



USH-Innovationen Hydronic radiant Heating. 8mm thin-bed system - Introduction.

Our 8mm **hydronic under-floor and wall heating system** is designed and manufactured in Germany in the form of 8mm PE-RT pipes woven onto plastic mesh mats. Our 2.5m², 3.5m² and 5m² hydronic mats deliver a full retro-fit heating system which can be used to upgrade existing rooms or buildings and also provides a tailored system, quick and easy to install in any new build properties. Because of its thin bed design using 8mm PE-RT pipes, our wet mat system can also be installed as wall heating under plaster.

System Advantages -

Total constructed height: 24mm (<1 inch)

The hydronic UFH system comprises, insulation boards (9 mm Phonotherm), the heating mat (9 mm) and a minimum 6 mm pipe cover, of the patented self-levelling flow screed – Technoplan DE, delivers a constructed floor height of 24 mm. Floors with insulation under concrete may not require the Phonotherm boards, and can reduce the build height to **15mm**.

This state of the art system is a leader in the retro-fit UFH market in Germany, Austria and Scandinavian countries, since most competing UFH systems use 16 mm pipes covered with 50-65 mm concrete screed !

Due to the thin-bed design of the system, customers also achieve substantial energy savings as our system operates at low flow temperatures of 35C. The thin, yet extremely durable, screed cover has been designed to facilitate a fast heat transfer, reducing the heating time of surfaces to a mere 20 minutes.

The USH Innovationen wet mat system can simply be laid on the existing floor or raw concrete and once screeded over, the resulting new surface can be tiled or appropriate wood flooring laid directly on the screed.

Ease of Installation

Installation of the USH Innovationen wet mat system is simple, both for the experienced installer and also for the DIY enthusiast doing his first self install. The simplified installation process consists of four basic worksteps:

1. Fit the expansion-foam edging strip (without foil) around the floor edges, to prevent leakage.
2. Cover the entire floor with Phonotherm boards (either screw the boards to wood floors or glue down with flexible tile adhesive)
3. Unroll the mats, stretch out and staple the mats on the Phonotherm boards, or directly onto concrete if insulated.



4. Connect inflow and outflow pipes to USH manifolds using our standard push-fit connectors.



5. Screed over with quick setting patented flow screed - Technoplan DE™.



Tested Design

The USH Innovationen wet mat system provides the full range of install options from single room refurbishment to complete under-floor heating solutions for retro-fitting or new properties.

Floor or wall surfaces are evenly heated throughout, as our unique design of two counter flowing pipe circuits per mat and copper mesh covering, delivers a softer and more even heat diffusion. Connections to the manifolds are also simple to perform, with the specially designed push-fitting connections for all pipes to the manifold.

The efficiency of our wet mat heating systems is enhanced by using our single room thermostats to ensure room-to-room temperature control. The built-in return temperature limiter (RTL) valves, monitor the return temperatures and control the flow temperature. With contemporary insulation, this can reduce heating costs by an average of 30-40%.

Over 20 years innovation in UFH

The unique wet mat system from USH-Innovationen has been preferred by UFH installers and plumbing companies in continental Europe for many years with great success, generating repeat business over the years.

A proven system at the leading edge of UFH technology, our innovative UFH systems manufactured to the highest specifications of German DIN deliver a world standard and meets all the requirements of the UK building regulations, conforms to UK building standard EN1264.

Partners

Customers benefit from the fast installation process of this tried, tested and easy to install system. Installers benefit from ease of installation, and the USH Innovationen instruction DVD provides a step by step installation guide.

Technical help is always available directly from USH Innovationen, in the form of mat layout planning, calculation of manifold requirements, advice on unorthodox builds e.g. heated pools, barn conversions, conservatories, extensions and yachts etc.

We also provide our installer partners with product schooling and all necessary technical information. In-company or in-house training is also possible for confirmed projects for our installer partners. And remember, we are installers too, we know what we are talking about and we're only a phone call away!

TMM is looking for new partners for our heating products. We are looking for architects, installers and/or local stockist. Please feel free to contact us you are interested in working with our company to sell or install these unique heating systems in your area!



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