

MANIFOLD M1 5 PORT

Brass Modular Mixing Manifold
Flow rate to Manifold M1 = 0.08 litres/sec @ 8kpa

Cct.No.	Cct.Lgth.	+5/-10%	Coil	Size	Centres	Act	Wg Ctr	Stat/Sensor
M1.1	83m	88m	100m	16mm	100mm	24v	FH-WC	As M1.2
M1.2	126m	132m	200m	18mm	150mm	24v	FH-WC	FH-WP
M1.3	63m	67m	M1.2	18mm	300mm	24v	FH-WC	FH-WP
M1.4	74m	79m	200m	18mm	200mm	24v	FH-WC	As M1.3
M1.5	86m	91m	M1.4	18mm	200mm	24v	FH-WC	As M1.3

Injection valve size = 3/4" Max. diff. pressure 70kpa
Mixing set handing = Left Max. output 5,790 watts

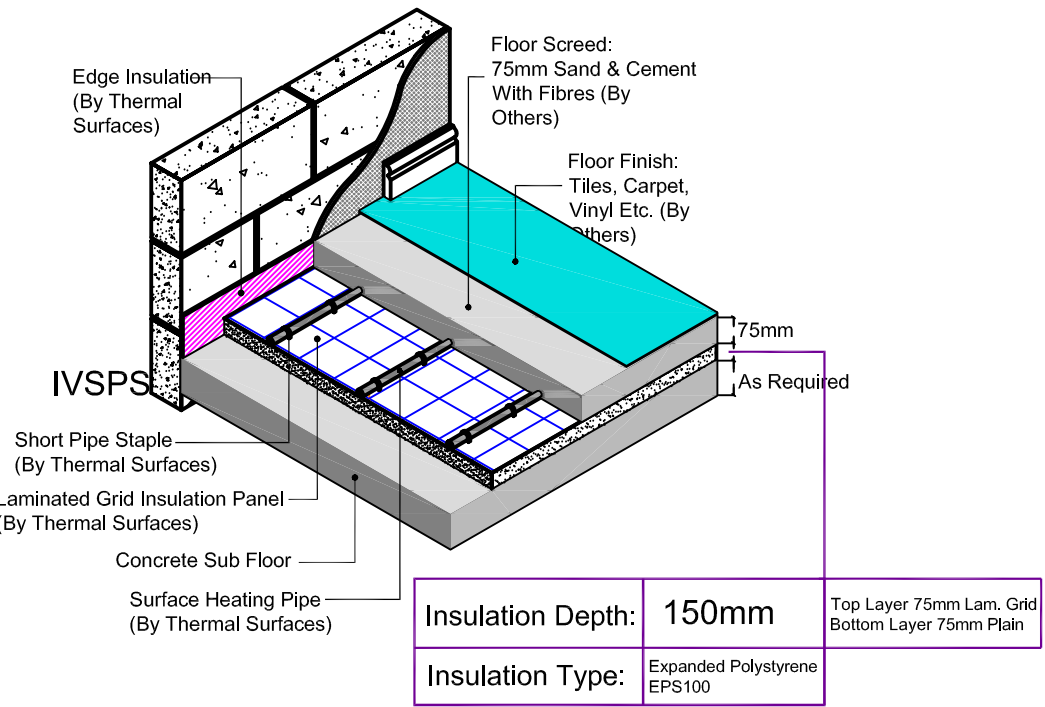
MANIFOLD M2 7 PORT

Brass Modular Mixing Manifold
Flow rate to Manifold M2 = 0.12 litres/sec @ 15kpa

Cct.No.	Cct.Lgth.	+5/-10%	Coil	Size	Centres	Act	Wg Ctr	Stat/Sensor
M2.1	32m	36m	50m	15mm	N/A	24v	FH-WC	FH-WP
M2.2	136m	142m	200m	18mm	150mm	24v	FH-WC	As M2.1
M2.3	88m	93m	200m	18mm	200mm	24v	FH-WC	FH-WP
M2.4	107m	113m	200m	18mm	200mm	24v	FH-WC	As M2.3
M2.5	77m	81m	M2.4	18mm	150mm	24v	FH-WC	FH-WP
M2.6	53m	58m	M2.2	18mm	200mm	24v	FH-WC	As M2.5
M2.7	97m	103m	M2.3	18mm	200mm	24v	FH-WC	As M2.5

Injection valve size = 1" Max. diff. pressure 40kpa
Mixing set handing = Left Max. output 9,135 watts

SHORT PIPE STAPLE SYSTEM FIXED TO LAMINATED GRID INSULATION BOARDS



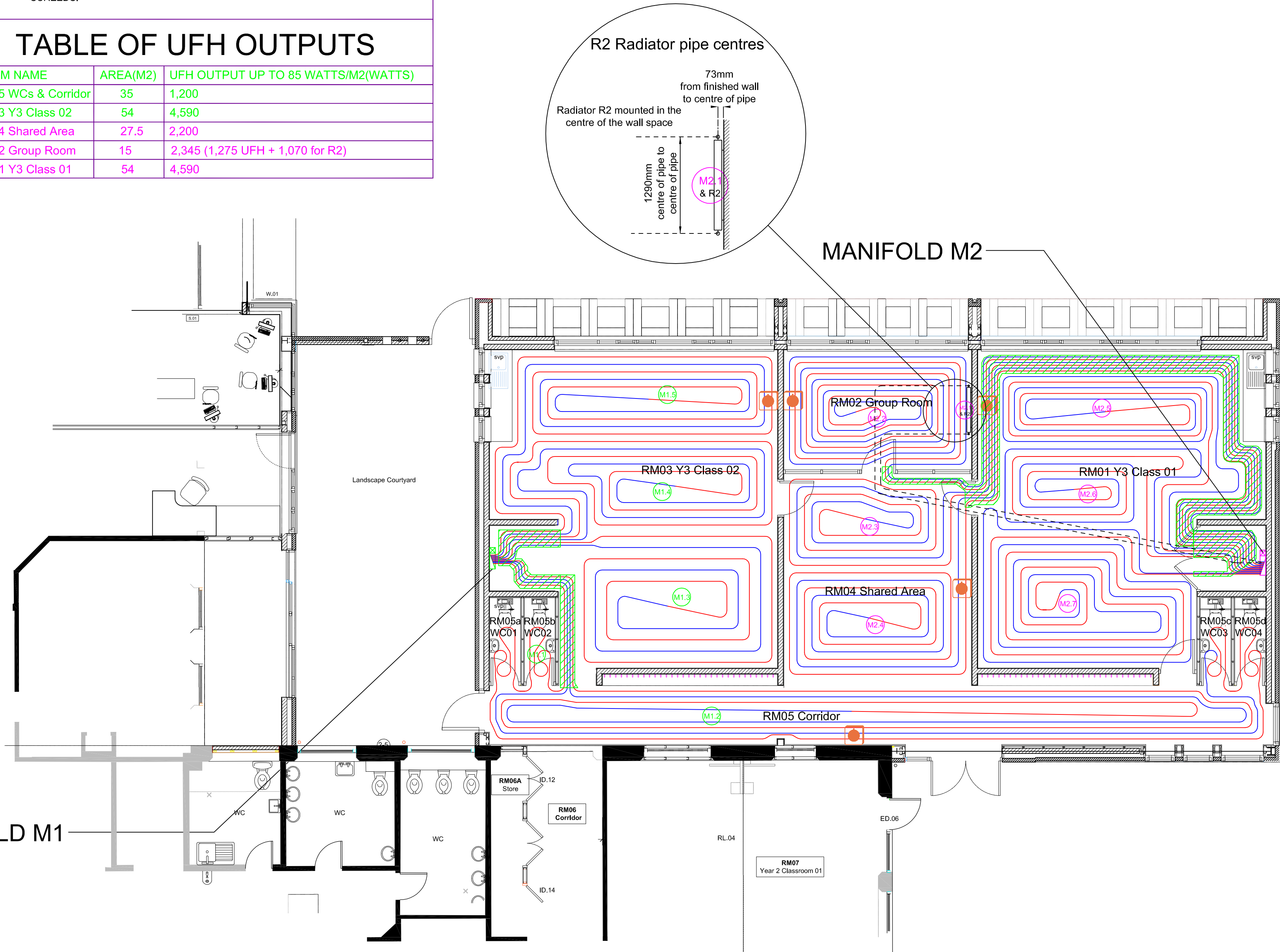
PLEASE NOTE: -
INSULATION SUPPLIED BY THERMAL SURFACES IS TO COMPLY WITH BS EN 1264 FOR SURFACE HEATING AND COOLING SYSTEMS AND MAY NOT BE IN ACCORDANCE WITH CURRENT BUILDING REGULATIONS. THERMAL SURFACES TAKE NO RESPONSIBILITY FOR PROTECTION OF SCREEDS.

TABLE OF UFH OUTPUTS

ROOM NAME	AREA(M2)	UFH OUTPUT UP TO 85 WATTS/M2(WATTS)
RM05 WCs & Corridor	35	1,200
RM03 Y3 Class 02	54	4,590
RM04 Shared Area	27.5	2,200
RM02 Group Room	15	2,345 (1,275 UFH + 1,070 for R2)
RM01 Y3 Class 01	54	4,590

FLOOR FINISH THERMAL RESISTANCE TO BE LIMITED TO 1,0 tog (0.10 W/m2K)

Surface heating pipe-work to be typically installed 150mm from all elevations projected through the screed such as walls, fixed furniture etc. except where shown. Transient pipe-work from the manifolds to the heating zones is spaced at 75mm centres except local to the manifold where it leaves at 25mm centres and should be widened to 75mm centres in green shaded areas on the drawing where pipe insulation is required as close to the manifold as is practically possible. Pipe centres are then generally spaced at 300mm, 200mm, 150mm or 100mm centres as detailed in manifold charts.



GROUND FLOOR

IMPORTANT NOTE: Please read and confirm.

Approval of this drawing is required a minimum of 7 days prior to commencement of installation on site. If this drawing is not approved 7 days before commencement of installation on site Thermal Surfaces will assume the design is correct and the installation will proceed on the basis of the last drawing issued.

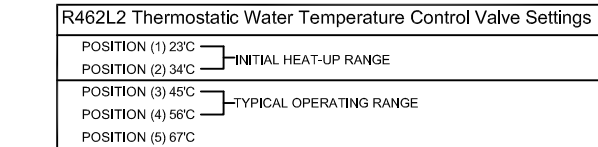
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LEGEND:

Denotes where surface heating pipe-work is to be sleeved with pipe insulation to inhibit emission of heat from transient pipe-work and to sleeve through builder's holes and doorways. Also where screed installer will need to reinforce screed above insulation with D40 mesh or equivalent.

FH-WP 24V SELV Tamperproof Room Thermostat with time enabled night set-back, (4 core cable required). (positions are indicative and subject to approval)

Denotes where pipe-in-pipe 15mm polyethylene barrier pipe inside pipe conduit is incorporated in to insulation layer below underfloor heating pipe-work to provide hot water from the underfloor heating manifold M2 to radiator R2 in RM02 Group Room.



NOTES:

- Installation Requirements**
 - Prior to the Surface Heating Pipe-work Installation, the building must be weather-tight, the floor should be swept and clear of all other trades and materials.
- Structural Requirements**
 - It is the responsibility of a structural engineer to check that the floor section detail is suitable for the applied load and the dead loads on the floor.
 - Building movement or expansion joints, where known, have been shown on the drawing, these should be checked and Thermal Surfaces should be advised of any changes.
- Water Volume of Pipe-work**
 - 1 litre of 15mm piping holds 0.154 litres of water
- Distribution Manifold**
 - The handling of each manifold has been shown for pipework connections, should these handings not be correct or required to be changed Thermal Surfaces should be notified at least five days prior to commencing on site.
 - Recommended Mounting Height:** 280mm from bottom of manifold to F.F.L.
 - Recommended Minimum Clearance To Sides For Connections:** 150mm.
- The diagram for a distribution manifold set incorporated within the drawing has been shown schematically and viewed from front & side.
- Screed Requirements**
 - Screed is to be left to cure on the recommendations of the Screed installer/manufacturer, once this period has been achieved, the flow water temperature should be raised 5°C every two days of operation for a minimum of 8 hours per day, starting from approx. 25°C until the designed surface heating pipe-work flow temperature is reached.
 - This process should be repeated back down to 25°C.
- Protection of Screens**
 - Thermal Surfaces take NO responsibility for protection of screens - Screed will only take foot traffic until fully cured - mobile access/equipment or vehicle traffic must NOT be used on screens unless suitably covered to protect against damage.
- Electrical Conduits, Pipes & Services in the floor**
 - Unless shown or indicated it is otherwise assumed that the floor is level, flat and free from any conduits, pipes etc fixed to its surface, and no allowance has been made to incorporate any such items.
- Any PVC Sheathed cables must NOT be in direct contact with the insulation and must be in conduit.
- Surface Heating Pipe-work**
 - Surface Heating Pipe-work shall NOT be circled under toilets, floor mounted basins and built in furniture i.e. cupboards, kitchen units etc unless stated.
 - Should any rising joints or pipe exit/entry zones be required in any floors they should be identified before the installation of the Surface Heating Pipe-work.
 - All Surface Heating Pipe-work circuits are only indicative layouts and subject to site conditions.
- Floor Finishes (Floor Coverings)**
 - Thermal resistance for all floor coverings and carpets must be issued to thermal surfaces before installation of surface heating pipe-work with confirmation it is suitable for use with Surface Heating systems. Carpet finishes above the screed and any associated underlays should have a maximum combined TOG rating of 2.40. Timber floor finishes & associated underlays not to exceed 1.50 TOG.
 - Confirmation must be obtained from the floor finish/covering Manufacturer/Installer, that the floor covering is suitable for a surface (under-floor) heating system before it is installed.
- Control Requirements**
 - Thermostat/Sensors positions by others are indicative and should be checked and approved by the Consultant and the architect before installation takes place.
- Water Treatment**
 - No allowance has been made by Thermal Surfaces for flushing, desludging or treatment of water in the under-floor heating system. The manufacturing and installation process for the under-floor heating system will not introduce any debris or contaminants to the heating system. If treatment to the water in the under-floor heating system is required this should be carried out by others to BS 7593:2005 Code of practice. Glycol content in system water not to exceed 32%.

CONTROLS REQUIRED				
DESCRIPTION	VOL	TAGE	Q. BY	TS
ROOM THERMOSTAT	24V	5	BY	OTHERS
PIPEWORK CENTRES	24V	12	BY	OTHERS
24V THERMAL ACTUATORS	24V	12	BY	OTHERS

REVISED TO IWA COMMENTS AND SUBSEQUENT ISSUE OF IWA DRAWING 1275/M201 REV 4 14-04-14.

ISSUED FOR APPROVAL	
DESCRIPTION	DATE
REVISIONS	

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STATUS
ISSUED FOR APPROVAL

CLIENT
PAINEMANWARING

MAIN CONTRACTOR
E A CHIVERTON

PROJECT
SPRINGFIELD PRIMARY SCHOOL

TITLE
UNDERFLOOR HEATING LAYOUT GROUND FLOOR

SCALE	DESIGNED
1:75 @ A1	CS
CONTRACT NUMBER	DRAWN
TS1308	CS
DATE	CHECKED
APR' 2014	MDM
DRAWING NUMBER	REVISION
TS1308-01B	APPROVAL

