

Installation Requirements : Heat IQ floor system Pipework

Correctly placed pipes in a slab are crucial to effective heat output they may be hidden in concrete but it is extremely important to ensure they are laid as prescribed. We strongly advise anyone installing or having underfloor heating installed to keep a photographic record of the pipes as laid before they are encased to serve as reference and handed to the end user on completion . Note also before the insulation and mesh are laid flow and return pipework from the heat source to the manifold will need to be run insulated and sleeved, *if run below the slab rather than overhead.*

The following should be the norm in all installations with pipes fixed on mesh requirements relating to pipework fixed Direct to base insulation are shown in blue

Specific details and instructions are available separately for pipe laid within a European over-screed system

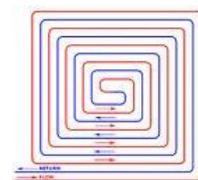
1/ If the slab has no perimeter insulation, no floor pipes should be closer than 500mm from the outer edges of the foundation slab. *This will minimise perimeter heat loss Also applies to pipes fixed on base insulation*

2/ Internal walls must be marked clearly and accurately in eg dayglow paint on the polystyrene, It is important also to identify and mark (In a different colour) any expansion joints or cuts

3/ wherever possible pipes should not pass below wall lines, though in reality it will sometimes be unavoidable to pass below a wall. When this is the case the installer and the builder should retain a drawing with crossing points clearly marked. To avoid later puncturing with frame fixings etc,

3/ Pipe loops within rooms must be kept 350mm from internal wall centre lines. *This will minimise zone to zone heat creep. Also applies to pipes fixed on base insulation*

4/ Whenever possible pipes should be laid in a counter flow configuration This gives the most even distribution of heat rather than a serpentine which will start hot and run cooler as it crosses the floor



5/ We recommend you do not lay pipes below kitchen units, in walk in pantries, built in store cupboards or into wardrobes (other than walk in robes)

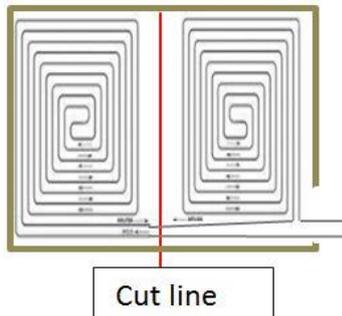
The installer should also identify and keep well away from fridge and freezer locations.

6/ Spacing between pipes should be **as per the system loop cad heat loss calculated design** and may vary room by room from 100mm apart but in any case should never exceed 220mm. In all instances a loop cad detail should be used. *This will ensure system is optimised for efficiency.*

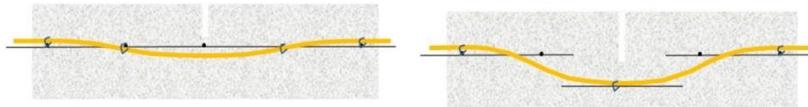
7/ Pipes should be secured at a maximum of 400mm spacing using wire tie from a propriety tie gun or cable ties can be used (4mm or heavier)

Where pipes are to be laid directly onto the sub slab insulation pipes should be staple fixed at minimum 400 centres

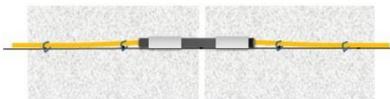
8/ Expansion cuts and free joints, the heating installer should ensure that pipework has minimal crossing points over expansion or cut joints line when possible as this example for instance



where pipes do cross expansion cuts pipes should pass beneath the mesh. cut mesh and drop pipes low to avoid the cut re place / re tie the mesh above



Where a full break expansion joint exists the pipework crossing the cut should be sleeved with minimum 10mm insulation or placed in a flexible conduit sleeve with a minimum 25mm internal diameter extending 200mm either side of the expansion joint.



9/ All the Pipes in the floor should be water filled and ideally pressurised to around 20 PSI before the concrete is poured.

Keeping them under pressure with a gauge fitted throughout the build will ensure any damage during concrete placement or, later from accidental drilling is immediately evident and traceable.

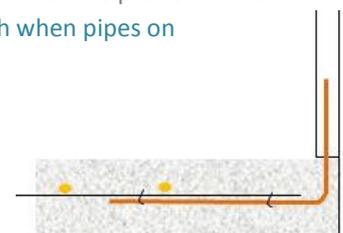
Pipes not pre filled with water will try to float in wet concrete, Never use air pressure to test

We strongly recommend the use of controls that include floor sensing

Floor probes are wired sensors used with underfloor controls. Installed into the floor with the pipe system they allow a controller to be used either to work of ambient temperature in the room or of static desired temperature at the floor.

10/ Floor probes should sit between the first two pipe loops below the point on a wall which the controller is to be fitted to. Take care to ensure the position of any control is away from direct sunlight

Install an ofcut of underfloor pipe as shown with the floor end taped up to act as a duct for the probe Fix this to the underside of the mesh terminating between two pipes **Keep these on the mesh when pipes on insulation**





11/ Important notes relating to the builder and council requirements

It is essential to have the building contractor increase the amount of Support chairs used to support the mesh. This will ensure minimum rolling (High and low points) which are the result of the concrete placers walking over the mesh as they lay concrete,
We recommend + 30% more chairs than typical

There must be a minimum of 30mm of cover over the pipes to the finished floor.

The builder should be made aware of this requirement before he boxes up the foundation so he can set the mesh height appropriately

Note also floor slab thickness requirements should be verified with your local authority, different councils may require differing thicknesses when UFH pipework is installed.

12/ General notes

Pipework brought up to the manifold should ideally be in a series of pairs, ideally held in a simple locating jig but in any case however they rise from the floor they should be clearly marked up as flow and return pairs.

Notes should be kept to identify which pair is which zone and which loop within that control zone. Your notes must also note the length of pipe in each loop.

Keep the installation notes taken safe, it will be many months before the manifold is fitted.

Specific details and instructions are available separately for pipe laid within a European over-screed system

System Design; (Only where Heat IQ have provided the floor Cad detail)

Heat IQ Loop cad system design is produced with heat loss calculation in accordance with

Product specification Heat IQ - floor Pipe for heating systems

PERT / Pex B Pipe with EVOH barrier. Manufactured to DIN4102 . Recommended operating pressure 1 to 2 bar with 3 bar relief - Max operating pressure 6 Bar (max test pressure 10 Bar) Max temp 95 Degrees, Max recommended operating temperature in concrete 50 Deg System design operating input temp = 38 degrees to Max 42 Degrees product life exceeding 50 years. **SDOC available**