

Multipipe Underfloor Heating Specification

1000 Introduction

This specification details the design, materials, installation and commissioning standards for Underfloor Heating Systems.

2000 Design Parameters

The system will be installed using Renovo multilayer pipe with a heat emission co-efficient of 0.35w/m/degree Celsius.

Pipe circuits will be spaced in order to meet the heat output requirements.

The water circulation temperature will be calculated to achieve a maximum floor temperature of 29 degrees Celsius.

3000 Standards

Design, Installation and Commissioning will be carried out in accordance with the CIBSE (Chartered Institute of Building Services Engineers) Guide to Underfloor Heating.

The installer will also comply with manufacturers recommendations.

4000 Pipe Construction

The multilayer pipe and fittings will be manufactured under a certified quality assurance scheme, which meets the ISO 9001 standard.

The pipe will be white in colour with details of manufacturer, materials, maximum pressure and maximum temperature printed on the outer wall.

The multilayer pipe will be a composite pipe comprising a continuous aluminum oxygen barrier sandwiched between an inner and outer layer of high-density polyethylene (HDPE). The layers will be bonded and then cross-linked to provide greater strength and flexibility.

The aluminum oxygen barrier will be continuously butt-welded and be guaranteed 100% oxygen tight.

5000 Manifold Controls

5100A Each Manifold will be controlled by a proprietary control pack. The Control Pack will comprise of isolating valves, a thermostatic mixing

valve and a pump. The use of injection type control packs will not be permitted.

5100B the manifold will be fed from a low temperature circuit providing a flow temperature not to exceed 60°C.

6000 Manifolds

Manifolds will be of brass construction with integral flow meters on the flow connections and actuator operated valves on the return connections.

Isolating ball valves with swivel connections will be installed immediately prior to the manifolds.

Manifolds will be fitted with end caps, which will incorporate an air vent and drain valve. The drain valve will have a hose connection.

Manifolds will terminate with a ¾" Eurocone connection which will allow the direct connection of 16, 18 or 20mm multi-layer pipe.

7000 Automatic Controls

7100A Each zone will be controlled by a room thermostat, which will in turn operate the actuators on the manifolds.

- 7200A Generally, a room thermostat will be provided in each living space or sleeping quarters. Circulation areas, utility rooms and kitchens may share room thermostats providing they are adjacent one another.
- 7300A Large rooms in excess of 100m² may have more than one room thermostat in order to maintain stability of the room temperature.
- 7400A Room thermostats will be as Renovo model no UFH-THERM-W Electro-Mechanical Room Thermostat with night set back.
- 7500A Room thermostats will be as Renovo model no UFH-THERM-WD Electronic Room Thermostat with night set back complete with L.E.D. indicators for 'Day and Calling' and 'Night Set Back' modes.
- 7600A Room thermostats will be of the programmable type as UFH-THERM-WDP
- 7700A Time control of the underfloor heating system will be as UFH-TIME-W channel time controller with 24hr 5/2 day or 7 day programming.
- 7800A Room thermostats will be fitted 1200mm above finished floor level unless otherwise indicated on the drawings.
- 8000 Floor Insulation**
- 8100A The Installer will utilise a system board with a minimum of 15mm insulation below the underside of the pipe.
- 8200A Insulation will be xxxx thick dense expanded polystyrene or equal.

- 8300A Insulation will be xxxx thick polyurethane as Cellotex, Kingspan or equal.
- 8400 Insulation will be cut neatly and laid to provide a friction fit. Gaps in excess of 5mm between insulation sheets will not be permitted.

9000 Polythene Membrane

- 9100 Prior to the laying of the pipe circuits a polythene membrane will be laid on top of the floor insulation and to a height of 50mm above finished floor level. This is to prevent screed falling between the joints of the insulation below.

10000 Perimeter Insulation

- 10100 Around the perimeter of the room in which the underfloor heating is to be installed, a vertical insulation joint will be installed. The purpose of this joint is to provide an expansion joint between the screed and the wall.
- 10200 After the screed has cured the perimeter insulation will be folded onto the screed and the skirting board mounted on top to the insulation. The insulation can then be trimmed.
- 10300 Perimeter insulation will be fitted around fixed points within the floor such as floor drains, service entries, columns, equipment bases, etc.

11000 Expansion Joints

- 11100 Where an underfloor heating pipe crosses an expansion joint, the installer will sleeve the pipe in a corrugated conduit. The sleeve will extend 150mm either side of the expansion joint.

12000 Fixings

12100A the pipe will be fixed using pipe staples at 1 metre centers.

12200B the pipe will be fixed using clip rail with additional fixing at bends using pipe staples.

12300C the pipe will be tied to the screed re-inforcement mesh using proprietary clips.

12400D the pipe will be fixed and spaced using a system plate.

12500E the pipes will be fixed between the wooden joists on a diffusion plate system.

12500F the pipes will be fixed between the wooden joists using the Multifoil system of reflective foil and clips.

12500G the pipe will be fixed using a foil faced, load bearin, pre-routed EPS board XXXXmm thick.

For further information or product details, please call our team on 01245 227630 or visit our website at www.multipipe.co.uk