EMPUR®

Wall heating/cooling

Wall heating/cooling

Even temperature distribution for your wellbeing

EMPUR® surface heating systems

Increased comfort and efficiency

The decision to install a surface heating/cooling system is a sensible decision for more comfort, economy and sustainability. **The systems can be ideally combined with innovative heating technology based on renewable energies.**

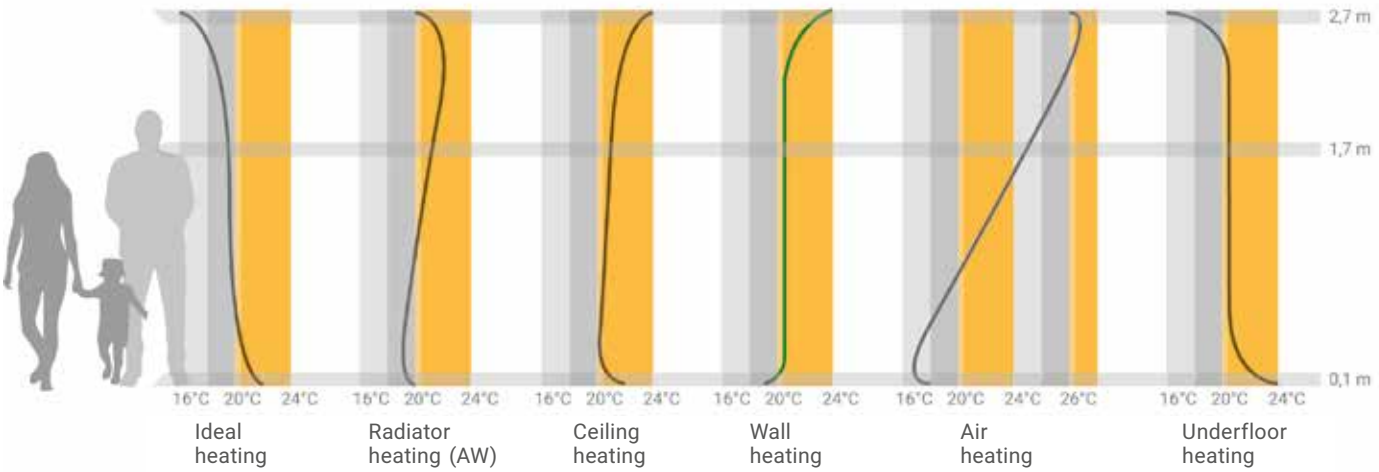
Mild heat radiation creates an increased sense of wellbeing. As a heat source with a large surface area, it can make an exceptional contribution to lowering energy costs at low flow temperatures. In this way, it also makes a significant contribution to environmental protection and sustainability.

Panel heating is also especially suited to people with allergies. Noise, draughts and air turbulence do not occur with surface heating and cooling. For the building owner, it offers completely new design possibilities without any visible radiators and increases the building's value in the long term.

The development of the building heating load is now so low, that surface heating systems are also used in modernisation and energy-efficient renovation, which are designed for low installation heights and specially adapted to the existing substrate requirements – **one system for heating and cooling** with unlimited advantages.

Surface temperatures

Temperature curve progression: Comparison of "ideal heating" with a wall heating



EMPUR® surface heating systems

Quality “Made in Germany” from one source

EMPUR® Produktions GmbH is a producer and full-range retailer of innovative, high-quality panel heating systems and has the right solution for every requirement:

- **Surface heating/cooling systems for floor, walls and ceilings**
- **Systems without additional installation height or with minimum installation height for modernisation**
- **Diverse systems with composite panels and additional insulation for new buildings in the private, municipal or industrial sectors**
- **System accessories and tools**
- **High-quality heat distribution and drinking water systems**
- **Innovative control technology**

The company manufactures over 90% of the system components in its own production and under its own responsibility on modern equipment at our site in Buchholz-Mendt. We work under a structured quality management system, which is certified by DEKRA in accordance with the DIN EN ISO 9001:2015 international standard.

In the interests of the most objective and neutral product evaluation possible, EMPUR® subjects its products to material testing and certification by nationally recognised testing institutes and assessment centres. High quality, continual and pioneering product developments, technical advice and support, a three-level distribution network across Germany, reliable services, as well as specialist training for wholesalers, specialised craftsmen and planners make EMPUR® a competent partner in the heating industry.

Wall heating/cooling

Even temperature distribution for your wellbeing

Wall heating/cooling

Even temperature distribution for your wellbeing

Many buildings use "panel heating on the wall" now. **Particularly in renovations, when the options for retrofitting underfloor heating are lacking, the wall surface offers an interesting alternative in order to subsequently benefit from the pleasant radiant heat of a low-temperature heating system.** Panel heaters themselves – whether in the floor, on the ceiling or on the wall – can form an ideal combination with regenerative heat sources.

Wall heating/cooling works according to the **principle of radiation** and does not heat/cool the room air, but rather the bodies and objects it encounters. The laterally acting radiant heat or cooling is felt to be very pleasant because dust is not swirled up, the room air gets less dried out, and is therefore particularly suitable for allergy sufferers or asthmatics. It ensures a high level of comfort.

The **"self-regulating effect"** of a large-area radiant heating system is ensured by the extremely low difference between the heating surface's temperature and the temperature experienced in the room. In this way, the heat emission of a wall or floor heating surface changes by roughly -12 W/m^2 upon a room temperature increase of 1°C. Upon lowering of the room temperature, the heating performance increases proportionally. Thus, the heat loss can be minimised or reduced and the energy consumption optimised.

A further positive side effect of the wall heating systems is that when correctly installed they prevent mould formation, particularly in damp rooms and in old buildings.

The advantages of wall heating are obvious

- **Highest level of comfort** due to mild radiant heat from the wall
- **Comfortable indoor climate**
- **Good controllability**
- **Energy savings** due to low flow temperatures
- **Future-oriented** and **economical** operation
- **Accessibility** and new **design options** without radiators
- No swirling up of dust – ideal for **allergy sufferers**
- **Increases** building value

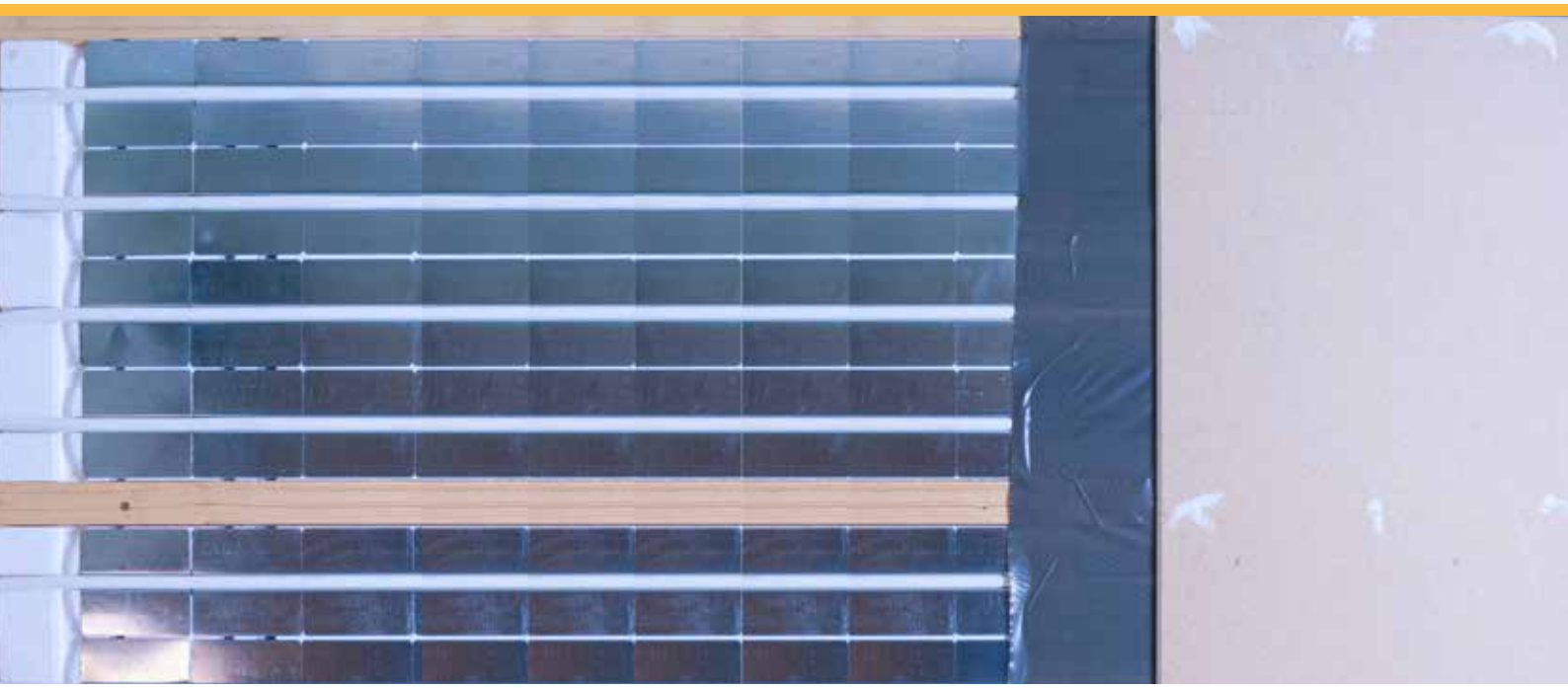
EMPUR® offers several variants of wall heating systems. On the one hand, in the design for dry construction with modular elements and, on the other hand, for installation in the wet process:

- OPTIMAL II dry construction system
- Plasterboard wall elements
- Vertical wall heating/cooling in the wet process

On the following pages you will find a detailed overview of the EMPUR® wall systems. We are happy to answer any questions you might have. Give us a call!

Wall heating/cooling

OPTIMAL II dry construction system



OPTIMAL II dry construction system

The OPTIMAL II dry construction system by EMPUR® is useful wherever a low weight is required due to structural reasons or where dry screed components are being used.

The system consists of hard foam panels of the highest rigidity and foam incorporated grooves and pipe redirectors. The aluminium/steel heat conduction plates that are to be inserted ensure quick and even heat distribution. The dry screed load distribution layer can be placed into position immediately after the pipes have been laid.

The system panel can be used in many layouts, also ideal as wall panel heating in renovation projects.

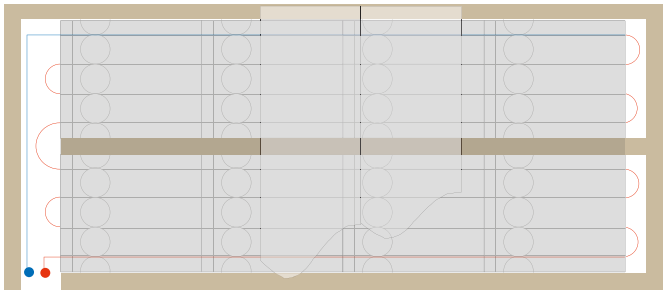
Our OPTIMAL II dry construction system impresses with

- **Quick laying**
- **Fast construction** progress in combination with dry screed panels or suitable wall coverings
- **Easy handling** of the few system components
- Quick laying of metal connecting pipes through predefined grooves
- **Low surface weight** – ideal for the renovation of old buildings

The fast solution for the wall in renovations or new builds

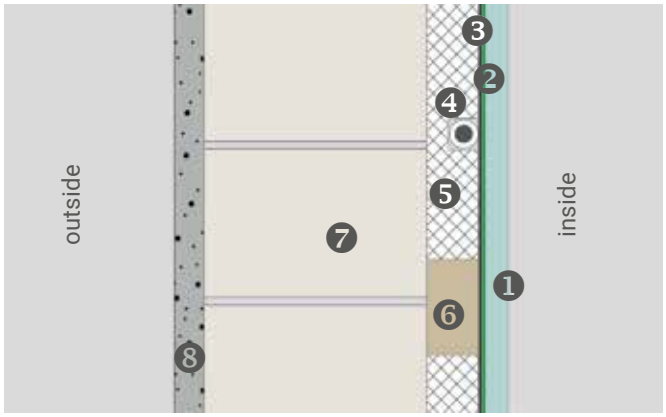
OPTIMAL II	Mount battens, install system panels, fit guide panels and aluminium composite pipe	Perform leak test, install separating layer, then screw drywall panels on battens and fill joints/ surface	Apply wall covering according to manu-facturer's specifications	VERY FAST → **result wall heating:** Optimal II wall heating is a clean, high-performance system for very rapid construction progress
Time ▶	▶ 1st day	▶ 2nd day	▶ 3rd day	

Your route to increased home comfort



1. Mount the slats or profiles (spacing max. 60 cm according to the manufacturer's specifications for the gypsum/drywall components used).
2. Cut the system plates to size and clamp them between the rafters (leave space for redirectors).
3. Insert the aluminium redirection plates into the foamed grooves. The aluminium heat conduction plates are added in the direction of the redirection plates. No special tool is necessary.
4. The metal composite pipe is easily bendable and is clicked into the sheets with slight pressure. Due to the clamping effect, the composite pipe is securely fixed in the plate.
5. Cover with PE film.
6. Cover with gypsum fibreboards or suitable wall panels.

Example assembly



1. Gypsum plasterboard
2. PE cover sheeting
3. Heat conduction plate
4. Metal composite pipe 16 x 2.0
5. System panel RA 12.5/25; WLS 035; 30 mm
6. Wooden slat construction
7. Brickwork
8. Wall plaster

The 30 mm system plate already has a thermal conductivity (R value) of 0.86 m² K/W. Therefore, if no additional insulation is required, a standard wood slat 30 x 50 mm is suitable for the construction.

The structure example described may not take into account special conditions in an individual case. Suitability for the specific application must be checked. Requirements for structural stability, heat, moisture or sound insulation must always be taken into account and specified by the building planner!

NOTE

EMPUR® wall heating elements must be measured by a specialist planner and may only be installed and commissioned by authorised specialist companies.

Installation and assembly must be carried out in accordance with the applicable engineering rules and the technical state of the art. Please note our installation instructions for ceiling and wall elements, which can be downloaded from our website. The specifications of the dry plaster/gypsum fibreboard manufacturers must be taken into account and complied with.

We are happy to assist you with the planning. According to the German Construction Contracting Procedures (VOB), a heating/cooling load calculation is required for the design! We offer these services for a fee through our subsidiary **EM**PLAN.

Wall heating/cooling

OPTIMAL II dry construction system

System components

System panel RA 12.5/RA 25, WLS 035

Universal panel for continous laying and redirection

Aluminium redirection plate RA 12.5

for insertion into the system panel

Aluminium heat conduction plate for high thermal output, alternatively galvanised heat conduction plate

with 5 pre-determined breaking points

PE cover sheeting

KLIMAPEX® metal composite pipe PE-RT/AL/PE-RT 16 x 2.0

made of polyethylene with welded aluminium jacket, multi-layer composite pipe, diffusion-tight and dimensionally stable

SKZ

A 765

Flexible springs

for the precise bending of metal composite pipes

Compression fitting 16 x 2.0

especially for aluminium composite pipe

NOTE Complete your OPTIMAL II dry construction system with further EMPUR® products such as a heating circuit manifold, manifold accessories, manifold cabinet and control technology in order to enjoy a self-contained EMPUR® system (see page 18 et seq.). We'd be pleased to advise you!

Benefits for specialised craftsmen

- Security for end consumers and processors – system components optimally adapted to each other
- Minimal installation height ≧ 30 mm (without gypsum plasterboards)
- Quick and neat processing of the system panels
- One element for all types of layout with two layout distances (125/250 mm) for a system-compatible laying of the metal composite pipes
- **Low-weight material**, enabling easy and non-tiring installation
- **Quick laying** and **fast construction progress** in combination with gypsum plasterboards
- **Easy handling** of the few system components
- **Secure fixing** of metal composite pipes through predefined grooves
- Plates have **high thermal conductivity** and low weight
- Low surface area weight in combination with dry construction components
- Many expansion possibilities – comprehensive EMPUR® range with PUR additional insulation materials and various system accessories and tools, as well as manifold and control technology products

Benefits for the end-consumer

- Minimal waste
- **Full-surface thermal insulation** due to continuous installation of the hard foam panels
- **Quick laying** and **fast construction progress** in combination with gypsum plasterboards
- **Low surface area weight** in combination with dry construction components
- **Simple implementation of thermal insulation requirements** in new and old buildings
- Suitable for heating and cooling
- **Maximum comfort** due to mild radiant heat from the wall – heat transfer by radiation is perceived as significantly more comfortable than warm air flows of convective systems
- **Comfortable room climate** due to the most favourable room air hygiene conditions and heat distribution over a large area
- **Good controllability** due to low pipe overlap in the panel and integrated heat conduction plates
- **Energy saving** due to low flow temperatures - wall heating systems can also be ideally combined with modern heat generators (heat pumps, renewable energies, etc.)
- **Future-oriented** and **economical** operation
- **No restriction** and new **design options** without radiators – more flexibility in furnishing, also ideal in modernisation projects
- No swirling up of dust – hygienic system and therefore ideal for **allergy sufferers**
- **Increases building** value

INSTRUCTIONS FROM THE EXPERT

1. The dimensions of EMPUR® wall heating elements must be determined by a specialist and may only be installed and commissioned by authorised specialist companies. Installation and assembly must be carried out in accordance with the applicable engineering rules and the technical state of the art. The specifications of the manufacturers of the rail system elements or the profile systems as well as the wall cladding must be taken into account and complied with.

2. The walls in which a wall heating system has been installed should not have large areas covered over with furniture (cabinets, wall shelves, etc.), as this impairs the function and optimal heating of the rooms can no longer be guaranteed. Furniture placement areas must already be taken into account in the layout plan.

3. The exact course of the heating pipes must be observed according to the installation plan, so that damage caused by subsequent work on the wall (e.g. driving in nails or drilling screw holes) is avoided. Before carrying out necessary wall work, study the installation plan carefully!

Wall heating/cooling

Wall elements made of gypsum plasterboard

Wall elements made of gypsum plasterboard

Our drywall elements consist of a 12.5 mm thick gypsum plasterboard into which the high-quality PE-RT 5-layer pipe is integrated at the factory. On the back, the elements are covered with 30 mm EPS thermal insulation (WLS 035). The total panel thickness of 42.5 mm ensures sufficient panel stability with low weight. The position of the heating pipes is clearly printed on the surface of the panels to facilitate installation.

Two prefabricated panel sizes with one or two heating circuits allow flexible design of wall surfaces. Another element, without a pipe circuit, can be used as a levelling/blind element. The elements can be processed with commercially available profiles (e.g. CD 60/27/06), like a standard plasterboard. The wall heating and cooling is designed for drywalls in new-builds or renovation projects.

EMPUR® wall elements made of plasterboard impresses with

- Dry construction element ready for trowel application
- Suitable for **cooling and heating**
- **Fast response**, low thermal inertia
- **Easy and quick installation** on standard drywall profiles
- **Thermal insulation** exceeds the requirements of DIN EN 1264 ($R \geq 0.75$ m² K/W) compared to similarly heated rooms
- High living comfort at low system temperatures

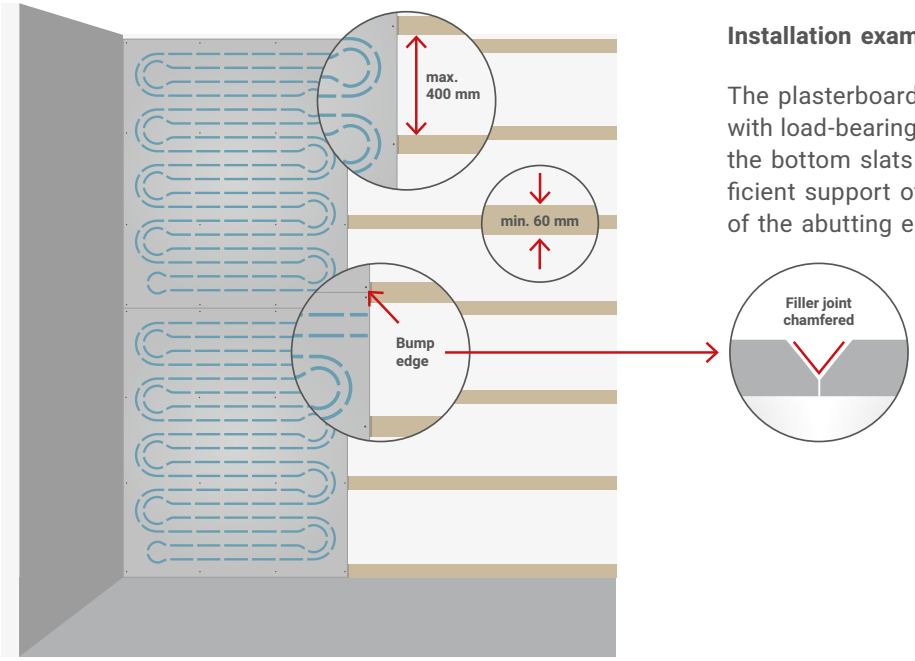
NOTE

EMPUR® wall heating elements must be measured by a specialist planner and may only be installed and commissioned by authorised specialist companies.

Installation and assembly must be carried out in accordance with the applicable engineering rules and the technical state of the art. Please note our installation instructions for ceiling and wall elements, which can be downloaded from our website. The specifications of the dry plaster/gypsum fibreboard manufacturers must be taken into account and complied with.

We are happy to assist you with the planning. According to the German Construction Contracting Procedures (VOB), a heating/cooling load calculation is required for the design! We offer these services for a fee through our subsidiary **EM**PLAN.

Your route to increased home comfort

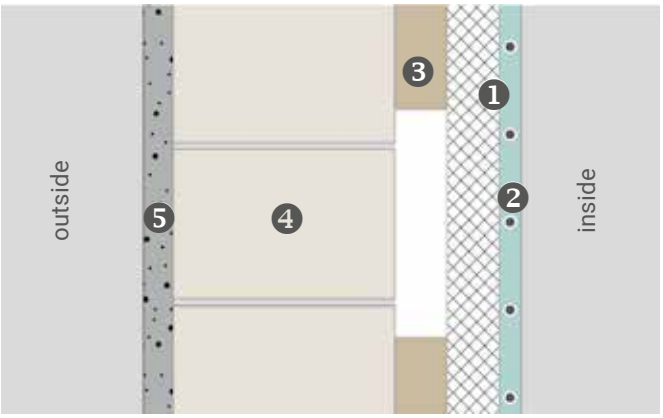


Installation example wall heating/cooling

The plasterboard panels are mounted on a substructure with load-bearing joists or profiles. The minimum width of the bottom slats must be 60 mm in order to ensure sufficient support of the cooling elements and stabilisation of the abutting edges.

1. Install the substructure according to the installation plan. Under the joints of the individual gypsum elements, there must be a load-bearing beam or profile for stabilising the filler joint.
2. Install plaster elements with plasterboard screws (length approx. 60 mm). For the bore hole, a distance of at least 10 mm from the pipework course marked on the elements must be observed. Bevel filler joints.
3. Connect the wall elements to each other
4. Connect the system to the cable network using EMPUR® connection technology. Attention: Compatibility with the 20 mm metal composite pipe must be checked before starting work!
5. Hydraulic integration according to connection and installation plan, leak test.
6. Install the compensating elements in the areas where no active elements are required.

Example assembly



1. Ceiling and wall element H/C made from 12.5 mm gypsum board and 30 mm EPS WLS 035
2. KLIMAPEX® heating pipe PE-RT 8 x 1.0
3. Wooden slat construction
4. Brickwork
5. Wall plaster

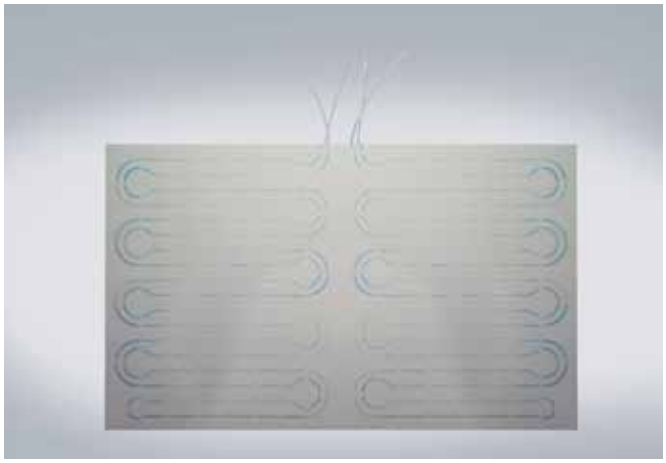
The 42.5 mm thick wall element already has a thermal conductivity (R value) of 0.85 m² K/W. Therefore, if no additional insulation is required, a standard wood slat 30 x 60 mm is suitable for the construction.

The structure example described may not take into account special conditions in an individual case. Suitability for the specific application must be checked. Requirements for structural stability, heat, moisture or sound insulation must always be taken into account and specified by the building planner!

Wall heating/cooling

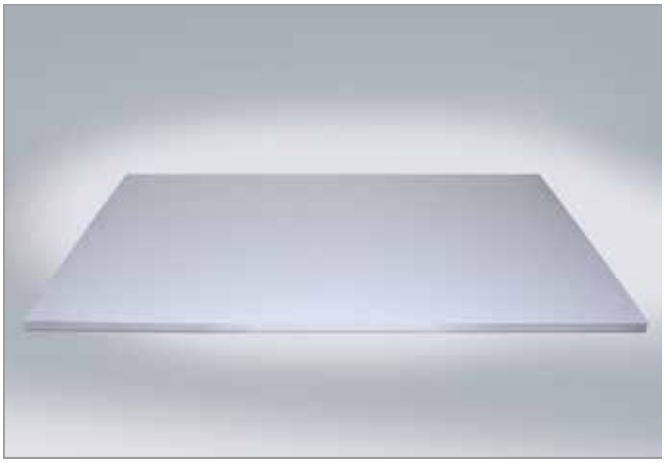
Wall elements made of gypsum plasterboard

System components



Ceiling and wall element H/C

2,000 x 1,200 x 42.5 mm (2.4 m^2) or
1,200 x 500 x 42.5 mm (0.6 m^2)
made from 12.5 mm gypsum board and 30 mm EPS,
WLS 035 ready for installation with PE-RT 8 x 1.0 mm pipe
(Demand: 0.416 unit/m^2 bzw. 1.667 unit/m^2,
system weight: ca. 8.5 kg/m^2)



Ceiling and wall compensation element

2,000 x 1,250 x 42.5 mm (2.4 m^2)
made from 12.5 mm gypsum board and 30 mm EPS,
WLS 035 ready-for-installation,
without pipe (dummy element)
(Demand: 0.416 unit/m^2, system weight: ca. 8.5 kg/m^2)

Push fitting H/C element*

for connecting line PE pipe 20 x 2.0 mm
Through fitting 20 x 2.0 mm with 4 outlets,
8 x 1.0 mm (red)
Through fitting 20 x 2.0 mm with 4 outlets,
8 x 1.0 mm (blue)

Push fitting H/C element*

Coupling 20 x 2.0 mm for aluminium composite/PE pipe
Coupling 8 x 1.0 mm for PE-RT pipe

* On-site connection via wholesaler
Take the tolerance dimensions of the fittings into account when selecting the pipe (see data sheet).

NOTE Complete your EMPUR® wall heating/cooling system with further EMPUR® products such as a heating circuit manifold, manifold accessories, manifold cabinet and control technology in order to enjoy a self-contained EMPUR® system (see page 18 et seq.). We'd be pleased to advise you!

Wall heating/cooling

Wall elements made of gypsum plasterboard

Benefits for specialised craftsmen

- **High performance at low system temperatures** – for fast response times and good controllability
- **Simple and quick installation** on commercially available drywall profiles
- **Easy implementation of thermal insulation requirements in new and old buildings** – our gypsum elements (with thermal insulation on the back) even exceed the requirements of DIN EN 1264 ($R \geqq 0.75$ m² K/W compared to similarly heated rooms)
- Can be combined with a floor heating system – our plasterboard wall system can optionally supplement a heat transfer system or replace an existing system
- Many expansion possibilities – comprehensive EMPUR® range with PUR additional insulation materials and various system accessories and tools, as well as manifold and control technology products

Benefits for the end-consumer

- **Full-surface thermal insulation** due to the properties of the gypsum board and insulation on the rear side
- Simple implementation of **thermal insulation requirements** in new and old buildings
- **Fast processing and rapid construction progress** due to dry construction system
- Suitable for **heating and cooling** – for a pleasant and healthy indoor climate all year round
- **Maximum comfort** due to mild radiant heat from the wall – heat transfer by radiation is perceived as significantly more comfortable than warm air flows of convective systems
- **Comfortable room climate** due to the most favourable room air hygiene conditions and heat distribution over a large area
- **Good controllability** due to low pipe overlap in the panel
- **Energy saving** due to low flow temperatures – wall heating systems can also be ideally combined with modern heat generators (heat pumps, renewable energies, etc.)
- **Future-oriented** and **economical** operation
- **No restriction** and new **design options** without radiators – more flexibility in furnishing, also ideal in modernisation projects
- No swirling up of dust – hygienic system and therefore ideal for **allergy sufferers**
- **Increases** building value

INSTRUCTIONS FROM THE EXPERT

1. The dimensions of EMPUR® wall heating elements must be determined by a specialist and may only be installed and commissioned by authorised specialist companies. Installation and assembly must be carried out in accordance with the applicable engineering rules and the technical state of the art. The specifications of the manufacturers of the rail system elements or the profile systems as well as the wall cladding must be taken into account and complied with.

2. The walls in which a wall heating system has been installed should not have large areas covered over with furniture (cabinets, wall shelves, etc.), as this impairs the function and optimal heating of the rooms can no longer be guaranteed. Furniture placement areas must already be taken into account in the layout plan.

3. The exact course of the heating pipes must be observed according to the installation plan, so that damage caused by subsequent work on the wall (e.g. driving in nails or drilling screw holes) is avoided. Before carrying out necessary wall work, study the installation plan carefully!

Wall heating/cooling

Vertical wall heating as a wet system

Vertical wall heating as a wet system

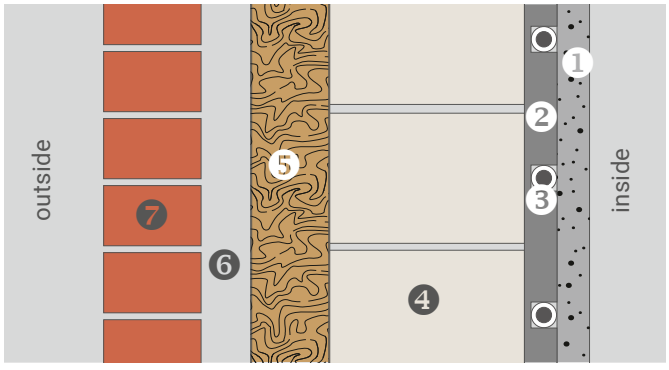
The EMPUR® vertical wet wall heating system consists of **wall clip rails** and high-quality **KLIMAPEX® plastic heating pipes** and is suitable for mounting on flat and sufficiently stable solid brick, cement or sandstone walls etc.

After the clip rails have been attached to the wall according to the laying plan, the heating pipe is clipped into them. When plastering the walls, a special reinforcement fabric prevents crack formation after drying in the case of gypsum plaster. The heating pipes are all developed by EMPUR® and produced in-house in Germany. Wall heating is particularly interesting for private builders: its energy-efficient technology makes it ideal for use in low-energy houses and it can be optimally combined with renewable energies. The heat from the wall can also be easily installed at a later date.

EMPUR® vertical wall heating impresses with

- **Easy modernisation** – retrofitting possible
- Individual adaptation to the structural conditions
- **Simple and secure installation** of the heating pipes into the clip rails
- **Quick and flexible laying** of pipes of all dimensions and qualities
- **Short reaction time** with low pipe overlap

Example assembly



1. Wall plaster
2. Clip rail
3. KLIMAPEX® heating pipe PE-RT 12 x 1.5 or 15 x 1.8
4. Brickwork
5. Thermal insulation
6. Back ventilation
7. Clinker brickwork

The structure example described may not take into account special conditions in an individual case. Suitability for the specific application must be checked. Requirements for structural stability, heat, moisture or sound insulation must always be taken into account and specified by the building planner!

Your route to increased home comfort

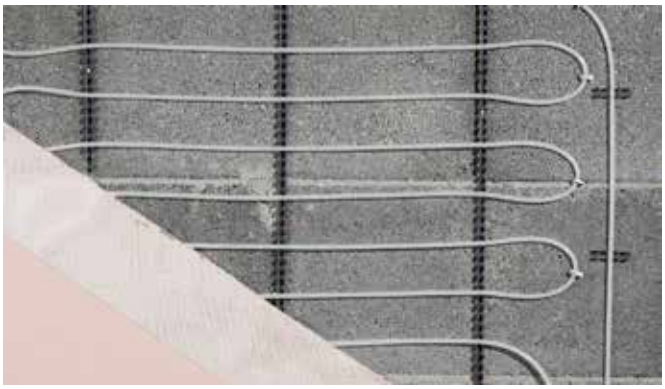
Vertical adjustment of the clip rails

Attachment of the clip rails at a distance of max. 40-50 cm is recommended

Level surfaces made of different building materials are possible

Clicking the heating pipes into the clip rails according to the installation plan

Secure fixing of the KLIMAPEX® plastic heating pipes



Reinforcement mesh to protect against cracking on the plastered surface

NOTE

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We are happy to assist you with the planning. According to the German Construction Contracting Procedures (VOB), a heating/cooling load calculation is required for the design! We offer these services for a fee through our subsidiary **EM**PLAN.

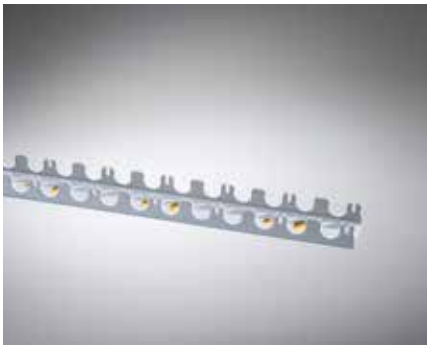
Wall heating/cooling

Vertical wall heating as a wet system

System components

Wall clip rail

for pipe spacing in 50 mm grid,
for pipe Ø 8 – 12 mm



Wall clip rail

for pipe spacing in 25 mm grid,
for pipe Ø 15 mm

Glass reinforcement fabric

Reinforcement fabric for stucco,
6 mm mesh width

Compression fitting

made of brass with euroconus 3/4" for pipe dimensions: 12 x 1.5 und 15 x 1.8

Connection coupling

made of brass for pipe dimensions: 12 x 1.5 und 15 x 1.8

Angle brace 90°, open

made of plastic, for redirecting manifold connections

KLIMAPEX® heating pipe PE-RT as a 5-layer pipe 12 x 1.5 und 15 x 1.8 (green)

made of polyethylene, Type I/II in accordance with DIN EN ISO 22391-2 and DIN 16833, with increased thermal stability and insoluble diffusion-tight EVOH barrier layer in accordance with DIN 4726

3V 204 PE-RT

Dowel nail, Dowel clamp

Borehole Ø 6 mm x 50 mm

NOTE

The system is also available as a kit for 12 or 20 m². Complete your EMPUR® wall heating/cooling system with further EMPUR® products such as a heating circuit manifold, manifold accessories, manifold cabinet and control technology in order to enjoy a self-contained EMPUR® system (see page 18 et seq.). We'd be pleased to advise you!

Wall heating/cooling

Vertical wall heating as a wet system

Benefits for specialised craftsmen

- **Individually adaptable to the structural conditions**
- Flexible laying of the KLIMAPEX® plastic heating pipes using different clip rail systems
- Quick component laying and installation
- **Simple and secure installation of the KLIMAPEX® plastic heating pipes by clicking them into the clip rail**
- Secure fastening of the KLIMAPEX® plastic heating pipes in clip rails
- **Quick and flexible laying of pipes of all dimensions and qualities**
- Minimal pipe overlap dependent on the plasters used
- Flexible system with quick adjustment
- No crack formation on the surface through the use of reinforcement fabric
- Can be combined with a floor heating system
- Easily connected to existing heating systems
- Many expansion possibilities – comprehensive EMPUR® range with PUR additional insulation materials and various system accessories and tools, as well as manifold and control technology products
- 10-year material and consequential damage liability on EMPUR® heating pipe with exclusive use of our system components under adherence to further warranty conditions (see EMPUR® warranty certificate)

Benefits for the end-consumer

- Suitable for **heating** and **cooling**
- **Maximum comfort** due to mild radiant heat from the wall – heat transfer by radiation is perceived as significantly more comfortable than warm air flows of convective systems
- **Comfortable room climate** due to the most favourable room air hygiene conditions and heat distribution over a large area
- **Good controllability** due to low pipe overlap in the panel
- **Energy saving** due to low flow temperatures – wall heating systems can also be ideally combined with modern heat generators (heat pumps, renewable energies, etc.)
- **Future-oriented** and **economical** operation
- **No restriction** and new **design options** without radiators – more flexibility in furnishing, also ideal in modernisation projects
- No swirling up of dust – hygienic system and therefore ideal for **allergy sufferers**
- **Increases** building value

INSTRUCTIONS FROM THE EXPERT

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2. The walls in which a wall heating system has been installed should not have large areas covered over with furniture (cabinets, wall shelves, etc.), as this impairs the function and optimal heating of the rooms can no longer be guaranteed. Furniture placement areas must already be taken into account in the layout plan.

3. The exact course of the heating pipes must be observed according to the installation plan, so that damage caused by subsequent work on the wall (e.g. driving in nails or drilling screw holes) is avoided. Before carrying out necessary wall work, study the installation plan carefully!

Wall heating/cooling

Additional system components

Manifold technology

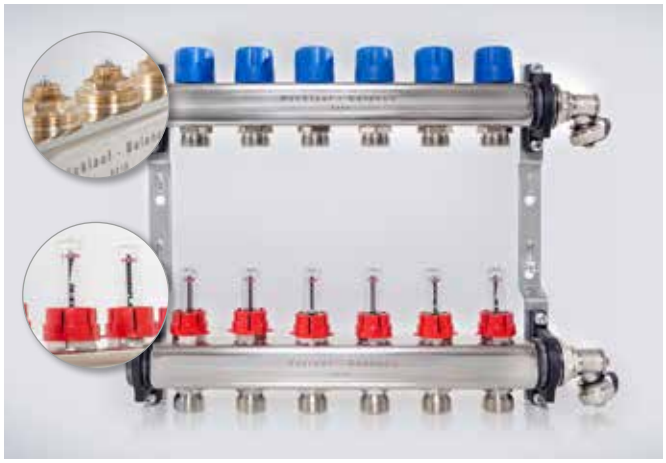
At our Buchholz-Mendt location, EMPUR® produces high-quality manifolds and special solutions from brass and stainless steel for client-specific requirements.

The structural design of our new manifold generation requires significantly less effort for specialised craftsmen to assemble in combination with the EMPUR® manifold cabinets. With the specially developed **quick manifold assembly technology**, the manifolds are simply suspended in the guide rails of the manifold cabinet and fixed using two fillister head screws.

Thanks to extensive manifold accessories, we enable the right connection in every situation for a perfectly adapted system – ranging from connection sets and heat volume measurement sets to line regulating or zone valves, pointer thermometers and restrictors.

You can find detailed information in our Manifold technology brochure.

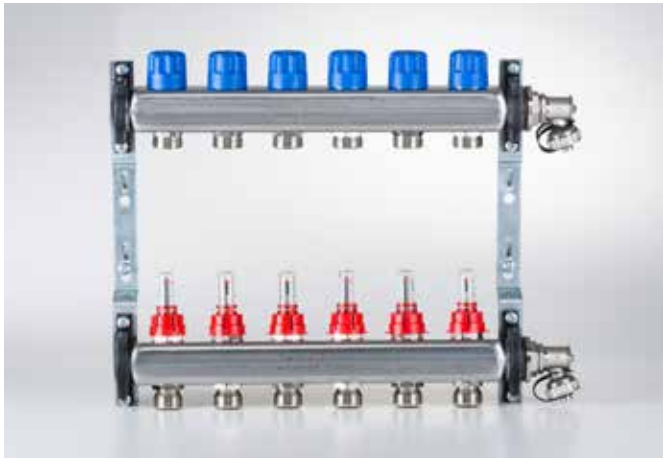
Stainless steel manifold



Stainless steel manifold, series 03 Balance, 2-12 heating circuits 1" IT

System manifold HCM-D Balance with integrated, dynamically regulating valves

Complete manifold made of 1“ stainless steel section pipe in the pressure range 17-60 kPa, can be preset for flow rates of 30-300 l/h, 50 mm valve clearance, fully installed in the factory on the manifold holder with sound insulation inserts. Return valves (top) with a blue protective cap, EMPUR® actuators can be installed directly instead. Feed flow (bottom) with flow indicator **without scaling** for shut-off and function display. Heating circuit connections 3/4“ Eurocone, 2 manifold end pieces with reducer (rotatable) for filling, bleeding and draining.



Stainless steel manifold, series 03, 2-12 heating circuits 1" IT

System manifold HCM-D, series 03 with flow rate indicator

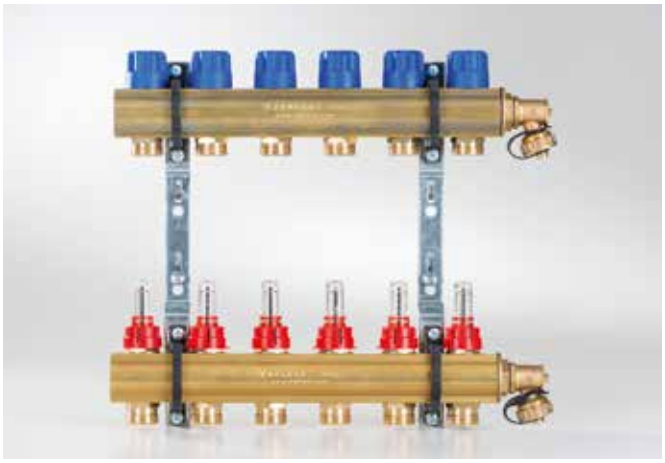
Stainless steel section pipe complete manifold with integrated valves, 50 mm valve clearance. Pre-assembled in the factory on the manifold holder with sound insulation inserts for fast assembly in the manifold cabinet, return flow value (top) with blue protection cap, EMPUR® actuators can be installed directly instead. Feed flow (bottom) with controllable and adjustable flow rate indicators (0-2.5 l/min.), heating circuit connections 3/4" euroconus. 2 manifold end-pieces with reducer (rotatable) for filling, bleeding and draining.

NOTE The water quality requirements according to VDI 2035 must be adhered to!

Brass manifold

System manifold HCM-D, version 2.0 with flow rate indicator

Complete manifold made of brass section pipe with integrated valves, 50 mm valve clearance, return flow valve (top) with blue protection cap. Pre-assembled on manifold holders with sound insulation inserts. EMPUR® actuators can be installed directly instead. Feed flow (bottom) with controllable and adjustable flow rate indicators (0-2.5 l/min.). Heating circuit connections 3/4" euroconus. 2 manifold end-pieces with reducer (rotatable) for filling, bleeding and draining.



Brass manifold, version 2.0, 2-16 heating circuits 1" IT or 5-16 heating circuits 5/4" IT

Control manifold

Control manifold HCM-DR, version 2.0 with high-efficiency pump and thermoseparator

Manifold made of brass section pipe with integrated valves, 50 mm valve clearance. Pre-assembled on manifold holders with sound insulation inserts. Return flow valve (top) with blue protection cap. EMPUR® actuators can be installed directly instead. Feed flow (bottom) with controllable and adjustable flow rate indicators (0-2.5 l/min.). Heating circuit connections 3/4" euroconus. Suitable for variable or constant flow temperature control in combination with control set V or K for the hydraulic integration of low-temperature underfloor heating in an existing heating system.

Control manifold HCM-DR with high-efficiency pump and thermoseparator, version 2.0, 2-9 heating circuits 1" IT or 10-16 heating circuits 5/4"

EMPUR® Geniax complete manifold

The unique Geniax pump technology in the unit together with the high-quality EMPUR® components such as the manifold, manifold cabinet etc. facilitates the installation and operation of modern surface heating systems (e.g. underfloor or wall heating systems) as well as conventional heating systems.

The **EMPUR® Geniax heat distribution system*** is a flexible surface heating and control system which enables appropriate, customised heating in all rooms in residential and non-residential buildings.

The advantages of individual production and the production expertise set standards in manifold technology.

* For more information, see www.geniax.de

EMPUR® Geniax complete manifold

NOTE The water quality requirements according to VDI 2035 must be adhered to!

Wall heating/cooling

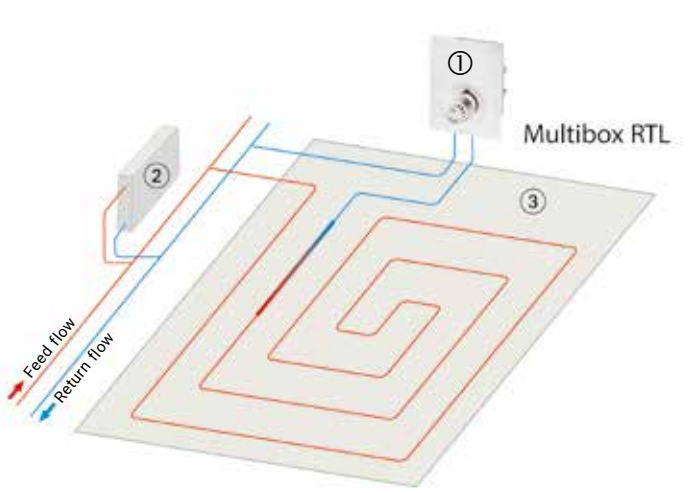
Additional system components

Multibox-RTL individual room control

for the renovation and subsequent installation of underfloor heating in individual rooms, e.g. bathroom. GEG compliant control is possible thanks to the separate detection of the return flow temperature and the room temperature by the thermostat. A simple and low-cost installation that increases comfort and reduces energy costs.

System illustration (example):

Multibox RTL ① in the system return flow of the underfloor heating ③ connected to the return flow temperature limitation in an existing heating system with heating surfaces ②



Manifold accessories

Whether you are installing a low-temperature heating system or you would like to integrate surface heating into a high-temperature heating system. We have the right accessories for you! Here, you will find a selection from our range. Please see our current price list for further components.

Actuator “Economy”

Zone valve

Manifold connection set 90°

1/2" WMZ connection set passageway

Connection set 90° for thermoseparator

Box wrench, open SW 30

Manifold cabinets

Manifold cabinets provide the perfect location for manifolds and control stations. The variants ‘Top Standard’ version as a wall-mounted cabinet and the ‘Exclusiv’ version as a flush-mounted cabinet are available for the conventional assembly.

The large manifolds, control stations and control manifolds are installed in the ‘Top Standard plus’ manifold cabinet for wall-mounting or ‘Exclusiv plus’ for flush-mounting.

Our latest manifold generation offers a significantly reduced assembly effort for specialised trades in combination with the EMPUR® manifold cabinets. With the specially developed **quick manifold assembly technology**, the manifolds are simply suspended in the guide rails of the manifold cabinet and fixed using two fillister head screws.

Additional benefits of the new generation of manifold cabinets include easy connection of the primary connections, time savings when feeding through electrical connection cables and, of course, secure and flexible mounting options.

Manifold cabinet ‘Top Standard’ version

Manifold cabinet ‘Exclusiv’ version

Wall heating/cooling

Additional system components

Control technology

EMPUR® offers innovative and perfectly matched control components as an ideal addition to versatile surface heating systems. We offer cable-bound standard solutions for conventional surface heating, as well as solutions for heating/cooling applications with heat pumps depending on the type of application and installation.

In the case of retrofitting or modernisation, mostly wireless variants are used, which can be combined with modern heat generators.

We offer individual automation options with our Exclusiv modular-designed control technology (wireless/BUS). So you can also control your heating system via smartphone and PC.

The individual product ranges are supplemented using control terminal strips that – depending on the equipment – can also control a circulation pump. Dew point/humidity monitors and digital room temperature controllers with clock function round off the programme.

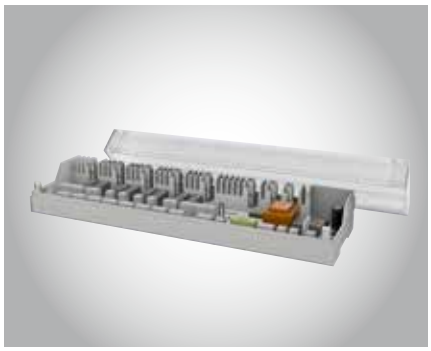
Opposite you will find a selection of our range. Please see our current price list for further components.

Give us a call. We'd be pleased to advise you!

Room operating unit 230 V/24 V analogue standard heating/cooling

Room operating unit 230 V/24 V Standard plus heating/cooling with display

Wireless/BUS room operating unit with display



Control terminal strip Balance heating/cooling 230 V

Humidity monitoring with external sensor

Wireless/BUS base station

Dew point monitor 230 V for top-hat rail mounting

Dew point sensor type 2 for dew point monitor 230 V

Dew point sensor type 3 for dew point monitor 230 V

You can find detailed information in our Control technology brochure.

EMPUR®

Your specialists for surface heating and cooling systems

Expertise, reliability and commitment are **EMPUR**®'s strengths. In addition to the production and sale of high-quality surface heating and cooling systems and components, the company's range of services also includes comprehensive services relating to the planning and installation of our complete systems.

EMPLAN®'s specialist engineers and planning consultants are available to help you with their expertise in demanding property planning in almost all TBE (Technical Building Equipment) areas such as heating, air conditioning, ventilation, plumbing and electrical.

We have bundled our many years of experience in the installation of surface heating and cooling systems into our **EM**SOLUTION® and support tradesmen to complete their construction projects on time.

EMPUR®, **EM**PLAN® and **EM**SOLUTION® together form the **EM**GRUPPE®. Thus, the three core areas of expertise – production, planning and installation – come from a single source.

TBE . PLANNING . CONCEPTS

EMPLAN®

- Planning surface heating and cooling systems for new builds, modernisation projects and customised solutions
- Project planning for heating, ventilation and air conditioning applications, electrical engineering and swimming pool technology
- Creation of performance specifications
- Project planning and designing Geniax projects
- Energy planning and assessment of residential and non-residential buildings (EnEV/GEG certificates)
- Construction supervision for technical building systems

www.em-plan.net

TBE . PRODUCTION . SALES

EMPUR®

- Plastic heating pipes, insulation and composite panels for surface heating and cooling systems for new builds and modernisation projects
- Manifold and control technology
- Geniax heat distribution systems
- Accessories and tools
- Customised solutions for industrial, sports and commercial buildings

www.empur.com

TBE . ASSEMBLY . SERVICE

EMSOLUTION®

- Installation of surface heating and cooling systems in new build and modernisation projects
- Installation of the CUT-THERM® milling system
- Commissioning of Geniax heat distribution systems and heat pump systems
- Service for technical building installations

www.em-solution.de

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