COMPACT
UNDERFLOOR HEATING

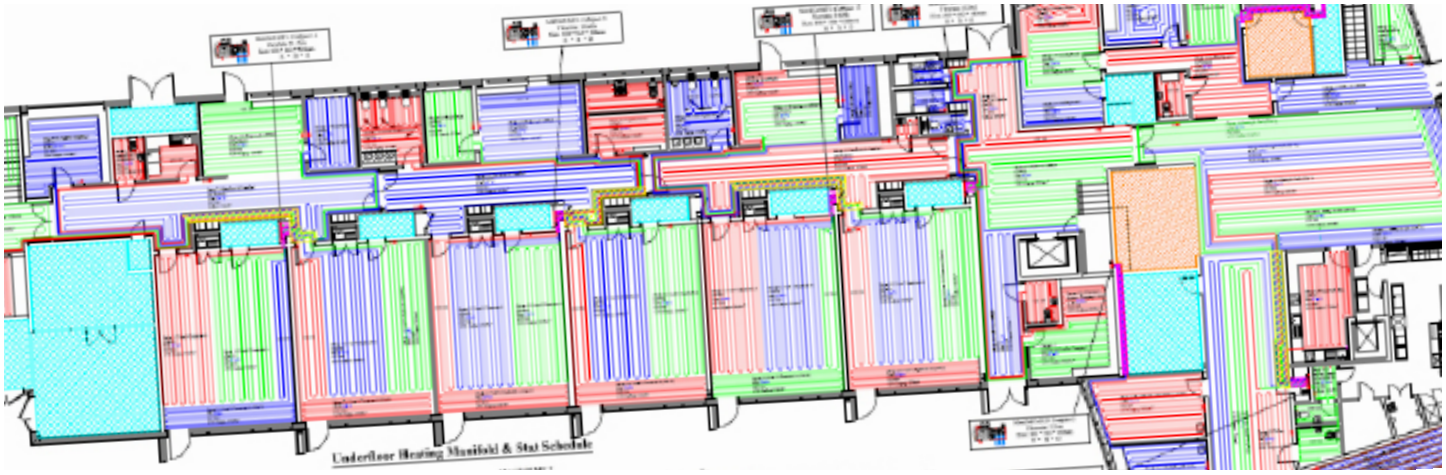
SPECIALISTS IN THE DESIGN, SUPPLY & INSTALLATION OF UNDERFLOOR HEATING & FLOOR CONSTRUCTION SOLUTIONS

EXPERIENCE, SERVICE & WARRANTY

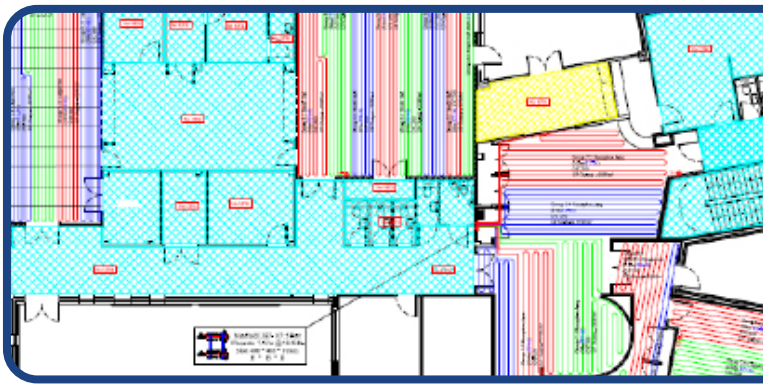
Compact Underfloor Heating has a wealth of experience in the underfloor heating market and has been at the forefront of the commercial underfloor heating market for over 16 years. We specialise in the design, supply, installation and operation of **fully warranted underfloor heating and floor construction solutions** for commercial, industrial and residential applications throughout the UK and Ireland.

Underfloor heating is a highly efficient method of heating any building and is becoming even more popular in both new build and retrofit applications. Underfloor heating perfectly compliments highly efficient low temperature heat sources such as ground and air source heat pumps.

DESIGN



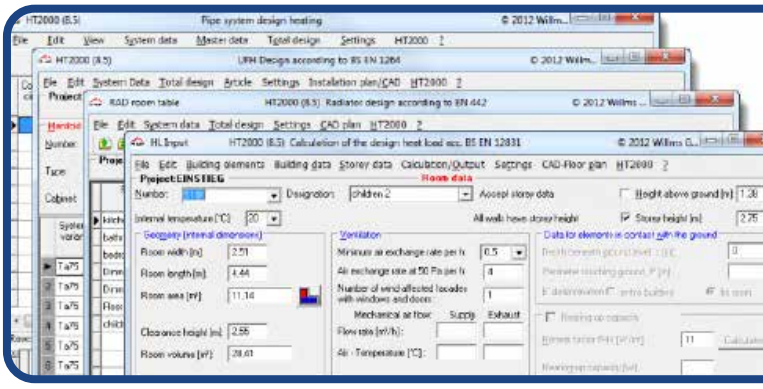
CAD Design Drawings & BIM Modeling



Our clients have the reassurance that all our installations are designed in accordance with BS EN1264 and come complete with full CAD layout drawings. BIM Level 2 capabilities.

Our in-house design service ensures that our underfloor heating system meets all current regulations and operates at its maximum efficiency whilst maintaining comfort levels.

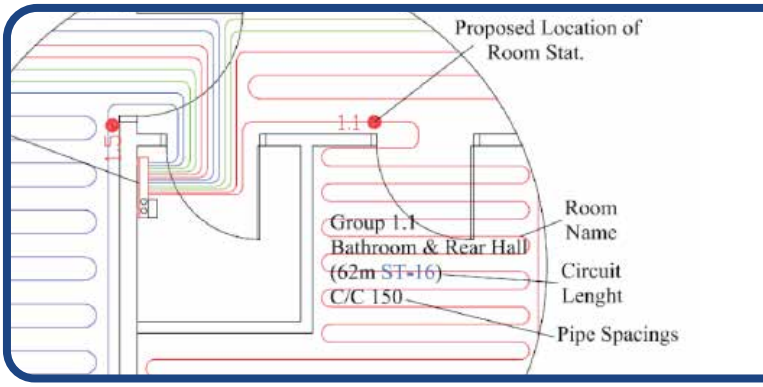
Design Calculations



We carryout in-house, project specific, design calculations using bespoke modelling software, the results of which are then illustrated, providing all the information required for our installers to implement our design, including:

- Overall manifold summary
- Manifold size
- Manifold flow rate
- Pressure drop
- Manifold dimension
- Loop length

Drawings and Description



Our underfloor heating systems are designed according to BS EN1264, allowing for the production of a specific solution for each job.
To achieve this we consider:
- Design heat load
- Room temperature
- Available floor area
- Room specific floor covering
- Thermal insulation layer

COMPACT PRO MANIFOLD

A solid and compact manifold suitable for main or secondary heating.

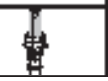
The compact manifold is a premium all rounder, which is suitable for main or secondary heating. A fast, efficient pre-assembled solution for domestic and commercial applications.

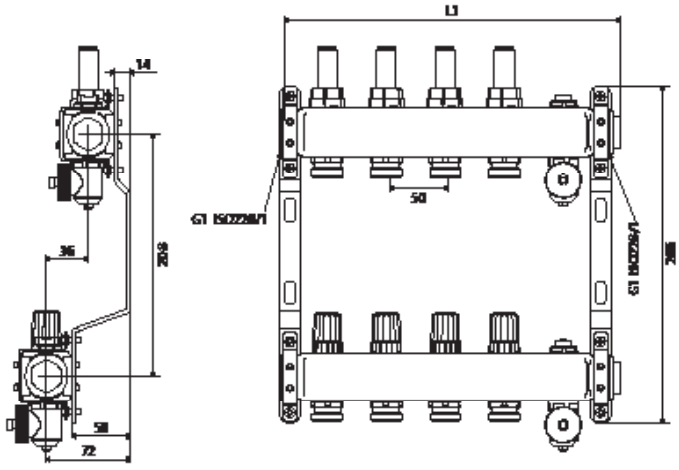
- A compact steel manifold: from 250mm wide
- Hydraulically neutral
- Thermostatic control, with temperature sensor and sensor pocket
- Overheating safety device with set temperature of 55ºC
- Temperature gauges for the underfloor flow and return water
- Group valves prepared for thermal actuators (M30x1,5)
- 16x2mm eurocone connections
- 1/2" air bleed valve
- Ideal for domestic and commercial applications

1. **Thermostatic regulating valve**
2. **Thermostatic control 20 -50°C, with temperature sensor and sensor pocket**
3. **Adjusting screw for regulating flow / temperature**
4. **Energy Label A Circulation Pump (Wilo)**
5. **Flow temperature guage**
6. **Temperature safety stat 55°C +/- 5K**
7. **Manifold return valve**
8. **Air bleed value**
9. **Thermostatic valve (M30x1,5) for manual adjustment or connecting a thermal actuator**
10. **Return pressure/temperature guage 0-8bar / 0-60°C**
11. **Euro connectors for connection of pipe**
12. **Drain and Fill valve 1/2"**

COMMERCIAL MANIFOLDS

Leading products in the commercial and residential markets.

Accesories Include:	
	Mounting brackets set
	2x ball valve 1" - for connection to manifold and for blocking of floor heating system
	Connection piece 16x2mm
	Flowmeter



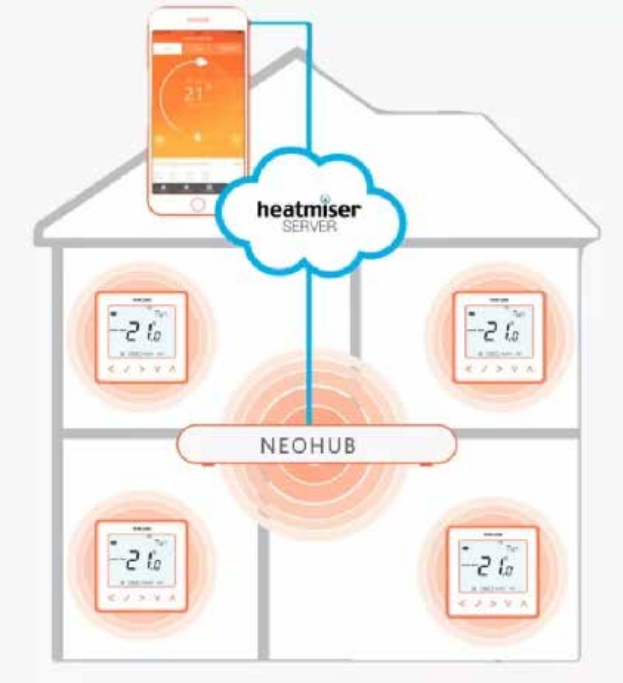
Type	2+2	3+3	4+4	5+5	6+6	7+7	8+8	9+9	10+10	11+11	12+12
L1 (mm)	190	240	290	340	390	440	490	540	590	640	690

This manifold set consists of a supply and return manifold. The supply manifold includes possibility for individual shut-off of each circuit on the flowmeter or shut-off valve. The return manifold is equipped with integrated presetting valves securing optimal hydraulic balance in the system.

The valves can be controlled electronically by thermal actuators or act as self-acting units by means of remote temperature adjusters.
This manifold is supplied in modules of up to 12 outlets. Ball valves are available as an option for positive shut-off between manifold and system. Comes supplied with a manual air vent and purge valve.

Max differential pressure:	0.6 bar
Max flow temperature:	90°C
Material:	Stainless Steel
Max no. of connections:	12
Preset Flowmeter:	Yes
Test pressure:	10 bar
Max working pressure:	6 bar
Pipework Connections:	16x2mm Eurocone

Smart Room Heating Control with Heatmiser NeoStat



Heatmiser Neo - System Overview

The neoStat was designed as a standalone room thermostat that can be paired to the neoHub for remote app control if desired by the end user.

Smart Profiles

Enable users to program time and temp settings and apply them to a number of zones.

Geo Location Facility

Automatically turn the heating off when people leave and back on before they return, an ideal energy saving feature

Mesh Networking

Increases the communication distance of the system as the communication data is automatically routed between the connected neoStats and the neoHub

Multi Zone

Up to 32 zones can be controlled from anywhere and large systems are easily controlled by using Global features on the neoApp

Heatmiser Neo System

The Neo System is an 8 zone mains powered wiring centre, designed for use with the neoStat Thermostat

Up to 6 actuators can be wired to each of the 8 zones and an output is provided for the boiler, underfloor heating pump and valve.

Zone 8 of the Neo System wiring centre can be setup to control a radiator zone, in this case not enabling the UFH pump and valve.

neoStat Controls

neoStat has been designed to be simple to use and make programming simple with the intuitive menu navigation. The neoStats can be controlled from anywhere thanks to the plug and play neoHub and are available in Glacier White, Sapphire Black and Platinum Silver.

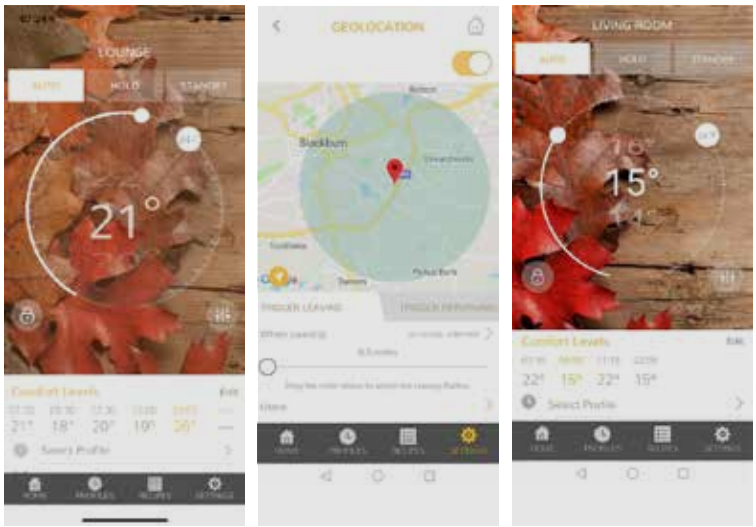
Touch Key Design
Illuminated touch key for easy operation

Energy Saving Optimum Start
neoStat will calculate the amount of heat up time required

App Controllable
When paired to the neoHub, the neoStat can be controlled from the neoApp - available on Windows 10, iOS and Android. Up to 32 zones can be controlled from a single neoHub

Air and Floor Sensing
neoStat can be used with a remote air and remote floor sensor, whereas the neoAir has one remote sensor connection that can be used for remote air or floor temperature monitoring

Heatmiser Neo App



neoApp is designed to work perfectly with the neoHub and Neo Thermostats. Together they present an advanced heating control solution that is perfect for modern lifestyles

Simple User Interface
Our intuitive home screen shows the user at a glance the current state of their heating system as well as the upcoming heating periods

7 Day History
The neoApp can display the previous 7 days temperature history, giving the user an indication of areas of high energy usage in their home.

Smart Profiles
Smart Profiles are stored in the neoHub and be quickly applied to multiple zones.

BASIC PLUS² CONTROLS

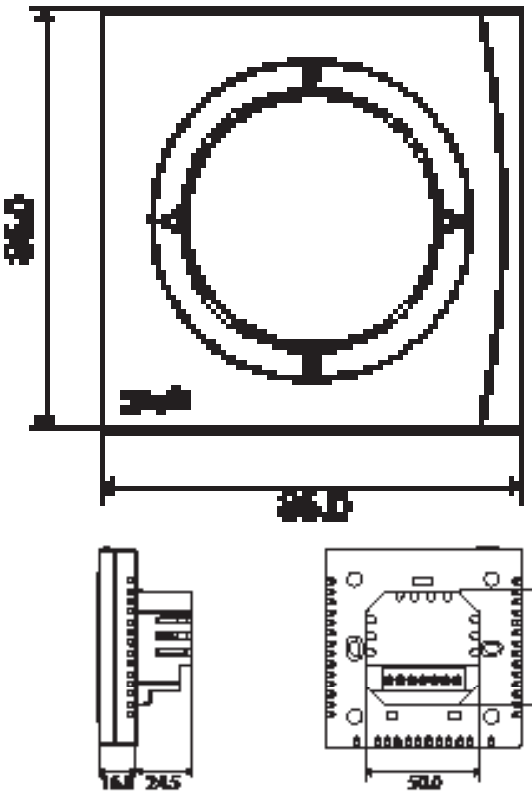
Intelligent control and operation of building temperature.

Danfoss BasicPlus² WT-P/WT-PR

This modern thermostat provides so much more than simple temperature setting. WT-P/PR thermostats are used for room temperature control in water-based floor heating systems. By controlling room temperature desired by the user, the room thermostat controls provide optimal energy savings while upholding thermal comfort in the room.

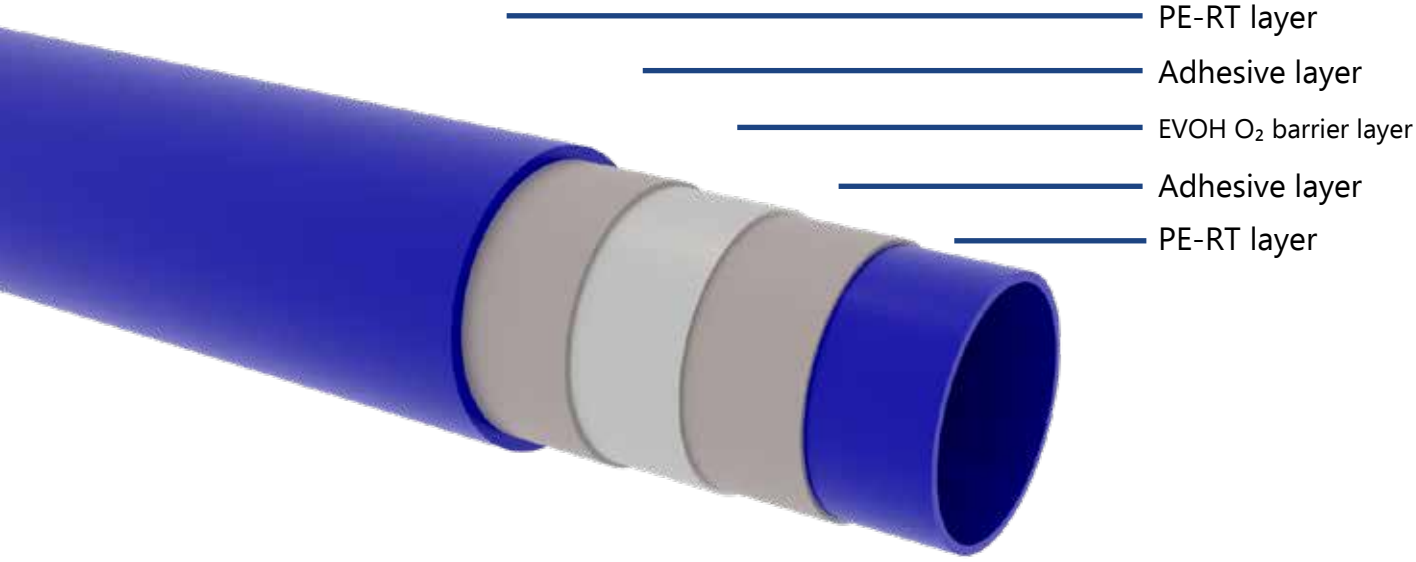
Key Features:

- Modern design, with backlighting
- AWAY function
- Child safety lock
- 3 selectable temperature control modes:
  - Room temp control (default)
  - Room with floor temp limit control
  - Floor temp control
- 2 selectable floor temperature control modes:
  - High
  - Low
- Max and min limit settings for room and floor temperature
- Optional room temperature display when power is OFF (default setting: no display)
- Floor sensor terminals
- Frost protection mode
- Temperature calibration
- Advanced programmable timer
- Programmable 5/2 day feature with 4 time segments
- Clock in 12-hour or 24-hour format



PIPEWORK

Quality approval of our PE-RT pipe is certified by Kiwa and SKZ



Specification

The high performance PE-RT pipe has been designed specifically for UFH Systems and has been used in Mainland Europe for over 50 years.

The pipe is increasingly replacing PE-X pipe on account of its enormous functional capacity. The molecular structure and composition of the pipe offers excellent thermal stability and a high degree of mechanical strength up to 90ºC.

Further advances have seen the pipe build up inverted leaving the thicker PE-RT layer on the outside to give greater protection to the O_2 barrier, helping it to resist the rigours of site installs and increased flexibility for easier installation.

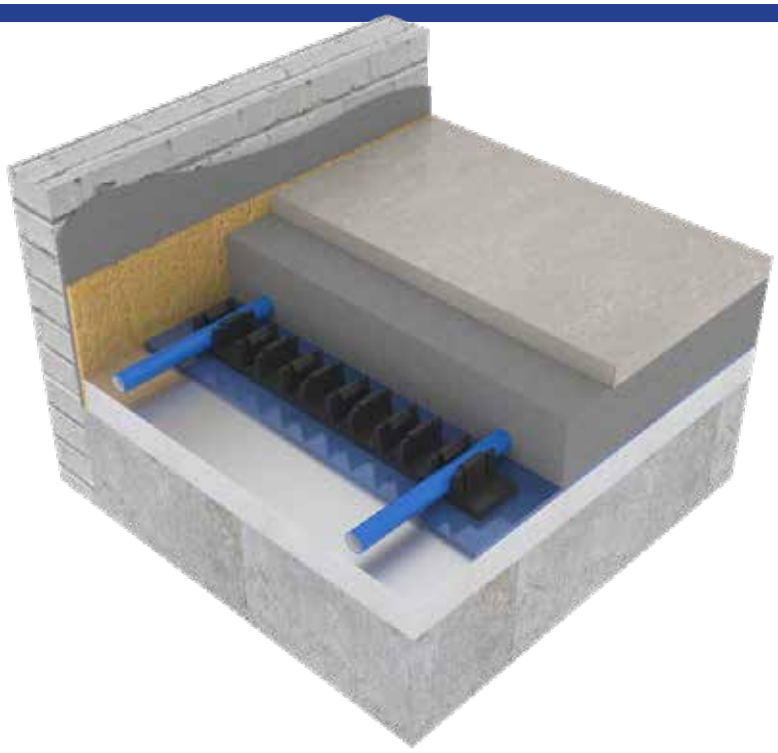
Large 125m to 750m PE-RT pipework coils enable the system to be installed quickly using a large coil unwinder, minimising pipe wastage and eliminating joints.

50 YEAR PIPE GUARANTEE

10 YEAR DAMAGE GUARANTEE

FLOOR CONSTRUCTION

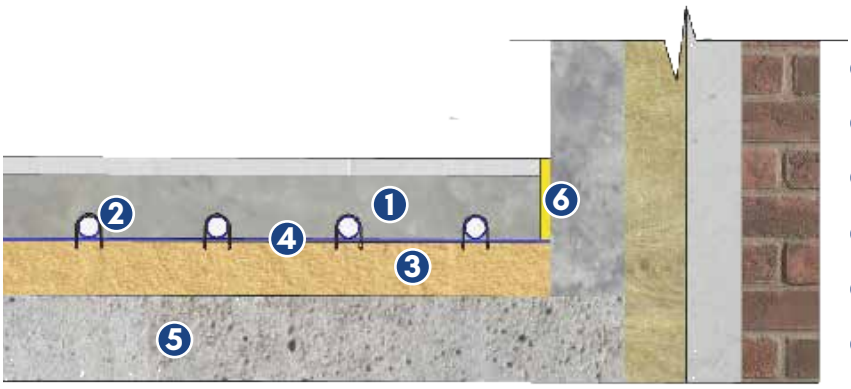
COMPACT UFH IN SCREED
Clip Rail System



For use with a conventional semi-dry or liquid screed floor system. Clips and rail fixings are used together to ensure a consistently laid pipe run that resists movement when screeds are laid or poured. Clip rail can come in 1m lengths and can easily be joined together to form longer lengths allowing a fast and consistent install.

Rails are clipped to standard type floor insulation by means of thumb clips. Pipe is then clipped into the rail and assisted by pipe staples. Staples are ideal at pipe curves where the stress is greatest. Additional clips can be used along pipe runs especially when using liquid screeds to stop pipe being forced from the insulation layer.

COMPACT UFH IN SCREED
Clip Rail System



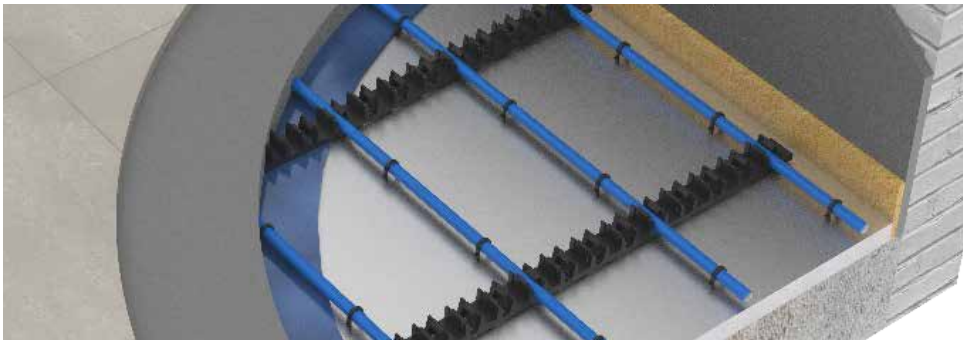
1. **Sand/cement OR Anyhydrite screed**
2. **UFH pipe, secured to insulation with clips**
3. **Insulation (Plain foiled PIR, EPS or XPS)**
4. **Screed membrane**
5. **Concrete sub-floor**
6. **Edge Strip**

Compact Underfloor Heating components and other layers, subject to design, includes:

- Semi-dry screed or flowing screed
- Compact 16mm PE-RT pipe
- Clip Rail and Staples to fix pipework
- Thermal insulation as foiled PIR, EPS or XPS
- In preparation for certain screeds, a polythene sheet/membrane may be required over the insulation prior to pipe fixing
- Acoustic resilient layer as high density foam 5/10mm, Rubber 3/6mm or Wood Fibre 10mm + Edge Strip
- In-situ concrete slab, pre-cast concrete planks or beam & block structural floor

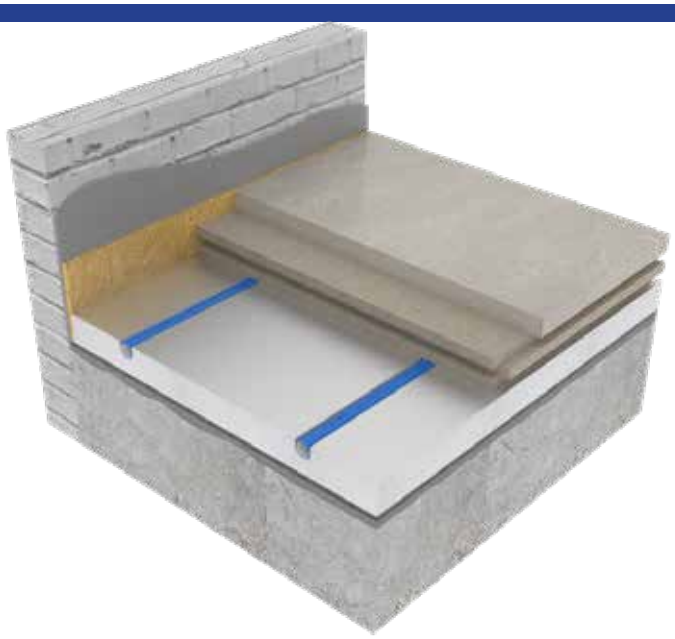
Key Benefits:

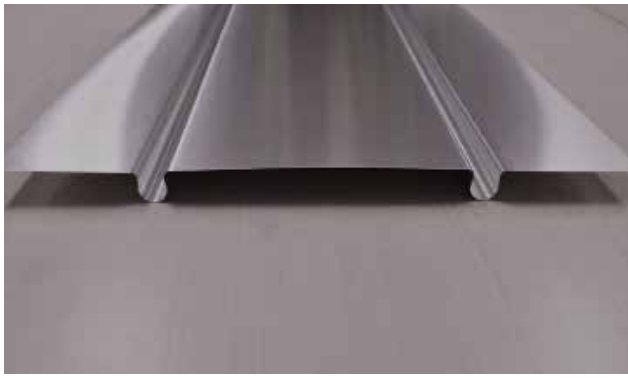
- High thermal output
- Popular & Tested
- Works with plain Foiled PIR, EPS, XPS
- No need to level substrate
- Fast UFH Installation
- Cost-effective installation



FLOOR CONSTRUCTION

COMPACT UFH FLOATING FLOOR
UFH Insulation Panels





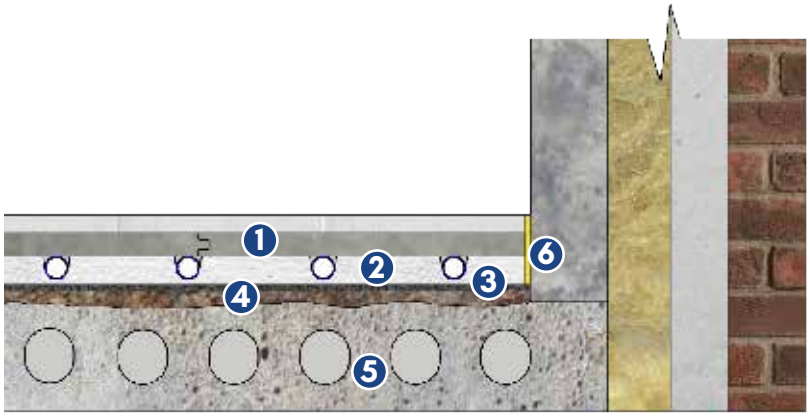
Dry floor construction with UFH is suitable for a levelled substrate with minimum surface regularity SR1 or SR2. Pipework is inserted in insulation panels just underneath dry screed floorboards, along with continuous supporting performance layers (acoustic, vapour or damp control, increased U-value). The absence of wet trade allows the construction process to progress much faster. Insulation panels can come in 2 types:

Foil-faced UFH Insulation Tray - High density EPS or XPS insulation panels with a preformed grooved pattern including radius returns and connection runs suitable 16mm pipe allow a clean fast install.

UFH Insulation Tray with Spreader Plates - High density EPS or XPS insulation panels with a preformed grooved pattern including radius returns have an aluminium spreader plate insert to the grooves, again suitable for 16mm pipe. The conductive nature of the plates allows this system to have higher outputs at lower system temperatures making it very effective as a solution for heat pumps.

COMPACT UFH FLOATING FLOOR

UFH Insulation Panels



1. **Highly conductive dry screed panels**
2. **Foiled faced insulation tray (EPS or XPS)**
3. **High performance acoustic layer**
4. **Floor Levelling Compound**
5. **Sub-floor**
6. **Edge Strip**

Compact Underfloor Heating components and other layers, subject to design, includes:

- High density gypsum fibre panels, 1200 or 1500kg/m^3, highly conductive up to 0.44 W/mK, minimum thickness 18mm
- Compact 16mm PE-RT pipe in pre-grooved EPS or XPS insulation, min 150kPa compressive strength at 10%
- Acoustic resilient layer on substrate to reduce impact sound for seperating floor, as fibre 5/10mm, rubber 3/6mm or wood fibre 10mm + edge strip
- Additional layers and insulation on ground floor
- Substrate: in-situ or pre-cast concrete slab to design SR or levelling compound to be added
- Alternative Substrates: Beam & Block with levelling compound, timber or metal deck
- Suitable for all types of floor finishes. For brittle finishes, where less deflection is required, higher density insulation and/or higher density and thickness of the floorboard to be considered
- Different thickness of insulation and floor board to compensate different flooring finishes with same SSL and FFL

Key Benefits:

- Reduced Profile, as 53mm (18mm floorboard, 30mm insulation tray, 5mm resilient layer) plus leveller for seperating floor
- Lightweight, saving on dead loads up to 125kg/m^2
- Faster response time due to lower thermal mass
- Dry easy-fit, no drying, no curing, no wet trades, minimal site logistics
- Time saving installation, floorboard installed straight after pressure test, trafficked in a few hours and floor finish the next day
- Sustainable floor construction, no water usage, reduced cement content, minimal wastage

FLOOR CONSTRUCTION

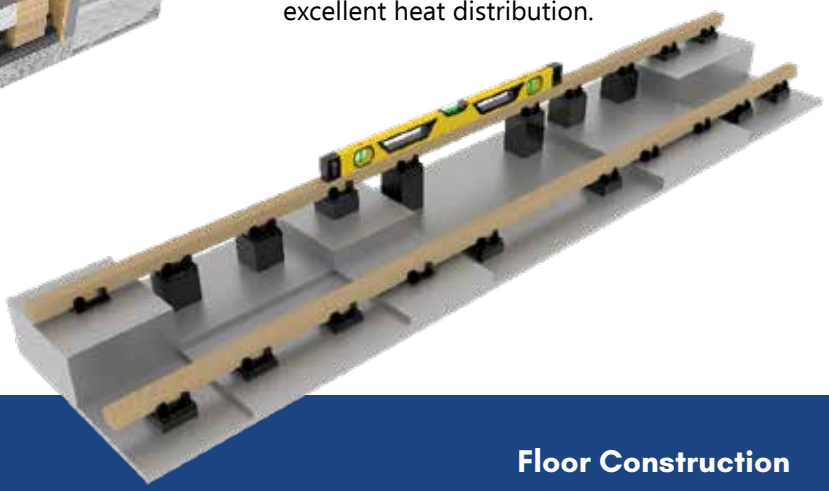
COMPACT UFH HOLLOW FLOOR
Cradle & Battens System

Dry floor construction, incorporating UFH with an acoustic levelling system, as acoustic cradles and battens. Pipe-work is inserted into insulation trays just underneath structural floorboards.

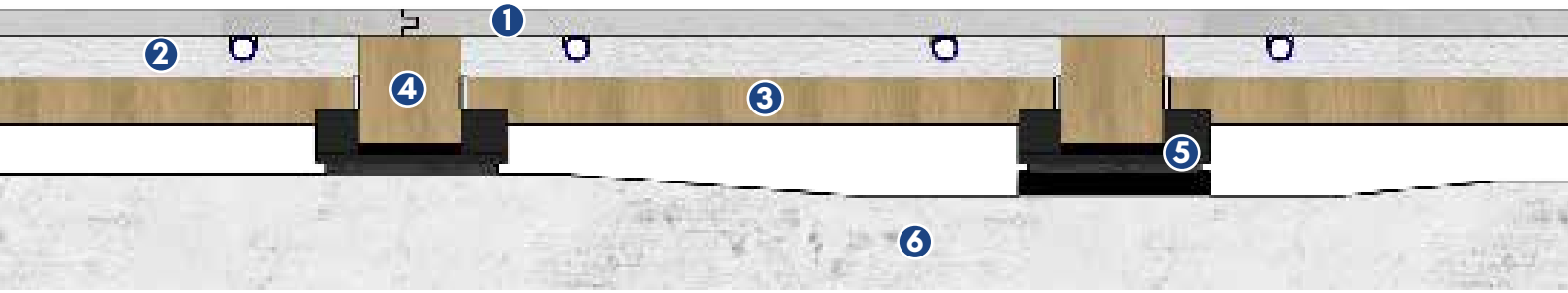
Insulation trays can come in 2 types:

Foil Faced UFH Installation Panel - Foil faced EPS insulation panels, between battens, with a preformed grooved pattern and radius return, are supported against the underside of the structural floorboards with no air gaps. Panels are manufactured according to batten centres to allow easy install.

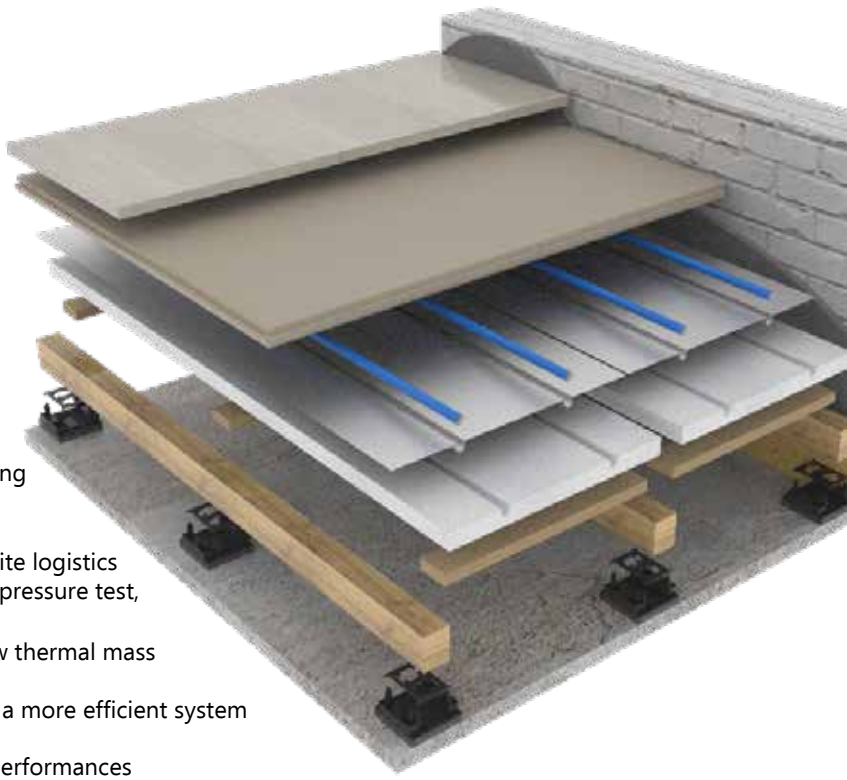
UFH Insulation Panel with Spreader Plate - EPS insulation panels plus aluminium double spreader plates with preformed channels at 200m centres. Insulation trays are sized and supported between battens, against the underside of the structural floorboards, ensuring no air gaps and excellent heat distribution.



COMPACT UFH HOLLOW FLOOR
Cradle & Battens System



1. **Highly conductive dry screed panels**
2. **Foiled faced insulation tray (EPS or XPS)**
3. **Insulation support between battens**
4. **Floor Battens**
5. **Cradle with levelling packers**
6. **Sub-floor**

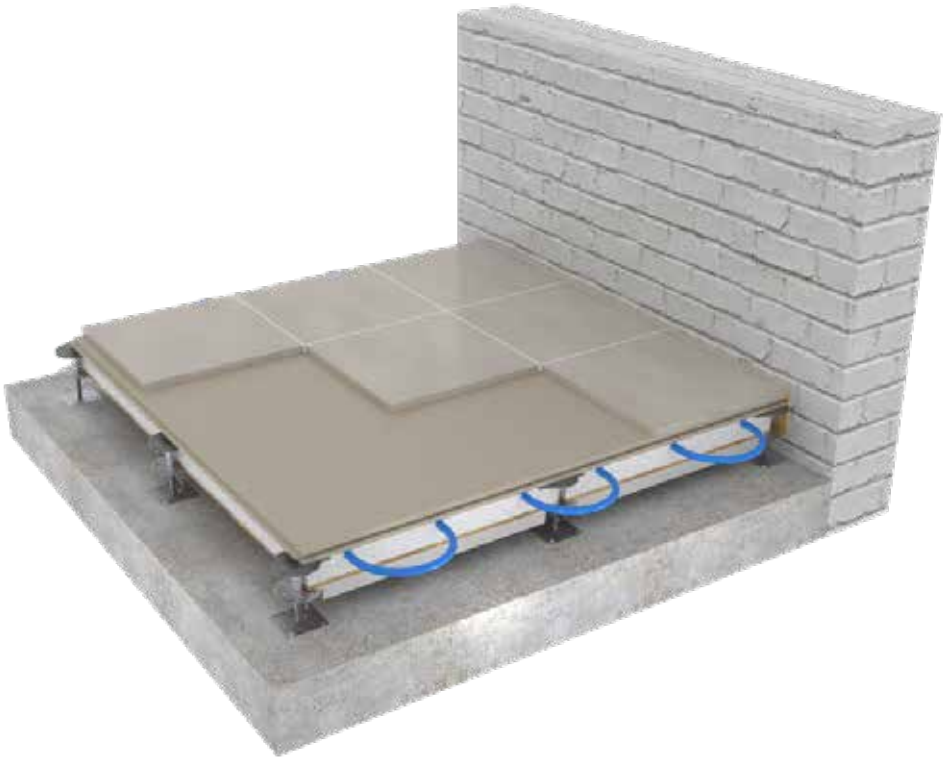


Pros:

- Cost-effective and versatile in high-rise buildings, fulfils high-end requirements
- Suitable for uneven and variable/stepped SSL levels, levelling range from min 50mm floor void height
- Lightweight, saving on dead loads up to 115kg/m^2
- Dry easy-fit, no drying, no curing, no wet trades, minimal site logistics
- Time saving installation, floorboard installed straight after pressure test, and floor finish the next day
- Excellent thermal output and fast response time due to low thermal mass
- No need for high compressive strength insulation
- No air gaps between the pipework and the floor, ensuring a more efficient system
- Part E acoustic performance compliant
- Suitable solutions for low deflection and/or high loading performances
- Sustainable floor construction, no water usage, reduced cement content, minimal wastage

FLOOR CONSTRUCTION

COMPACT UFH RAISED FLOOR
Pedestals Hollow Floor with UFH Element

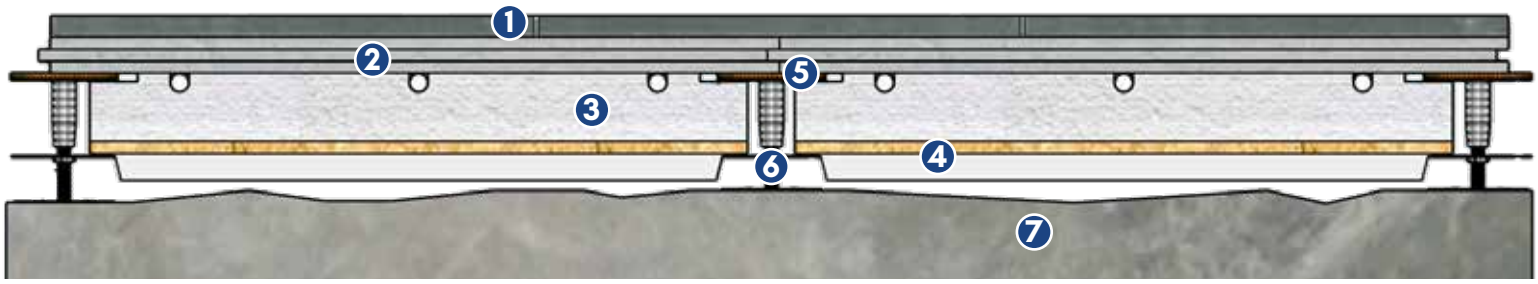


Dry floor construction, incorporating UFH with a raised floor levelling system, pedestals grid and acoustic pads. Structural calcium sulphate floor board, tongue and groove edges to form a monolithic substrate ready for floor covering. Pipework is inserted in insulation trays just underneath structural floorboards.

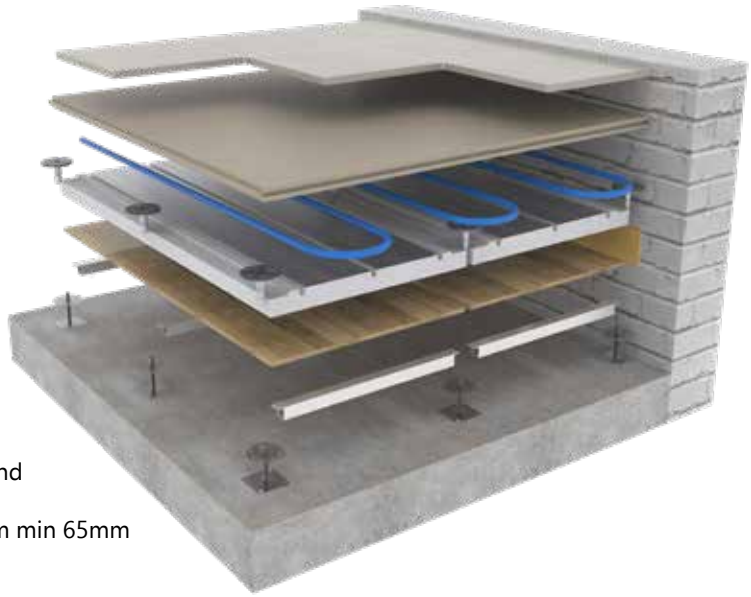
Pedestal - Steel adjustable pedestal to meet PSA and BS EN requirements, in full range of void height. Special mid support head with stringer to raise the UFH element. Acoustic pad on pedestal head.

Foil Faced UFH Insulation Panel - Foil faced EPS insulation panels, between pedestals grid @600mm centres, with a preformed grooved pattern and radius return for 16mm pipework, raised against the underside of the structural floorboards with no air gaps. Panels are manufactured according to pedestals grid and are fully supported to facilitate installation.

COMPACT UFH RAISED FLOOR
Pedestals Hollow Floor with UFH Element

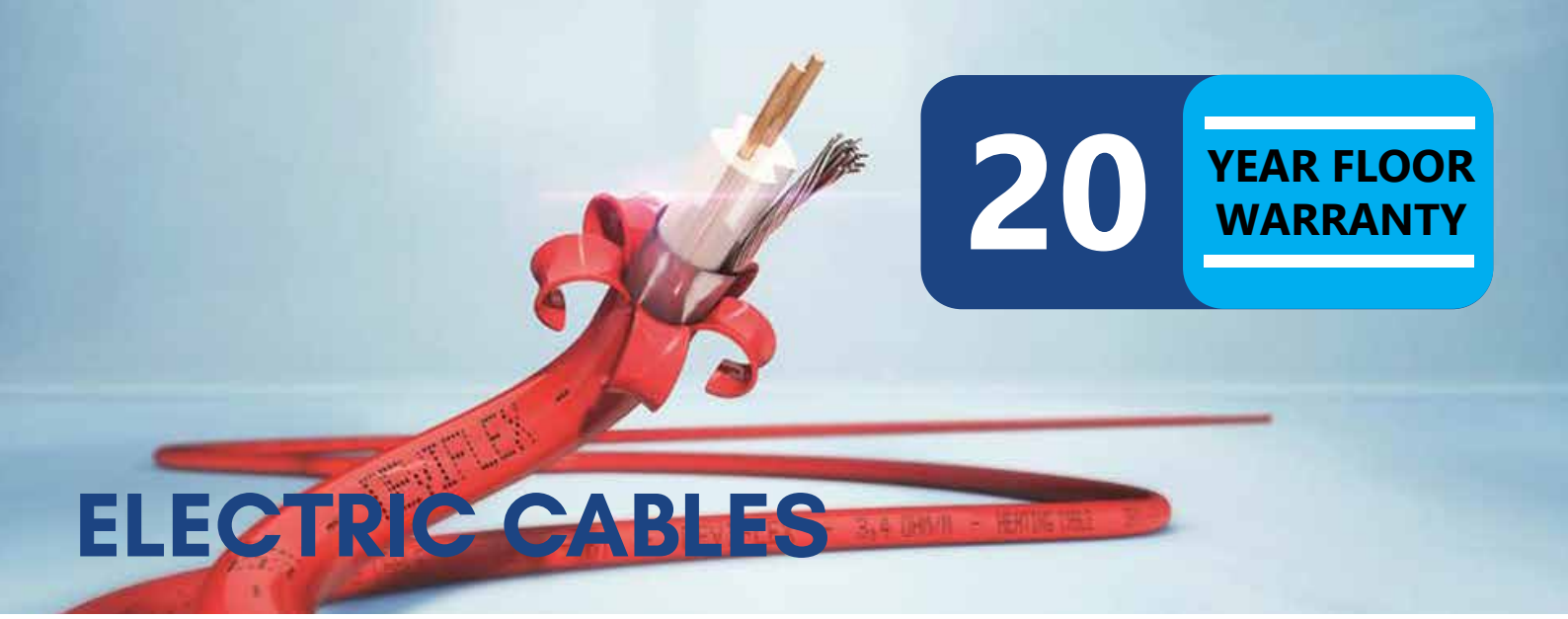


1. **Floor Finish (Tile)**
2. **Highly Conductive Structural Tongue & Groove Panel**
3. **Foil faced insulation tray (EPS or XPS)**
4. **Insulation support panel and stringer**
5. **PGR Acoustic pad on pedestal head**
6. **Pedestal with mid support head**
7. **Sub-floor**



Pros:

- Suitable for office/commercial and residential buildings
- Cost-effective and versatile in high-rise buildings, fulfils high-end requirements
- Suitable for uneven and variable/stepped SSL levels, range from min 65mm exceeding 600mm void height
- Lightweight, saving on dead loads up to 100kg/m^3
- Dry Easy-Fit, no drying, no curing, no wet trades, minimal site logistics
- Time saving installation, floorboard straight after pressure test, trafficked in few hours and floor finish the next day
- Excellent thermal output and fast response time due to low thermal mass
- No need for high compressive strength insulation
- No air gaps between pipework and the floor, ensuring a more efficient system
- Part E acoustic performance compliant
- Suitable solutions for controlled deflection and high loading performances
- Sustainable floor construction, no water usage, reduced cement content, minimal wastage

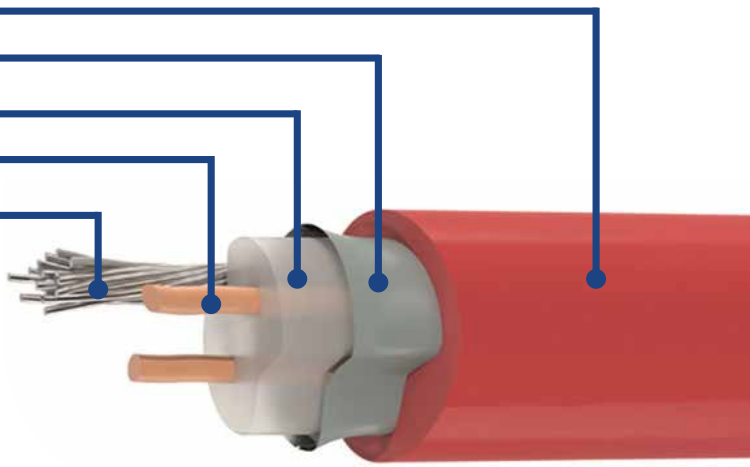


20 YEAR FLOOR WARRANTY

ELECTRIC CABLES

COMPACT E-UFH - Floor Heating in Screed Thick floor constructions

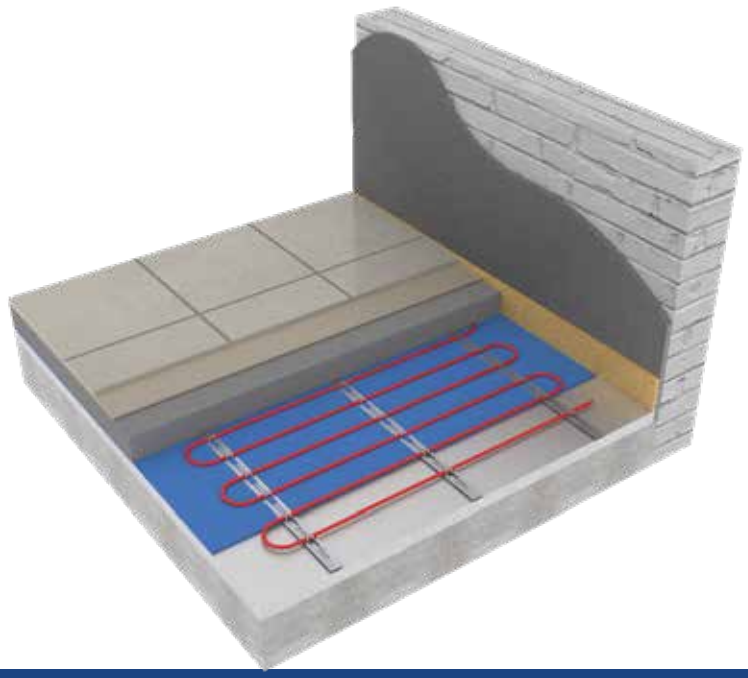
Outer PVC Coating
Protective Screen Foil (Aluminium)
Internal Insulation (XLPE)
Heating element (resistance thread)
Protective Conductor



Inscreed DEVIflex™ 10T / 18T

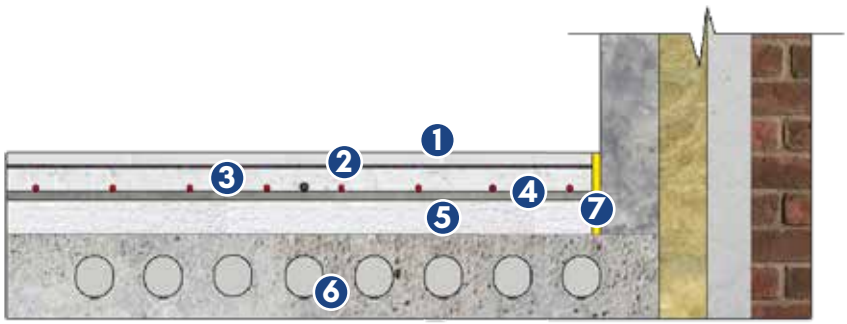
DEVIflex Inscreed cable is 6.9mm twin conductor with cold tail, installed on top of foiled insulation panels at predetermined distance securing with fixing strips, ready to be included in semi-dry or liquid screed.

Cables are manufactured as ready-to-install heating elements with specific length with a power supply cable and hermitically closed connections. Output of heating cables for installation in floor constructions is limited to 20W/m and are manufactured and approved in accordance with the latest version of IEC 60800:2009, with mechanical strength class M2. Layout cable centres at 100-125-150mm, depending on thermal ouput required.



ELECTRIC CABLES

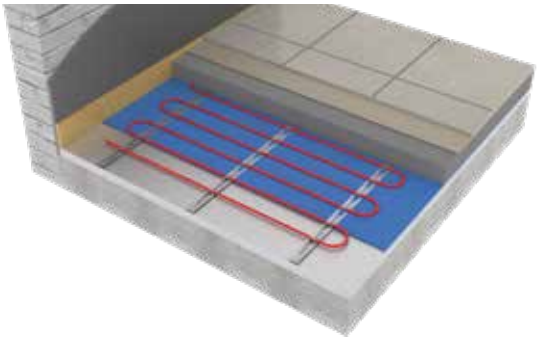
COMPACT E-UFH - Floor Heating in Screed Thick floor constructions

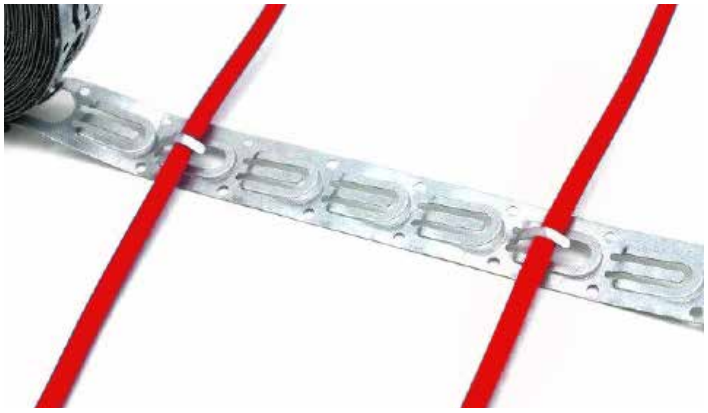


1. **Flooring**
2. **Flooring compound glue**
3. **Sand/cement OR Anyhydrite screed**
4. **Seperating layer**
5. **Insulation**
6. **Sub-floor**
7. **Edge strip**

Compact E-UFH components and other layers subject to design will be:

- Semi-dry screed or flowing screed
- 6.9mm twin conductor cable for E-UFH
- Fitting bands to fix heating cables
- Thermal insulation as foiled PIR, EPS or XPS
- In preparation for certain screeds, a polythene sheet/membrane may be required over the insulation prior to fixing the pipes/cables
- (for seperating floor) acoustic resilient layer as High Density 5/10mm, Rubber 3/6mm or Wood Fibre 10mm + Edge Strip
- In-situ concrete slab, pre-cast concrete planks or beam & block structural floor

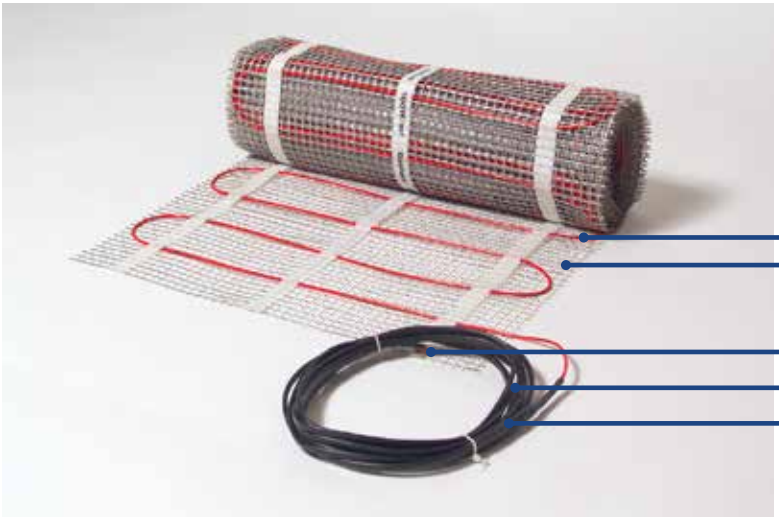




20 YEAR FLOOR WARRANTY

ELECTRIC MATS

COMPACT E-UFH - Floor Heating Mats
Thin floor constructions



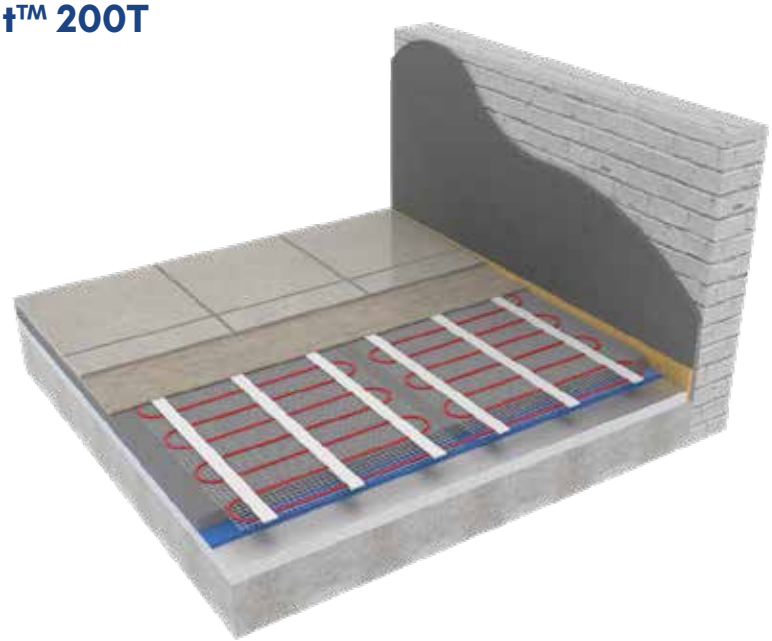
DEVIcomfort™ 100T / 150 T and DEVImat™ 200T

The thin heating mat is designed for installation in a thin tile adhesive layer, self-leveling mixture or alike. The standard minimum thickness of the floor layer is 5-8mm while the thickness of mats is 3-4.5mm.

It allows minimizing the floor level increase. Thin heating mats consist of a thin cable fixed on self-adhesive glass-fiber mesh usually of 50cm width.

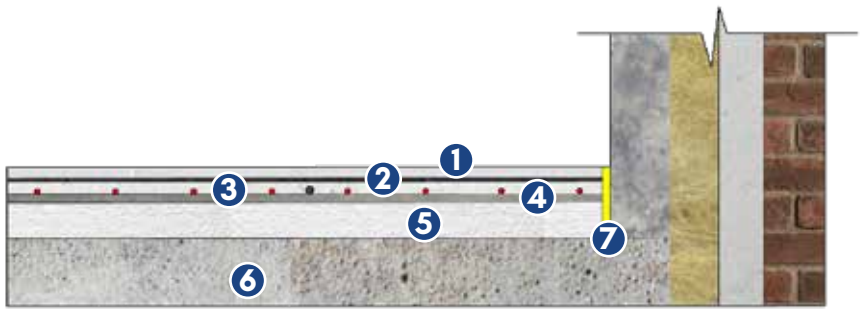
Thin heating cables are serial twin or single conductor resistive cables. Thin heating mats are manufactured as ready-made heating sections with a specific area including a power supply cable and hermetically sealed connections.

Center-to-center distance between mat's cable lines is usually 7.5cm. It allows even distribution of heat on the floor surface avoiding cold zones between the cable lines. Thermal output 100, 150 or 200W/m^2.



ELECTRIC MATS

COMPACT E-UFH - Floor Heating Mats
Thin floor constructions



1. **Flooring**
2. **Adhesive**
3. **Self levelling compound**
4. **Seperating layer**
5. **Insulation**
6. **Sub-floor**
7. **Edge strip**

Compact E-UFH components and other layers subject to design will be:

- Self levelling compound and/or tile adhesive
- 3-4.5mm heating mats for E-UFH
- Thermal insulation as foiled PIR, EPS or XPS
- In preparation for certain screeds, a polythene sheet/membrane may be required over the insulation prior to fixing the mesh (for seperating floor) acoustic resilient layer as High Density 5/10mm, Rubber 3/6mm or Wood Fibre 10mm + Edge Strip
- In-situ concrete slab, pre-cast concrete planks or beam & block structural floor

5 YEAR WARRANTY

CONTROLS - ELECTRIC UFH

Revolutionary wireless control of Electric Underfloor Heating

DEVIreg™ Smart Thermostats

The DEVIreg™ Smart is an intuitive programmable timer thermostat to be connected to WIFI and DEVIsmart™ App controllable from anywhere, at any time. The thermostat is primarily used for controlling electrical floor heating elements. The thermostat is designed for fixed installation only and due to the special designed 2-part construction it fits a wide range of frames and sensors.
The DEVIreg™ Smart is fast and intuitive to setup using the App wizard. It has an open window detector and energy-saving program including an optimum start/end control ensuring the desired temperature at the correct time and thereby reducing the heating costs.

DEVIlink™ CC Thermostats

DEVIlink™ CC - Central Controller is the perfect solution for the regulation of electric floor heating both for apartments, family houses and multifamily buildings.
Can be controlled via an app offering you unique possibility to control your electrical heating systems from a distance on your smartphone.

The idea of DEVIlink™ system is to link together your heating system wirelessly and control it from one central point. The DEVIlink™ CC communicates wirelessly with all other DEVIlink™ units in the installation. A single DEVIlink™ CC can control up to 30 rooms and be connected to up to 50 devices.

DEVIreg™ Touch Thermostats

The DEVIreg™ Touch is an intuitive programmable timer thermostat used for controlling electrical floor heating elements. The thermostat is designed for fixed installation only and due to the special designed 2-part construction it fits a wide range of frames and sensors.
The DEVIreg™ Touch is fast and intuitive to setup using the built-in wizard. It has an energy-saving programme – including an optimum start/end control ensuring the desired temperature at the correct time and thereby reducing the heating costs.

Manhattan Loft Gardens - Stratford

248 Apartment Development

Client: Bouygues UK

This 42 storey residential development used a dry floor build up allowing an incredibly fast installation program combined with a very low floor profile and a reduced building load.

- Insulation designed and load tested with Knauf
- Leica Geosystem used to ensure floor level was rendered to SR1 standard
- Compact Commercial Manifold
- Designed, Supplied, Installed and Commissioned by Compact Underfloor Heating.

Bromley South Central - Bromley

200 Apartment Development

Client: McLaren

- Designed, Supplied, Installed and Commissioned by Compact Underfloor Heating
- Leica Geosystem used to ensure floor level was rendered to SR1 standard
- Knauf WF10 Acoustic layer
- UFH Insulation
- UFH pipe and manifolds
- Knauf FHB18 Screed Board
- Heatmiser UFH Controls
- Compact Commercial Manifold

Tiger Way - London

89 Apartment Development & School

Client: McLaren

- Designed, Supplied, Installed and Commissioned by Compact Underfloor Heating
- Knauf WF10 Acoustic layer
- UFH Insulation
- UFH pipe and manifolds
- Knauf FHB18 Screed Board
- Heatmiser UFH Controls
- Compact Commercial Manifold

UNDERFLOOR HEATING SOLUTIONS.

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UNDERFLOOR HEATING

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