



Kühldecken und Heizungssysteme GmbH & Co. KG.

TO KEEP A COOL
HEAD & WARM FEET



About us

Preface

Single-Ultra

Single-Combi

PP-Meta Plus

PP-Ultra

PP-Meta

PP-Combi

PP-Floor

CU-Meta

CU-Combi

Performance diagrams Ceiling heating systems

Performance diagrams Cooling ceiling systems



Side 03	S&L
Side 04	efficient resource management
Side 05	plastered
Side 06	plasterboard ceilings
Side 07	in metal cassettes
Side 08	plastered
Side 11	in metal cassettes
Side 12	plasterboard ceilings
Side 13	flooring
Side 17	in metal cassettes
Side 18	plasterboard ceilings
Side 19	all systems
Side 21	all systems



S&L is an internationally operating company that is specialising in radiant panel heating and cooling systems, solar systems, heat pumps and further environmentally friendly heat engineering. Since its establishment by the diploma qualified engineer Peter Schober and Thomas Lender in 2003, the company integrates its advanced and energy-saving technologies in residential, industrial and public buildings. Hence, technological solutions of S&L are used in apartments, single-family and apartment

houses, mansions, airports and industrial buildings and a church. The company places particular emphasis on the high durability and the mostly maintenance-free operation of its facilities. Therefore, the used components meet the highest industry standards and are made almost entirely of corrosion resistant and eco-friendly materials. These components can be exchanged at once, but also be implemented gradually and are, thus, optimally adapted to customer demands. Customers from Great Britain, Austria,

Hungary, Russia, Georgia, Greece, Switzerland, Spain, Syria and South Korea are already using and benefiting from the knowledge of the energy specialists from Brusendorf near Berlin. A further expansion is planned as well as the expansion of research and development.



The radiant panel heating and cooling systems of S&L are equipped with a new highly integrative installation concept, which provides markedly efficient and eco-friendly operations. Suitable for a variety of heating and climate requirements for floor, ceiling or wall installation, the systems work completely draught-free. Both heating and cooling is provided by just one pipe system. Since the radiant panel heating and cooling systems of S&L are

designed as minimal constructive and compact capillary systems, they represent ideal heat output systems. They therefore require, for example, only about a quarter of the heating time of usual floor heating systems and work with a minimal flow temperature of only 32 °C when heating. Even at low temperature differences of 10 to 20 °C – the level of cold tap water – the systems reach

their cooling capacity. Already through these conditions they are outstandingly suited for retrofitting. For example, floor heating or air conditioning can be easily retrofitted - without major building alterations in the existing building. Besides the high environmental compatibility due to the low energy consumption, the systems also offer a high degree of environmental compatibility

TO KEEP A COOL HEAD & WARM FEET

at the level of the processed materials. The system components are manufactured from stainless steel and polypropylene. Greenpeace has awarded the synthetic material for its useful economic life of more than 50 years and because it can be disposed residue-free. The metal parts are completely corrosion resistant. Thus, the overall system lasts much longer than regular heating systems with

copper pipes and steals radiators, and the filled-in water does not undergo any loss of quality or significant changes. In addition, the various system specifications are specially adapted to installation in drywall, metal and plaster ceilings or floor coverings such as screed, tiles or parquet. By means of the primary and secondary circuit, which are connected to a heat exchanger, it is possible to

integrate the radiant panel heating and cooling systems into already existing heating systems, and all radiators can be replaced gradually. Therefore, the S&L radiant panel heating and cooling systems can be used universally.

In domestic use, many possible savings are not yet deduced. From just a price – similar to a regular electrical installation – a computerised control of heating and further building equipment and appliances can save energy and resources in a substantial scale. At the same time, the impact of electromagnetic fields and, thus, the electric smog may be reduced. The computerised control of technical equipments facilitates saving energy in many areas and provides a better living atmosphere. By the use of appropriate heating the temperature can be controlled individually. Time of days and seasons as well as the attendance and absence times are automatically controlled. Thus, it is possible to query the weather forecast online and adapt the heating system accordingly. Remote access is possible via web forms or the telephone as well. Together with the Berlin system house TPN, S&L has implemented a whole series of such control systems with telephone systems from Aastra DeTeWe.

To make use of this service, the user only has to dial an assigned number and to tap a specific key. Then, the phone's display indicates whether the heater is switched on or off. Even further domestic technology can be controlled automatically via phone or Internet and be linked functionally. Light sensors, alarm systems, access control, blinds control, control of solar and other alternative energy management systems, water pipelines, lifting stations and the cistern control can be regulated this way. The more components are integrated in the system and linked together; the more effective the control and automation options are as well as the connected savings of energy. To take advantage of computer control; for all switches, key buttons, temperature sensors and control devices simple litz wires can be installed instead



of normal power cables. That way, material can be saved and besides, the electromagnetic fields can be reduced; electromagnetic pollution is, thus, prevented.

All necessary installation works can be done by any electrician. The setting of the system may be carried out by remote access via telephone or Internet access.

www.sl-kuehldecken.com

Single-Ultra is a cooling ceiling system in an aesthetically challenging design. As a closed radiant cooling ceiling, it dissipates sensible thermal loads of about 60% by radiation and of around 40 % by convection. The cooling ceiling consists of mat modules that are laid meandering on site in one piece out of prefabricated air conditioning units. Afterwards they are covered with an approximately 20 mm thick mineral layer of plaster. The mat modules consist of a highly flexible, oxygen-tight, 10 x 1.00 mm thick polybutene pipe, according to DIN EN 12319 SDR 8 with a safety factor > 4.5 at 60 °C, 5 bar and a lifetime > 50 years, suitable for

operating temperatures of up to 80 °C and operating pressures of up to 4 bar. For the power adjustment the several register elements have a meandering pipe installation, with the necessary pipe distance intervals of around 100 mm. The maximum tube length per register element is about 60 m; the tube length difference between registers within a heating-cooling circuit including connections for the air-conditioning water is about 15%. The connections are led beyond the room to the connection points for the supply and return lines that are located in the hallway. There they are connected hydraulically to the cooling ceiling

distributers by means of plug-in connector technology. The attachment of the several registers occurs on site through spacing strips that ensure the parallel distance from each other. According to the laying plan, using an adhesive technique or a fastener with pre-mounted nail, the spacing strips are extensively fastened in the concrete ceiling. The subsequent application of the about 20 mm thick mineral layer of plaster needs to be made staggered in time but immediately afterwards on site. Desired recesses for lamps or the like are applied by pulling apart the air-conditioning pipes.



Single-Combi is a contact cooling and ceiling heating system in an aesthetically challenging design, which dissipates sensible thermal loads of about 60% by radiation and of about 40 % by convection. Made for mounting in plasterboard ceilings, the air conditioning register units consist of highly flexible, oxygen-tight polybutene pipe with a thickness of 10 x 1.0 mm – according to DIN EN 12319 with a safety factor > 4.5 at 60 °C, 5 bar and a lifetime > 50 years, suitable for operating temperatures up to 85 °C and operating pressures up to 4 bar. The air conditioning register units are integrated on site in extensively dimensioned heat conducting profiles, so that a maximum optimal contact and, thus, the maximum heating and cooling capacity to the gypsum plasterboard are guaranteed. A specially-built profile rail, which holds the heat conducting profiles by means of a contact-pressure rubber, provides the optimal heat-conducting contact between the plasterboard and the cooling ceiling system. The ready-made air conditioning register units form a single self-contained flush-mounted entity. For the power adjustment the several register elements have a meandering



pipe installation, with the necessary pipe distance intervals of around 50 mm. The maximum tube length per register element is up to 50 m; the tube length difference between registers within a heating-cooling circuit including connections for the air-conditioning water is about 15%. Due to the possible on site installation, the system is especially characterised by its high flexibility. Within the ceiling voids, the connections of the air condi-

tioning register units are connected hydraulically to the cooling ceiling sub-distributors, by means of plug-in technology. Then, the cooling ceiling sub-distributors are connected to the main distributor or to the provided intersection point.





This is a heating and cooling ceiling. As a closed radiation ceiling it is used for on site installation of smooth or perforated metal ceilings. As a closed air conditioning ceiling, it dissipates sensible thermal loads of about 60% by radiation and of about 40% by convection.

The cooling register units consist of oxygen diffusion tight plastic tube registers (can be used instead of cop-

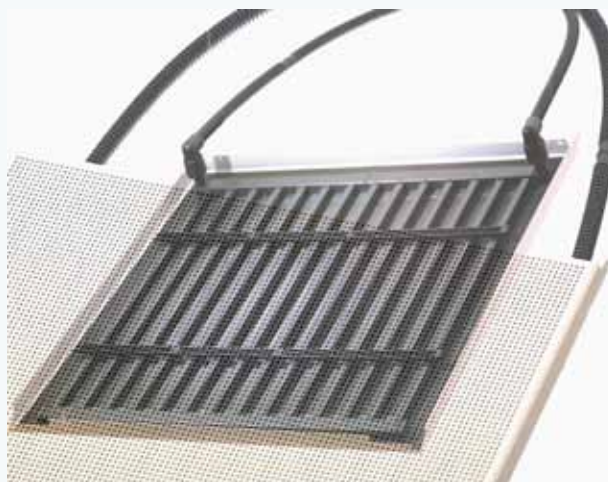
per registers), which are suitable for operating temperatures up to 70°C and operating pressures up to 4 bar.

The cooling register units may be incorporated in various sizes into respective ceiling cassette types. The bottoms of the cooling registers are pre-assembled with a special adhesive tape and can be installed into the metal cassettes on site.

This way, the maximum optimal contact to the metal ceiling panel is guaranteed. Prefabricated in manageable size, the cooling register units form a self-contained flush-mounted entity.

The several cooling registers are connected hydraulically to one another using flexible plug-in hose fittings.

TO KEEP A COOL HEAD & WARM FEET



PP-Ultra on bare concrete

This heating and cooling ceiling system is made of plastic capillary tubes, which are integrated into the ceiling near the surface. Executed as a plaster ceiling, the capillary tube mats are installed into a layer of plaster, which is about 15 mm thick. Before plastering, the residual moisture of concrete needs to be checked and only at the residual moisture of 3% in the concrete core a primer has to be applied first. At higher moisture content in the concrete appropriate measures have to be taken into consideration. For a safe and satisfying grip on the bare concrete, without any air inclusions, the plaster has to be applied across its entire surface and

the capillary tube system has to be fitted in and to be covered with another layer of plaster. This processing takes place before the setting of the plaster layer, within a maximum of an hour. Thus, optimal heat conduction is given by the capillary tube system to the plaster, to achieve the highest possible cooling capacity. To ensure the maximum layer thickness of 15 mm and a single-layer plastering the capillary tube system with the capillary of 4.3 mm is used. According to DIN 188550 T.2, in the case of plaster thicknesses > 15 mm a plaster base grid (e.g. Armant, Stukkanet) is to dowel to the rough ceiling. Only the capillaries may be integrated inside the plaster, main distributors

and connections are integrated in the ceiling void. To reduce pressure loss and prevent damages, an increased capillary of 4.3 x 0.8 mm is used. Thus, the system can be flushed and bled quickly. The cooling ceiling system is cooled by water. The distributor tubes of the capillary tube mats are laid in the ceiling void of the hallway. The supply lines run through the intermediate ceilings of the hallways, where the regulating units are installed and the mats are connected.



PP-Ultra Folimat on bare concrete

This heating and cooling ceiling system consists of mat modules which are applied directly on the rough ceiling and are smoothed by a filling compound. The capillary tube mats are installed in a slotted carrier foil. The flexible mats are connected in a ceiling void through plug-in connectors or by socket welding to each other or with the pipeline network. Main collectors are laid in grooves of walls or ceilings, in the ceiling void of the hallway or behind wall strips (if applicable behind stucco strips). There, the feed line can also be installed or elsewhere invisible. Feed lines, which are installed in the void of an intermediate ceiling, are connected through plug-in connectors or by socket welding to each other and with the pipeline network. The mats are connected according to the Tichelmann principle. Before the system is sealed in the ceiling it needs to be compressed under a pressure of 10 bar, to be filled with water and to be vented. Afterwards, a pressure test under 10 bar is to be taken according to company standard. Then, the cooling ceiling system is to be pressure-tested before it is to be sealed. While sealing the ceiling, the heating and cooling ceiling system needs to be kept under the test pressure. After

priming with a basecoat, the carrier foil (with the integrated Clina capillary tube

10 mm. The mats in the carrier foil can be rolled like usual wallpapers and be



mats) is bonded to the firm and dry surface with filler substance. Afterwards, the mats are installed on the ceiling while applying adhesive filler substance with a toothed trowel with a tooth size of

pressed on. Levelling and smoothing of the filler is done by a trowel. Using filler substance also ensures a smooth base for paint coating or paperhanging.



PP-Ultra and PP-Ultra Folimat on drywall ceiling

This heating and cooling ceiling system consists of mat modules that are fastened under a drywall ceiling and covered with an approximately 10 mm thick layer of plaster. The heating and cooling ceiling consists of a plasterboard ceiling with substructure, capillary tube mats and a mineral plaster layer. The suspended ceiling has to be

designed in accordance to the additional load of the plastered-in cooling system. The piping of the entire system is made in the ceiling void of the suspended ceiling. The flexible mats are connected in a ceiling void through plug-in connectors or by socket welding to each other or with the pipeline network. Then, the finished suspended plasterboard ceiling

is installed and the capillary tube mats are fastened with staples on it. In so doing, the capillaries are guided through a slot in the ceiling. Desired recesses for lamps and ventilation grills are applied by pulling apart the capillaries.



TO KEEP A COOL HEAD & WARM FEET



This system consists of mat modules. These are made of parallel guided capillary tubes that are incorporated homogeneously into the oval distributor/collector. Furthermore, they have a modular form with mutual welded quick fasteners (plug-in system) for a connection to the supply and return line by means of two pieces of flexible tubes. Because

of the oval distributor an increased bearing surface and a lower height of the complete built-up is guaranteed. The maximum installation height of the module, including a plug-in connector, is 33 mm. The plug connector is made of a plastic claw ring which is guided in a plug-in sleeve. That way, the sealing o-ring is protected from damage by twis-

ting and tilting while inserting the flexible tubing. Spacing strips ensure the parallel distance between the isolated capillaries. Due to the small inner diameter, the flexible capillary tubes are self-purging.



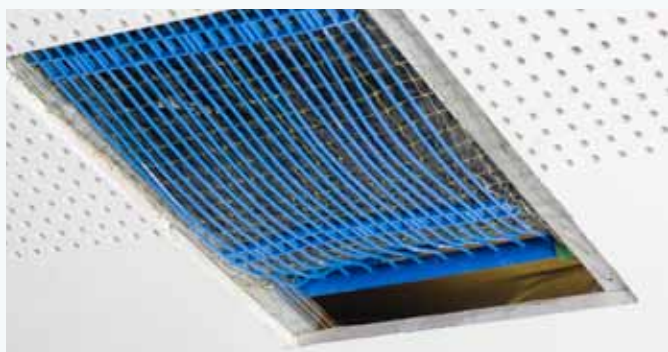
TO KEEP A COOL HEAD & WARM FEET



PP-Combi is a cooling ceiling system in an aesthetically challenging design. As a closed radiant cooling ceiling, it dissipates sensible thermal loads of up to 60% by radiation and of up to 40 % by convection. The cooling ceiling consists of polypropylene mat modules that are integrated into a drywall ceiling between the support profiles. It is intended for the use with gypsum plasterboards which consist of 10 mm thick thermal plaster boards with substructure (on site by Gewerk Trockenbau). The cooling ceiling

system is made of capillary tube mats with a hook-in system to the substructure. Mat modules are made of parallel-guided capillary tubes, which are incorporated homogenously into the distributor/collector. For an all-over support and, thus, optimal heat conduction, they are made in modular form. For the same purpose, they are provided with open welding ends or plug-in connections and prefabricated with backing fabrics. Spacing strips (Omega strips) ensure the parallel distance between the isolated capillari-

es. Due to the small inner diameter, the flexible capillary tubes are self-purging.



Material:	polypropylene random copolymer
Colour:	blue
Module width:	500 or 1000 mm
Mat length:	up to 6000 mm
Main pipe:	20 x 2 mm
Capillary tube:	4.3 x 0.8 mm – type Optimat
Structural form:	with a mesh
Capillary tube distance:	30 mm
Water content:	0.16 l/m ² mat surface
Module weight empty:	290 g/m ²
Module weight filled:	450 g/m ²



To ensure that the required even pressure loss is guaranteed within the mat surface, the capillary tubes have a low permeability. Moreover, because of the reduced crystallinity of an extraction-stable polymer, a high flexibility is also given at low operating temperatures. The capillary tube mats are fastened with open welding ends to the already

installed substructure. Thus, several mats can get interconnected above the profiles and are connected as one zone to the service connection. Through a special hook-in system, the integration takes place between the profiles. Then, insulation has to be integrated on the mats, between the profiles. Recesses for lamps and ventilation grills are ap-

plied by pulling apart the capillaries. Alternatively, by means of flexible tubing the mats can be connected directly to the service connection via a push-lock connector. Similarly, several mats can be connected by factory-made welding and double nipples to one module.

The PP-Floor heating is a complete heating system. Due to variation of the heating water supply and return temperatures, the required heat flow densities can be adjusted in the res-

pective rooms. According to DIN 18195, any necessary moisture barrier layers (PE Foil) need to be present as well as a heat and impact sound insulation, according to DIN 18164. For this purpose,

insulation with an applied foil lamination must be laid. In order to prevent the intrusion of moisture, the joints of adjoining insulation panels are to be glued closely.

Variation A (capillary tube mats in flowing screed)

The in-screed integrated capillary tube floor heating is a wet-laying system according to DIN 4725 (type A3 DIN 18560 part 2). The capillary tube mats consists of parallel running capillary tu-

bes (4.3 x 0.8 mm) which are incorporated homogenously into the collector. The delivery is made in modular form with reciprocal links for supply and return. The material consists of copoly-

meric polypropylene. Spacing strips (Omega strips) ensure the parallel distance between the isolated capillaries.

Material:	polypropylene random copolymer
Colour:	blue
Module width:	500 or 1000 mm
Mat length:	up to 6000 mm
Main pipe:	20 x 2 mm
Capillary tube:	4.3 x 0.8 mm – type Optimat
Structural form:	with a mesh
Capillary tube distance:	30 mm
Water content:	0.16 l/m ² mat surface
Module weight empty:	290 g/m ²
Module weight filled:	450 g/m ²



The flexible capillary tube mats are connected by socket welding to each other and to the pipeline network. Main collectors and pipelines are laid in the recess of the previously installed heat and sound impact insulation. The capillary tube mats continue to be rolled up. Then, the PP-Floor capillary tube system

is filled with water, rinsed and tested to a pressure of 10 bar, according to the instructions provided by the manufacturer. During the further work, the PP-Floor capillary tube system should be left under test pressure. Right before the placement of the flowing screed, the PP-Floor capillary tube mats that are fitted with a

mesh are rolled out. And using clips, they are fixed to the heat and sound impact insulation to prevent them from “floating”. Then, the flowing screed is applied.

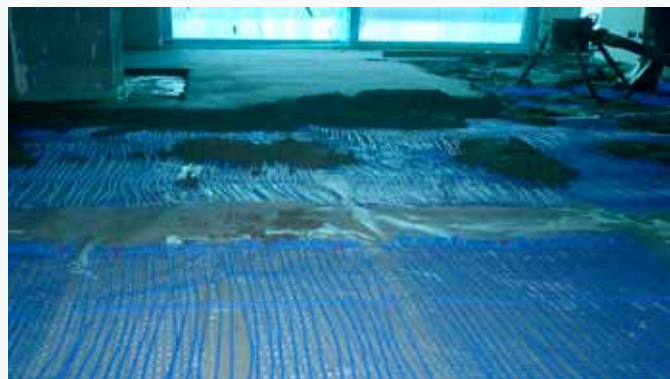


Variation B (capillary tube mats in cement screed)

The in-screed integrated capillary tube floor heating is a wet-laying system according to DIN 4725 (type A1 DIN 18560

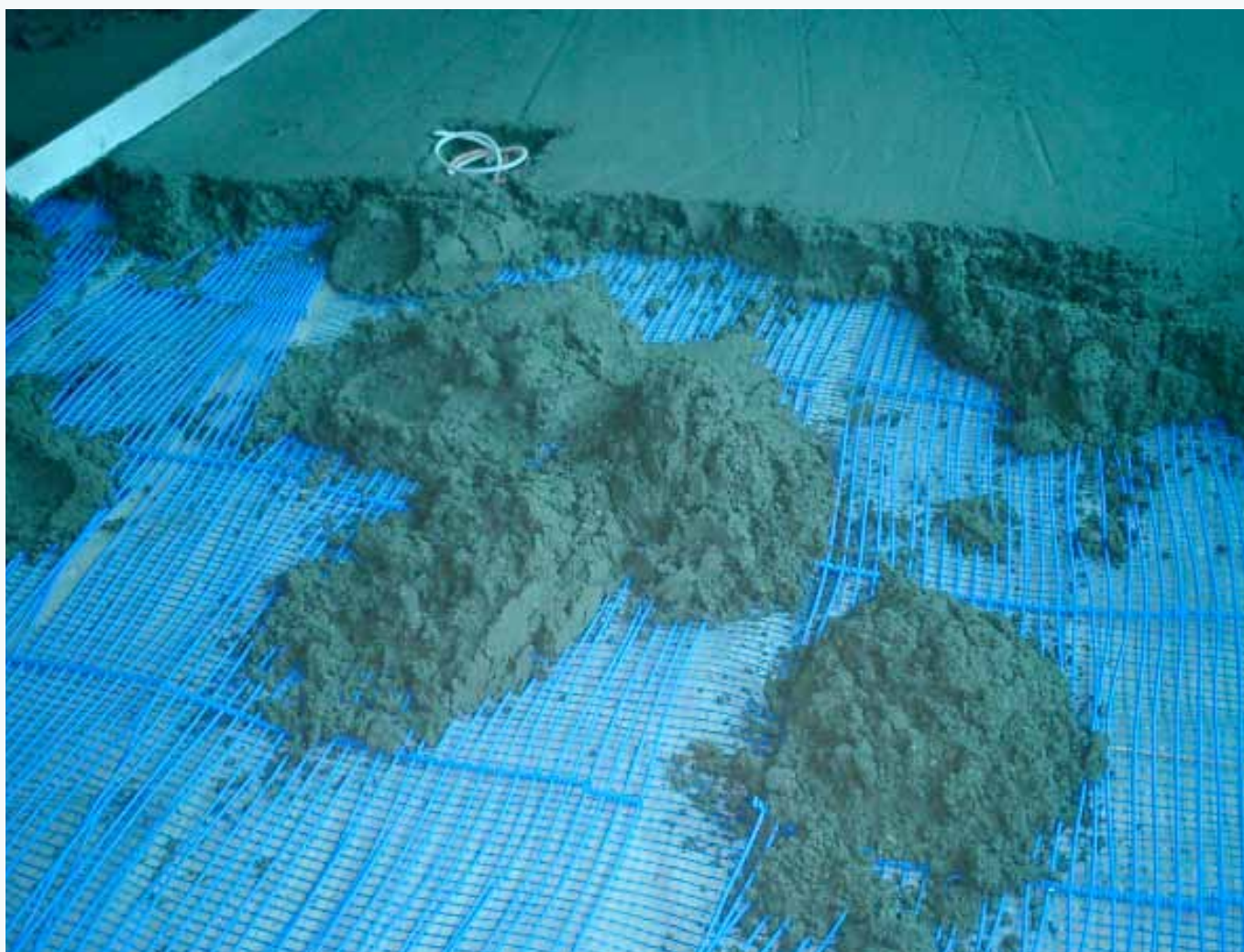
part 2). Right before the placement of the screed, the capillary tube mats are rolled out. At the end of the mat, they are fixed

to the heat and sound impact insulation. Afterwards, the cement screed is applied.



Material:	polypropylene random copolymer
Colour:	blue
Module width:	500 or 1000 mm
Mat length:	up to 6000 mm
Main pipe:	20 x 2 mm
Capillary tube:	4.3 x 0.8 mm – type Optimat
Structural form:	with a mesh
Capillary tube distance:	30 mm
Water content:	0.16 l/m ² mat surface
Module weight empty:	290 g/m ²
Module weight filled:	450 g/m ²
Testing pressure:	20 bar

TO KEEP A COOL HEAD & WARM FEET



Variation C (capillary tube mats on wood and dry floor elements in perforated carrier foil Folimat)

This capillary tube floor heating is particularly suitable for old-building renovation and modernisation. Thereby, the capillary tube mats are bonded directly onto an existing, load-bearing wood or dry floor or the like. Subsequently, they

are poured into a flexible levelling or filling compound which is suitable for floor heating. The capillary tube mats consist of parallel running capillary tubes (4.3 x 0.8 mm) which are incorporated homogeneously into the collector.

Delivery is made in modular form with reciprocal links for supply and return, the material consists of copolymeric polypropylene. The capillaries are installed in a perforated carrier foil (Folimat).

Variation D (capillary tube mats on screed in perforated carrier foil Folimat)

This floor heating is also particularly suitable for old building re-

novation and modernisation. The capillary tube mats are integrated in a

perforated carrier foil (Folimat) that is bonded directly to the fully cured screed.



The flexible capillary tube mats are connected by socket welding to each other and to the pipeline network. Main collectors and pipelines are installed in corresponding slots, recesses or in hollow spaces below the flooring or the like. The capillary tube mats continue to be rolled up. Then, the PP-Floor capillary tube system is filled with water,

rinsed and tested to a pressure of 10 bar, according to the instructions provided by the manufacturer. During further work, the PP-Floor capillary tube system must be left under test pressure. When the wooden floor or the dry screed has been treated with primer and is rolled out, the capillary tube mats in the carrier foil (Folimat) are bonded over their

entire surface with a flexible adhesive. After further priming, the heating mats in Folimat are poured into a flexible levelling or filling compound which is suitable for wooden floors, dry construction floors and cementitious foundations.



Material:	polypropylene random copolymer
Colour:	blue
Module width:	600 mm
Mat length:	up to 6000 mm
Main pipe:	20 x 2 mm
Capillary tube:	4.3 x 0.8 mm – type Folimat
Carrier foil:	perforated
Capillary tube distance:	20 mm
Water content:	0.32 l/m ² mat surface
Module weight empty:	1000 g/m ²
Module weight filled:	1320 g/m ²

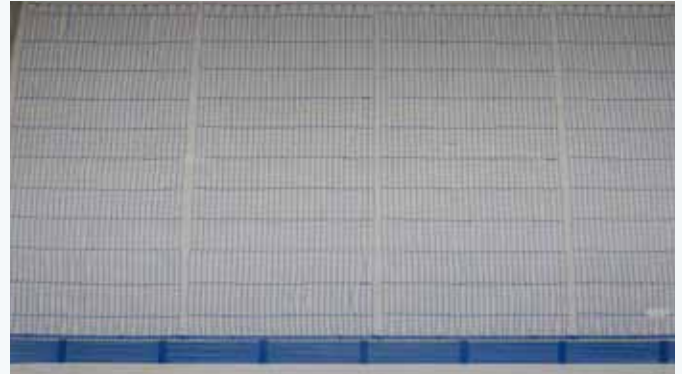
Variation E (capillary tube mats on wall plaster - wall heating/cooling)

This wall heating is a wall radiant heating system that is suitable for new buildings and old buildings renovation. Here, the capillary tube mats are attached directly to the wall and plastered. The capillary tube mats consist of paral-

lel running capillary tubes (4.3 x 0.8 mm) which are incorporated homogeneously into the collector. Delivery is made in modular form with reciprocal links for supply and return, the material consists of copolymeric polypropylene. Spacing

strips (Omega strips) ensure the parallel distance between the isolated capillaries.

Material:	polypropylene random copolymer
Colour:	blue
Module width:	500 or 1000 mm
Mat length:	up to 6000 mm
Main pipe:	20 x 2 mm
Capillary tube:	4.3 x 0.8 mm – type Optimat
Structural form:	with or without a mesh
Capillary tube distance:	30 mm
Water content:	0.16 l/m ² mat surface
Module weight empty:	290 g/m ²
Module weight filled:	450 g/m ²



The flexible capillary tube mats are connected by socket welding to each other and to the pipeline network. Main collectors and pipelines are installed in corresponding slots, recesses or in hollow spaces below the flooring (see instructions). Then, the PP-Floor

capillary tube system is filled with water, rinsed and tested to a pressure of 10 bar, according to the instructions provided by the manufacturer. During further work, the PP-Floor capillary tube system must be left under test pressure. Afterwards, the capillary tube mats

are fixed to the wall by means of dowel cable clamps and then plastered. In doing so, the capillary tube mats are completely embedded in the plaster.

TO KEEP A COOL HEAD & WARM FEET



This contact cooling ceiling and ceiling heating system operates according to the principle of radiation and is used for on site installation of smooth or perforated metal ceilings. Sensible thermal loads are dissipated of about 60% by radiation and of about 40 % by convection. The cooling register units that are factory-made are incorporated thermally into extensively dimensioned aluminium extrusion profiles. At the bottom, the aluminium extrusion profile is pre-assembled with a special adhesive tape. This way the maximum, optimal contact to the metal ceiling panel is guaranteed. The



cooling register units are prefabricated in a manageable size. The ready-made air conditioning register units form a single self-

The cooling register units consist of a copper pipe that is oxygen diffusion tight and eddy current-tested according to DIN EN 12375-2, which is suitable for operating temperatures up to 70 °C and operating pressures up to 6 bar.

Material:	copper pipe
Dimension:	10 x 0.6 mm
Pipe division:	65 mm
Water content:	0.90 l/m ² cooling register surface
Module weight empty:	6.5 kg/m ²
Module weight filled:	7.5 kg/m ²

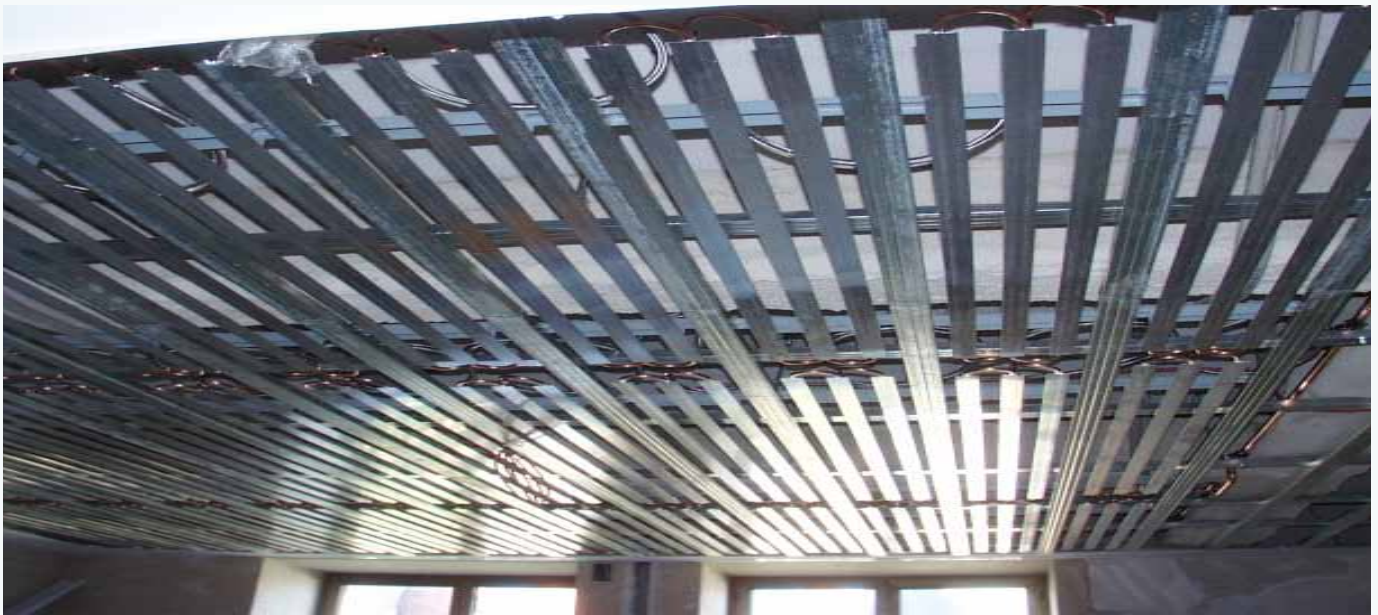


This system consists of incombustible components. As a closed radiant ceiling it is used for on site installation of smooth plasterboard ceilings. Sensible thermal loads are dissipated of about 60% by radiation and of about

40 % by convection. The cooling register units that are factory-made are incorporated thermally into extensively dimensioned aluminium extrusion profiles. The delivery package includes special mounting holders, through which

the cooling registers can be hooked professionally in the substructure.

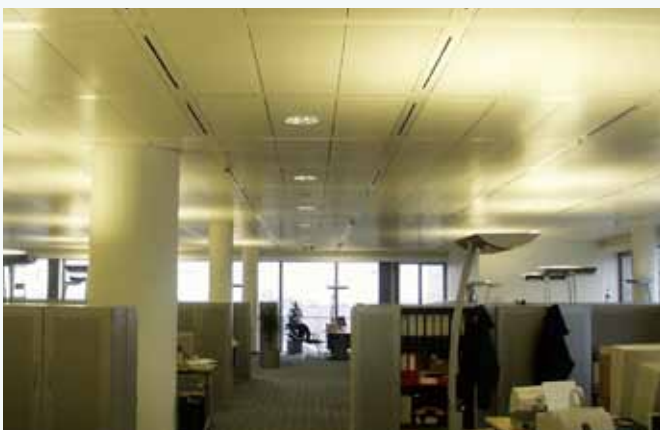
TO KEEP A COOL HEAD & WARM FEET



This way, the maximum optimal contact to the gypsum plasterboard is guaranteed. For the power adjustment the several register elements have a meandering pipe installation. The maximum tube length per register element is up to 30 m. The overall construction is designed

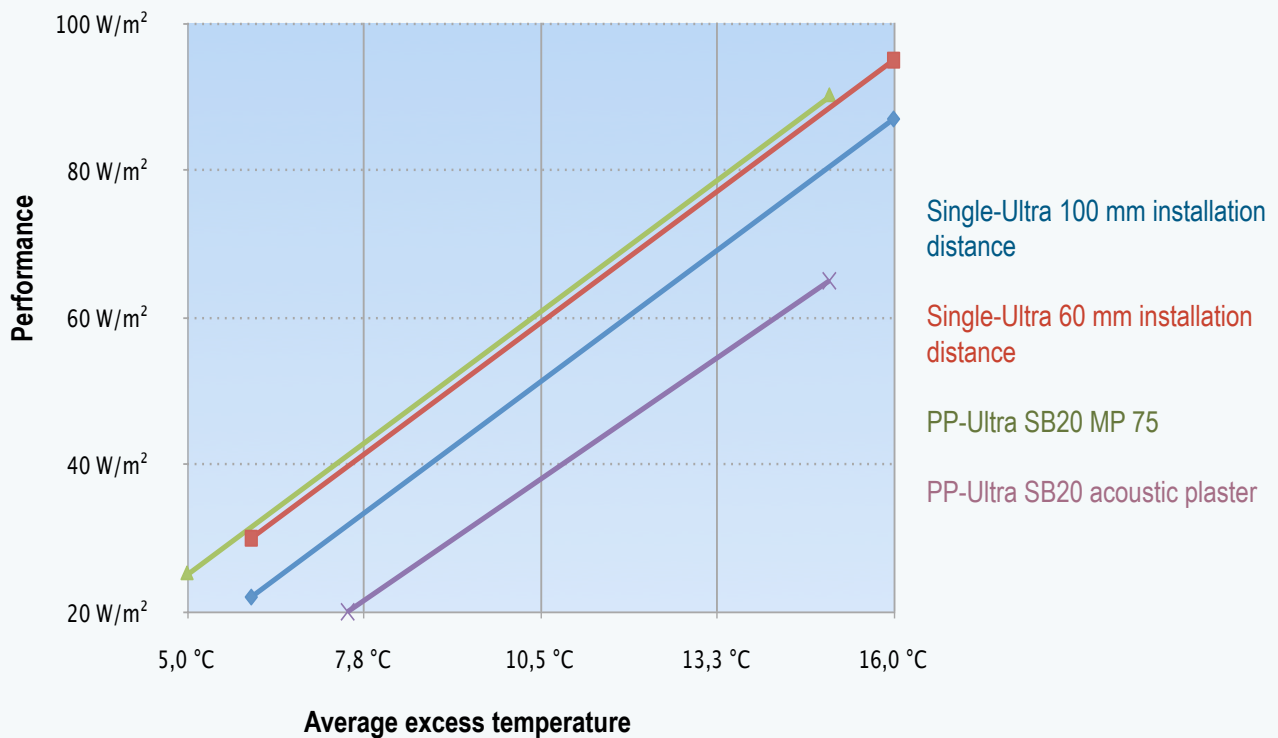
such that planking elements are not bolted to the heat conducting profiles of the copper serpentine pipework but exclusively to the sub-structure profiles. This construction results in a flexible adjustment of the register units to thermal expansions by what hairline cracks can be

avoided on the ceiling surface. The cooling register units are deburred at the factory, calibrated and tested hydraulically.



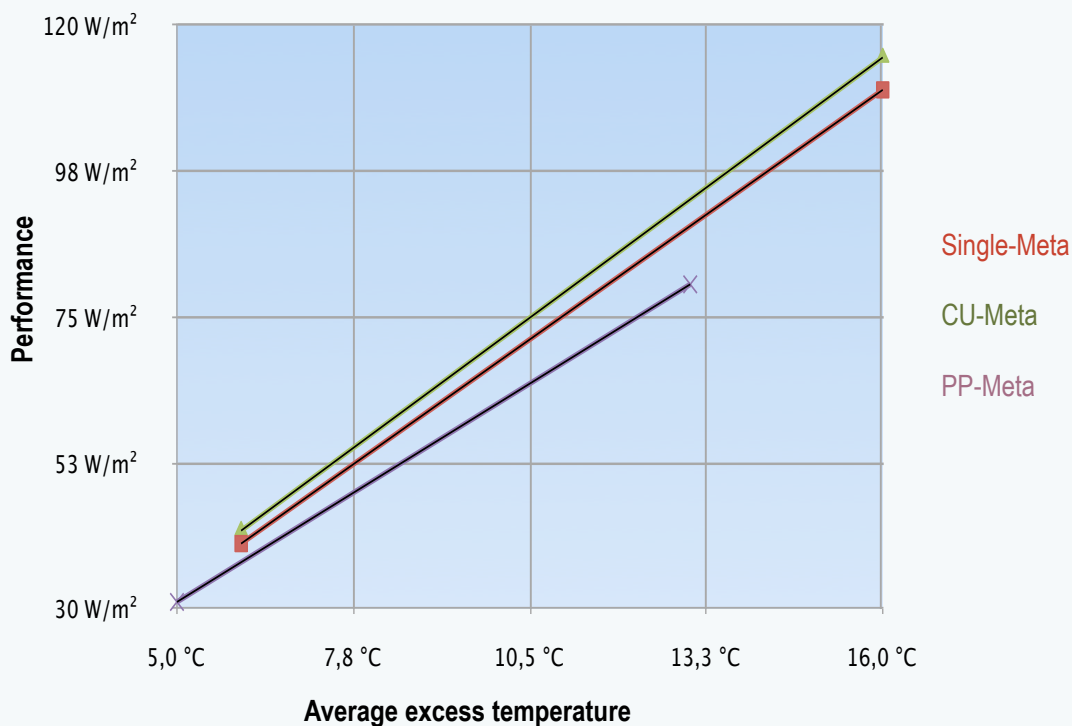
Performance diagrams: ceiling heating systems

Plaster ceiling heating

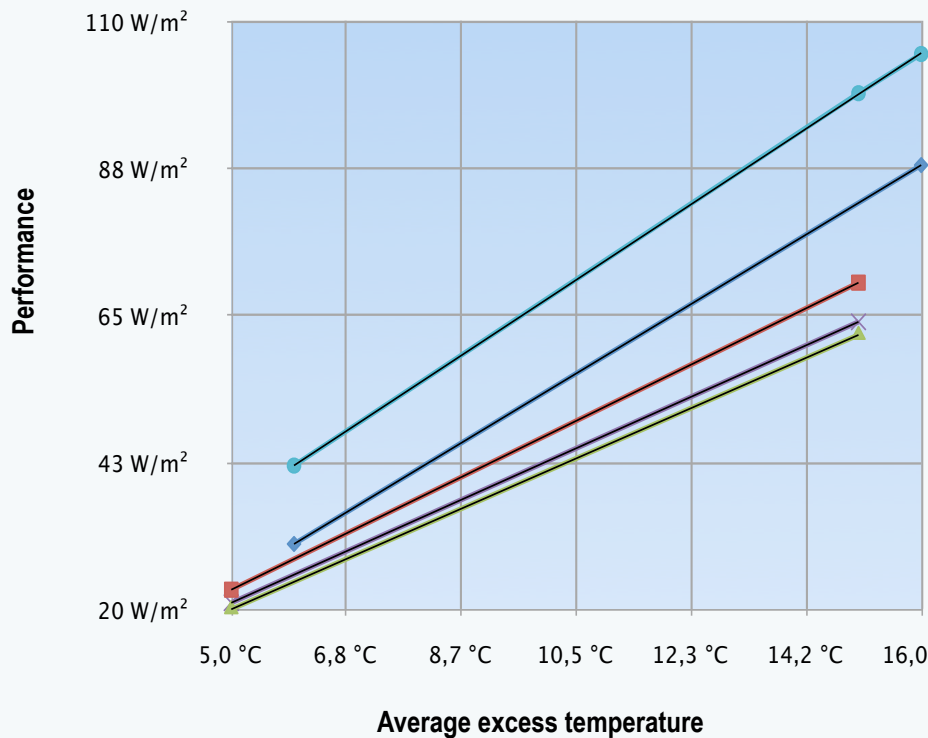


TO KEEP A COOL HEAD & WARM FEET

Metal ceiling heating



Gypsum plasterboard ceiling heating



Single-Combi

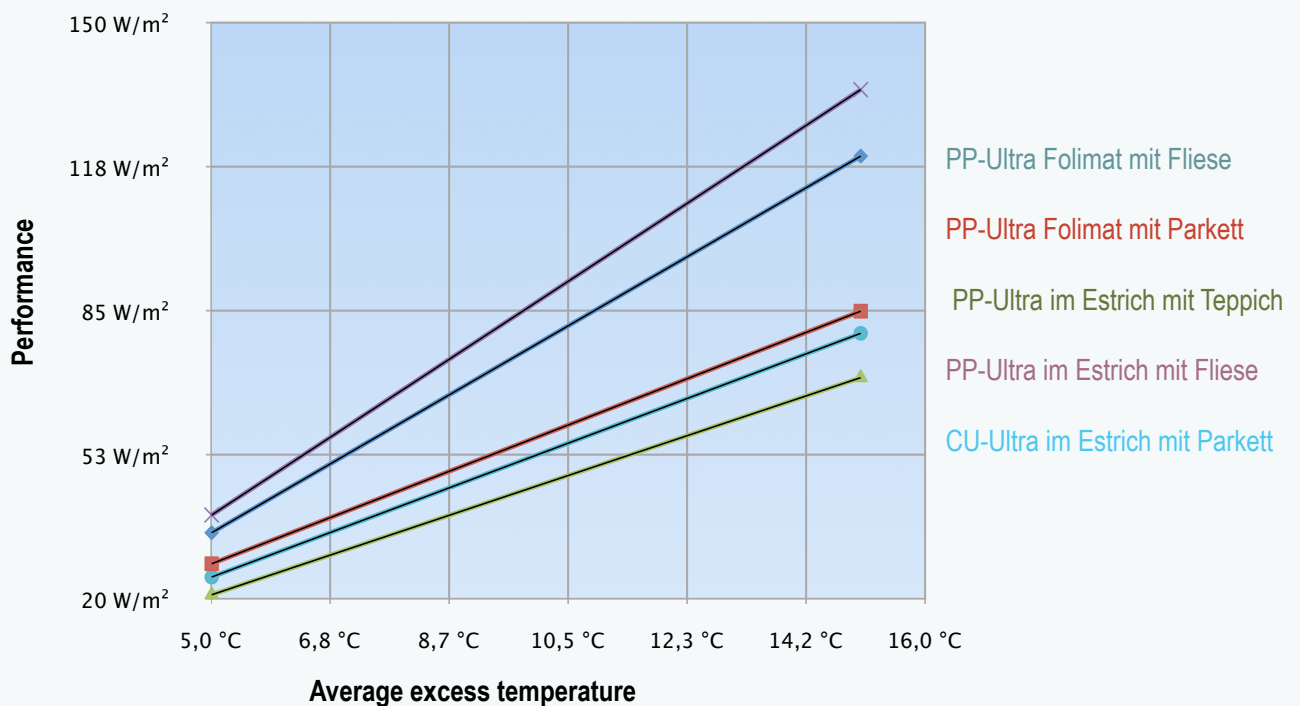
PP-Combi 10 mm imperforated thermal board

PP-Combi 12.5 mm perforated gypsum plasterboard

PP-Combi 12.5 mm perforated gypsum plasterboard with acoustic plaster

CU-Combi

Floor heating



PP-Ultra Folimat mit Fliese

PP-Ultra Folimat mit Parkett

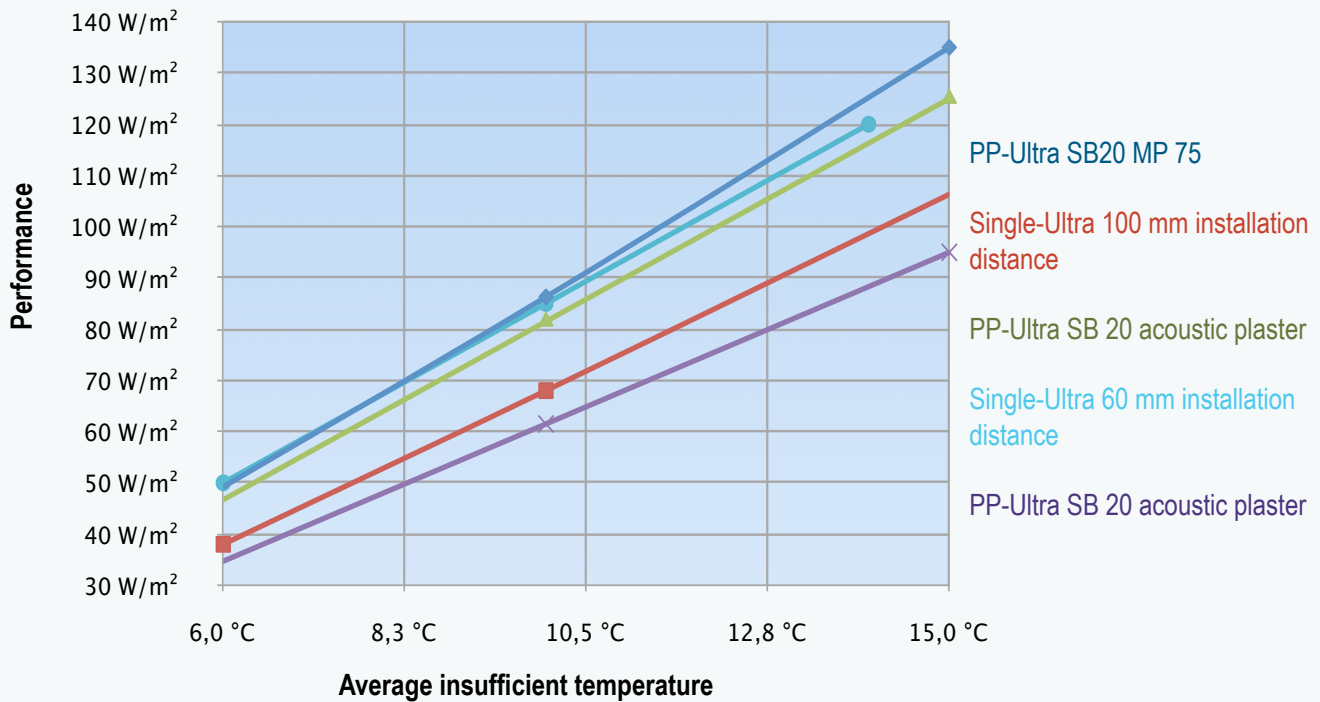
PP-Ultra im Estrich mit Teppich

PP-Ultra im Estrich mit Fliese

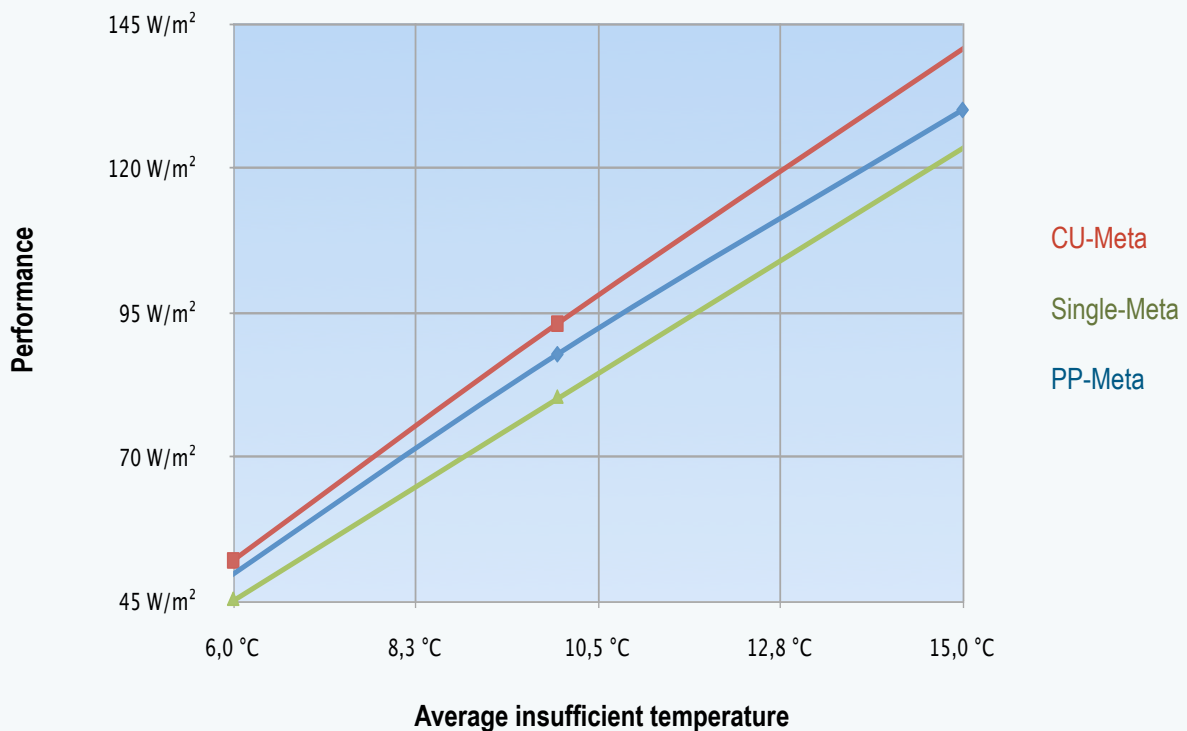
CU-Ultra im Estrich mit Parkett

Performance diagrams: cooling ceiling systems

Plaster cooling ceiling

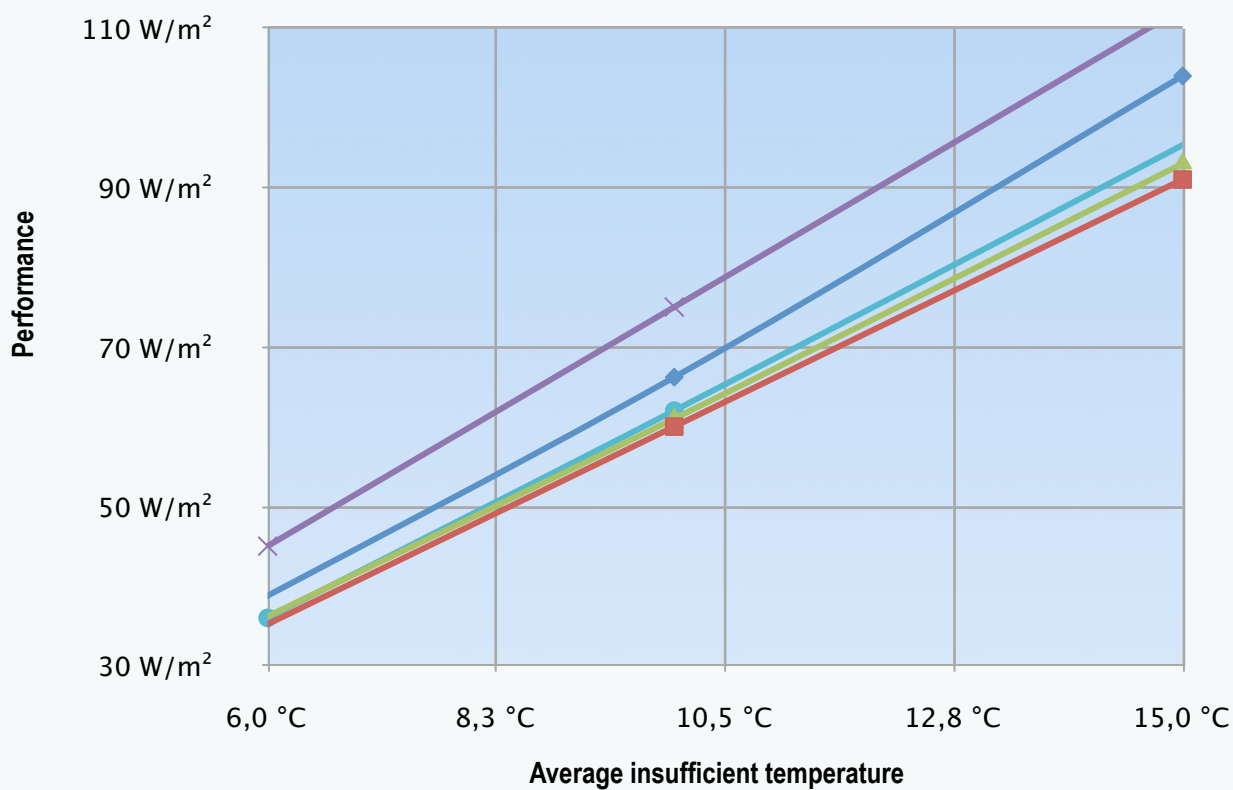


Metal cooling ceiling



TO KEEP A COOL HEAD & WARM FEET

Gypsum plasterboard cooling ceiling



CU-Combi

PP-Combi 10 mm imperforated thermal board

PP-Combi 12.5 mm perforated gypsum plasterboard

PP-Combi 12.5 mm perforated gypsum plasterboard with acoustic plaster

Single-Combi



Imprint

Contact |

S&L

Kuehldecken und Heizungssysteme GmbH & Co. KG
Thomas- Müntzer- Straße 6
15749 Mittenwalde OT Brusendorf

Phone: +49 (0) 33764 23408

Fax: +49 (0)33764 23418

E-Mail: mail@sl-kuehldecken.com

Internet: www.sl-kuehldecken.de

Concept & graphic design |

B&M Service

Guido Lehmann

Große Hamburger Strasse 16

10115 Berlin

E-Mail: BMS_Lehmann@t-online.de

