinked during the installation, the coil must be replaced.
No connections should be made unless accessible.

Note on expansion joints

For heating screeds intended for the application of stone or ceramic coverings, joint areas shall not exceed 40m^2 with a maximum length of 8m. In the case of rectangular rooms, joint areas can exceed these dimensions but maximum to the length relation of 2 to 1.

If induced contraction joints are placed in heating screeds, these may be cut a depth of not more than one third of the screed thickness taking into account the location of pipes and shall be sealed after heating up.

Only flow and return pipe should pass through expansion joints. Where this is the case the connecting pipes shall be covered with a flexible insulation tube of some 0.3 m in length spanning the expansion joist.



Please refer to the construction specification for details.

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.

Screeding

It is advisable to keep the system under pressure when laying the screed at a minimum of 6 bar using water.

It is essential that the concrete or screed is allowed to fully cure before the underfloor heating system is first put into operation. Any operation of the heating system prior to curing will reduce the moisture content of the screed or concrete and may result in failure of the floor.

Initial warm up should only take place at least 21 days after the laying of the cement screed or in accordance with the manufacturer's 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.

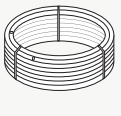
WARNING

Under no circumstances should the underfloor heating system be used to increase the drying time for the screed, and always follow manufacturers instructions.

Accessories for this system

Box of staples (300 No.)

Code	USC-STP60
Dimensions	60mm



16mm Underfloor heating pipe

Code	UPI-16XXX
Dimensions	16mm

Roll of edgefoam

Code	USC-EF50M
Dimensions	50m

Staple gun

Code	USC-STPLR
Dimensions	-

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PRESSURE TEST REPORT

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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