# Low Profile 15 System

Data Sheet

**PRODUCT INFORMATION** | **ISSUE 1 – May 2024**

Product code: UFHLP15

The Low-Profile 15 System is a low-profile injection moulded underfloor heating system, designed mainly for refurbishment projects (RMI) where floor build-up is at a premium.
The panel has been designed for optimum system performance and to ensure accurate installation and pipe positioning. The panels are manufactured from 100% recycled polystyrene, panels can be cut to size quickly and easily, thus allowing for a quick and easy installation in any size or shaped room.

The panel's interlock for easy storage and carrying and form a precise grid for the pipe; ensuring minimum pipe bend radius is achieved. In addition, with the panels being self-adhesive backed this allows for easy fixing to the sub-floor whilst the castellations provide protection for the pipe from onsite foot traffic as well.

## Requirement of Insulation

Although the system has primarily been designed to fix directly to existing sub floors it is always advisable where possible to include insulation as this will increase the overall efficiency of the system.

In the event of a **Timber Suspended Ground Floor** it is often possible to retrofit insulation between the joists which will limit the downward heat transfer from the system. It is recommended that the thermal resistance of this insulation layer should not be less than 0.75m2K/W as specified in BS EN1264 Parts 1-4. The insulation should fit tightly between the joists directly below the timber floor.

**Existing Concrete Sub Floors** provide a better thermal barrier than that of a timber suspended floor. It`s hard to justify the expense of removing and replacing the existing sub floor unless there are serious issues to remedy such as; rising damp or structural failings.
**Note**: It is important to avoid direct contact of the self-adhesive backed panels to bitumen or asphalt floors due to the temperature of the system affecting the properties of these surfaces.

**New Build Solid Floors** require insulation to be installed in accordance with Part 'L' of the building regulations; a suitable layer of thermal insulation must be included in floor construction; it is the responsibility of the Contactor or Architect to provide guidance on the type of thermal insulation required and ensure compliance.

| **Key Design Information** | |
|---|---|
| Typical Heat Output at 50°C Mean Water Temperature | 91W/m2 at 100mm Pipe Spacing |
| Recommended Design Flow Temperatures | 35-50°C |
| Maximum Circuit Length | 120m |
| Maximum Coverage per Circuit | 13.5m2 at 100mm pipe centres<br>17.5m2 at 150mm pipe centres<br>25m2 at 200mm pipe centres |
| Dimensions | 1450mm x 850mm x 21mm (Castellation Height) |
| Fixing Method: | Self-Adhesive Backing (Virgin Hot-Melt Glue)<br>Clear Silicon-Foil Backing (Made of virgin Low Density Polyethylene) |
| Approximate System Component Usages | Panel: 1 Panel/1.23m2<br><br>Ultra-Flexible Pipe: 8.2M Pipe / m2 at 100mm pipe centres<br>6.4M Pipe / m2 at 150mm pipe centres<br>4.5M Pipe / m2 at 200mm pipe centres<br><br>Edge Expansion Strip: 1.1M / m2<br><br>UFH Conduit: 2m/circuit length |

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## Installation Guidance

- Firstly, it is important to ascertain the ability of the floor in supporting the required loadings without deflection. When installing the system on a solid floor this should be levelled to SR2 (no greater than 5mm over a 3M straight edge), filling any gaps in the walls and vacuum the floor. When installing over timber floors repair, clear and vacuum the subfloor and seal all gaps. If the floorboards move under foot when walked on or flex, over-boarding will be required with a minimum 6mm plywood before installation of the Low Profile 15 Panels. Damaged floorboards should be replaced.

- Use of a suitable primer in accordance with the manufacturer's recommendation should be used to prime the subfloor in both installation cases, after drying foot traffic should be kept to a minimum to avoid possible dirt and debris on the newly primed surface.

- Install the Polypipe Edge Expansion Strip (PB05855) around the perimeter walls & fixed constructions such as columns, steps & access doors. The edge expansion strip allows for the free expansion of the floor screed. The expansion strip comes with a self-adhesive strip, which enables faster installation. The edge expansion features a plastic apron, which lays over the top of the panel to prevent the screed seeping in and lifting the panels. The edge expansion strip should be fitted in addition to perimeter insulation as required by Building Regulations where applicable.

- Starting in the corner of the room the two sides with full nodules should be up against the wall with the two smaller sides of nodules facing into the room. Remove the self-adhesive film from the back of the panel, sticking to the floor now lay the Low Profile 15 System Panels in a brickwork fashion interlocking at the joints. The panels overlay on one short and one long side of the panel with the two sides with the smaller nodules being designed to go underneath the next panel.

- Install the 15mm Ultra-flexible Polybutylene UFH Barrier Pipe at the required centres in either a whirlpool or serpentine pattern, connecting each circuit back to the manifold making sure not to cross pipes. Consult your Bespoke Polypipe UFH Design or speak with our technical team if unsure.

- The underfloor pipework is then connected to the Polypipe Manifold and pressure tested to 6 bar; it is also highly recommended once the system is pressure tested to add an appropriate percentage of antifreeze/inhibitor if the system is to be left for a while without being operated.

- The Polypipe Low Profile 15 System is suitable to be used with most screed types such as Cementitious Flowing Screeds & Calcium Sulphate (Anhydrite) Flowing Screeds. The main determining factors on the thickness of these are state of the sub floor this is going onto or whether going onto a rigid form of insulation material, as well as the finished floor covering to be used. When going straight over a primed sub floor we recommend 30mm minimum coverage from the base of the panel & when installed with rigid insulation below the recommendation is a minimum of 35mm.