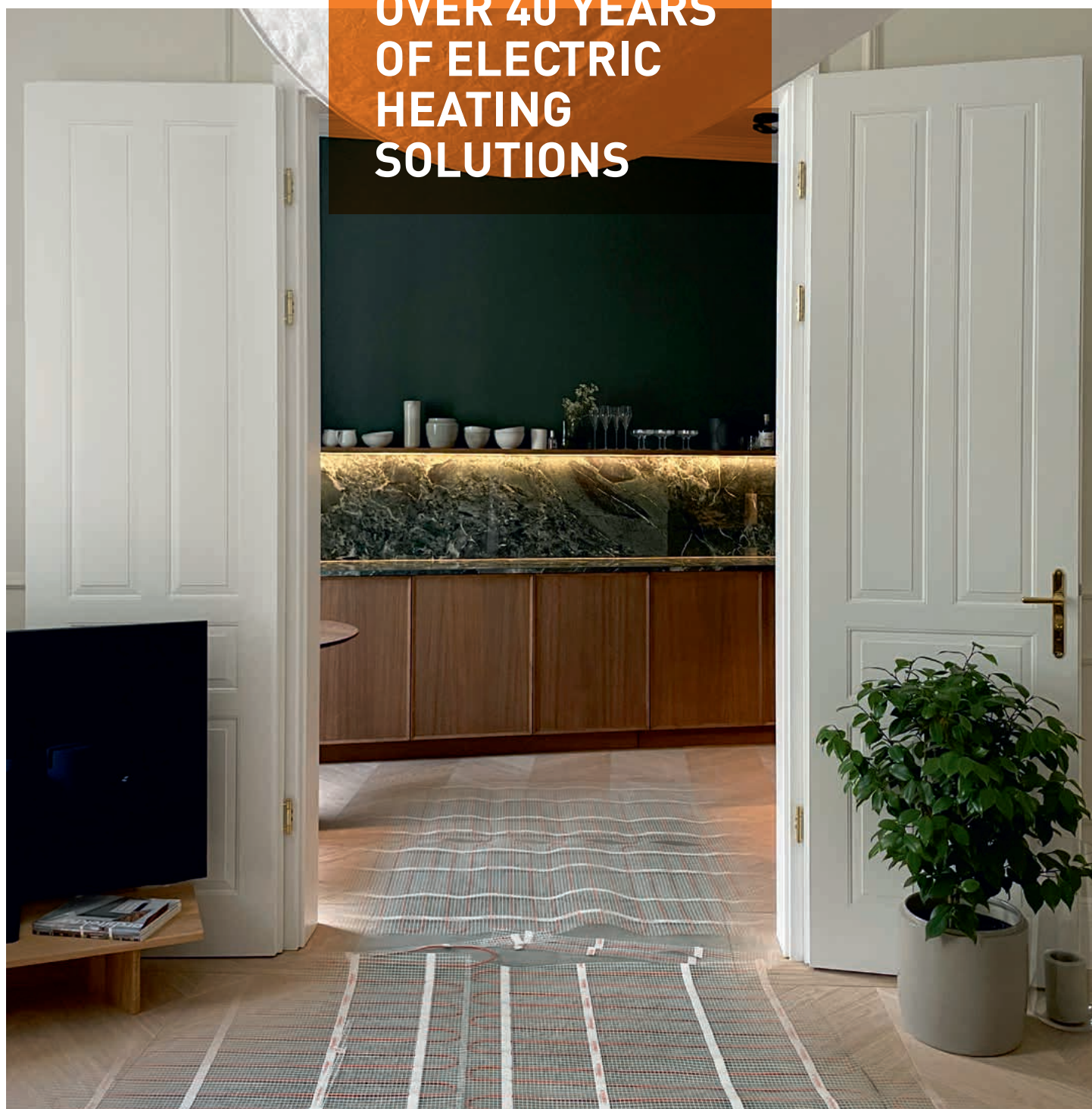


REFERENCE BOOK

OVER 40 YEARS
OF ELECTRIC
HEATING
SOLUTIONS



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ETHERMA REFERENCES



ETHERMA is about people and their demands on us. Projects always have a challenge as their origin and for this we seek the best solution.

In this collection we show you an impressive spectrum of innovative power, performance and future solutions. With this collection, we want to show you all the possibilities with our INGENIOUS HEATING. We give you insights into projects that open up new perspectives. We focus on areas of application in which first-class results are achieved with our products.

On the following pages, we show you reference projects - small, medium, and large, in any case intelligent and effective. They document our diversity as well as our individualization and special solutions.

ETHERMA is always customized and perfectly matched to the special requirements of our customers. Always Made in Austria. And because our ingenious heating is often invisible, we give you real professional insights with exclusive product information.

This reference book is intended to be an inspiration for all those who want to bring warmth into a house and are fully committed to the future. For builders, planners, architects, and all people who are already thinking about tomorrow today.

We wish you a brilliant read.

A stylized, handwritten signature in black ink, appearing to read 'J. J. J.' or similar, with a long horizontal stroke underneath.

ALWAYS A PIONEER

OVER 40 YEARS OF EXPERTISE, INNOVATION AND A PASSION FOR THE FUTURE.

More than 40 years ago, a man stood at the Kaprun storage power station, where others just marvel at the building and the immense energy of the water. And he had an ingenious idea: clean and direct heating. With electricity from hydropower.

Peter Reiter was fascinated by the pure energy from water. Today one would say: He got into the flow and turned his vision into reality. In 1981, he and his company ETHERMA began to heat floors directly by means of electricity, without energy loss and without boilers. Entire buildings were heated with his invention. His motto: Let's go into the future!

On to the new generation! Thomas Reiter takes over from his father and further strengthens the ETHERMA values: creativity, development strength, service, know-how and absolute quality Made in Austria. To this end, he and his team are constantly mixing innovation and design. In addition, ETHERMA is entering the new markets of Germany, Benelux, Nordics, Spain and the UK.

Services and products are on top level because all experience values are implemented as quickly as possible. For individuality and customization, for single-family homes and industrial buildings, for renovation of old buildings and modern architecture, for hotel complexes and company headquarters. The range is getting bigger and bigger, the customer list as well as the own demands are increasing.

As a professional company of the future, ETHERMA develops indoor and outdoor solutions and constantly pushes the motto „Ingenious Heating“. All the way to the ZERO EMISSION HOME. As a strong and secure partner that offers solutions worth living for: Ecological and economical, sustainable and future-oriented, safe, self-sufficient with PV systems and healthy, thanks to infrared heat. „Our customers can trust our ingenious heating solutions at any time and are always one step ahead of their time“, says Thomas Reiter. On into the future!

THE PHILOSOPHY

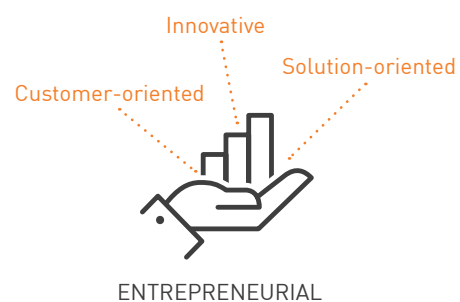
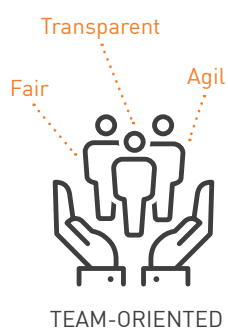
CO₂-FREE HEATING TO PROTECT THE FUTURE OF OUR EARTH FOR GENERATIONS TO COME.

ETHERMA is a family business that has been developing and producing innovations of ingenious heating for over 40 years. Because above all, efficient and effective innovations are shaping the future - both ecologically and economically.

Our commitment and our strength as a full-service provider ensure that all our customers have decisive expertise for the challenges of today and tomorrow.

Our vision and values are not only very clear, but above all binding. Because they give us decisive security in all projects. They open up the view ahead and the space for ever new ideas that contribute to tomorrow's success.

We create ingenious heating for future generations and focus on real values:





LOCATION

Vienna,
Austria

SERVICE

Consulting,
project planning,
laying plan



FACTS

Product(s): Underfloor heating
under tile and parquet

Installed kW output: 8.7 kW

Application(s): Renovation of an old
building apartment, 18th district
Vienna

Installation: 2021



WHEN THE FUTURE MOVES INTO OLD WALLS

A SMALL DIAMOND IN THE ROUGH IN GRINZING,
A WOMAN WITH VISION, TASTE AND AMBITION,
A LIVING EXPERIENCE OF THE MOST MODERN KIND.

Living, renovating, interior design & lifestyle, these are the topics that Mag. Marietta Kiesling covers professionally. Live and on her Instagram account „vonmuto.living“. She plans, accompanies and documents projects in residential and commercial real estate. From the idea to the implementation, and with extraordinary pleasure.

The project „Salon Mignon“ in the 18th district in Vienna is also a highlight: a classic old building apartment, 70 m². The task: general renovation. As always, Marietta Kiesling relies on renowned quality partnerships: „I have already used electric floor mats from ETHERMA several times in bathrooms. With the Salon Mignon it concerns however the entire dwelling, i.e.: ETHERMA is the only heating source.“

All parameters are included in the renovation calculation: Installation, installation height, efficiency, cost, maintenance-free, sustainability, safety and, of course, design specifications. The entire apartment is gutted. Windows, doors, floors, electrics, sanitary and heating installations - all new. The decision was made: no gas! Instead, a modern, efficient underfloor heating system and a very good 120-liter boiler in the bathroom, because it is installed at a high level.

Marietta Kiesling says, „Through my experience in a wide variety of living situations, I often prefer electric heating in many cases because it warms up very quickly and even in transitional periods, only certain rooms can be heated without having to start up an entire gas central heating system.“

ETHERMA IN OLD BUILDINGS - MODERN HEATING MANAGEMENT IN A WONDERFUL ATMOSPHERE

The experienced ETHERMA technical team stood by with advice and, with the 2.7 mm thin ETHERMA DS heating mat, recommended an underfloor heating system that could be installed both under

parquet (here into the flexible adhesive) and under the tiles in wet areas.

The detailed ETHERMA installation plans with the marked mat tracks made it easy for the floor layer to roll out and trowel the defined mats on site without any complications. Around 50 m² of heating mats now provide pleasant warmth in the newly renovated old apartment. They are ideally matched to the parquet thickness of 1.9 cm and the insulation level of the apartment. The required power of the mats amounts to 8.7 kW. Due to the installation close to the surface, the heating is particularly responsive and provides a comfortable, warm floor. A bus system provides a small smart home. This enables targeted individual room control of the heating. This is efficient and cost-conscious.

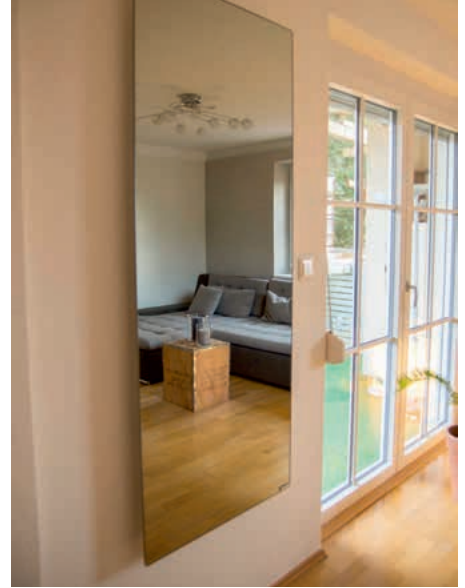
With ETHERMA, Marietta Kiesling realized her wish for an efficient, future-proof and affordable underfloor heating system that can be operated sustainably and CO₂-free at any time using green electricity.

THE ADVANTAGES AT A GLANCE

- Fast, pleasant and comfortable floor heat in old buildings
- Minimal thin-bed mesh heating mat, ideally matched to parquet flooring.
- High efficiency
- Smart home solution for efficient energy management
- Individual room control and precise regulation
- Heating costs only according to actual heating requirements
- Independence from fossil fuels, such as oil, gas, pellets, etc.
- No maintenance costs, no downtime
- Free space for individual interior design
- Over 40 years of service life of the electric floor heating system
- Quality Made in Austria

vonmuto.living

by MARIETTA KIESLING



FACTS

Product(s): Underfloor heating under tiles, underfloor heating with low voltage, infrared heating, built-in thermostat, outdoor infrared heaters

Installed kW output:
8.73 kW floor heating
1 kW infrared heating panels
2.8 kW Terrace infrared heaters

Application(s): Roof construction, private house

Installation: 2015



THE DISCOVERY OF LIGHTNESS

SOMETIMES THE STATICS SET LIMITS AND YET YOU WANT EVERY POSSIBLE COMFORT. IT'S A GOOD THING THAT ETHERMA'S COMPONENTS SCORE POINTS FOR LIGHTNESS.

If the statics only allow for a dry construction, then above all intelligent heating systems are needed that do not add to the weight. The family's wishes were great: a new floor and thus more space, more possibilities, more living quality. And all this in lightweight construction. Good that the ETHERMA heating system is so lightweight. In terms of living comfort, everything could be implemented. Even the new bathroom became a longed-for oasis of well-being.

In the design, the ETHERMA system was conceived as the main heating system and ensures rapid heating of the room, especially also very economical

in the transitional period. Technical perfection, design and the energy-saving, environmentally friendly solution play together optimally.

When weight sets limits, ETHERMA opens up the best possibilities.

For the electric underfloor heating, thin ETHERMA mesh heating mats were installed, which are characterized by low weight and low installation height. The living room is warmed by a LAVA® mirror infrared heater, whose mirrored surface gives the room more visual dimension. A warm, tiled floor in the bathroom is also provided by ETHERMA special heating

mats with a low voltage of only 24 V. They even warm-up the barrier-free shower. In order to also integrate the step at the bathtub entrance, the heating cables were laid freely here.

Modern, precise control is the key to low operating costs and high energy efficiency. With the stylish and intelligent eTOUCH thermostats, every room is controlled easily and efficiently. This is economy with ease - from purchase to operation.



FACTS

Product(s):

Customized floor heating

Installed kW output: 19.2 kW

Application(s):

Custom floor heating

Installation: 2018

HIGH SEAS, HIGHEST COMFORT

TO ENSURE THAT THE LUXURY MARBLE FLOOR CAN BE OPTIMALLY HEATED ON THE HIGH SEAS, INTELLIGENT HEAT IS NEEDED THAT MEETS THE HIGHEST DEMANDS.

When Sinnex was commissioned with the exclusive fitting-out of this 80-meter luxury yacht, one of the interior requirements was to provide the ideal temperature control for the precious marble floors. Motto: warmth on board and well-being ahead.

The construction of luxury yachts presents designers and builders with major challenges due to the variety of materials, the demands at sea, and the strict regulations regarding weight and fire protection. Intensive testing, exclusive customization and individual solutions are the order of the day here. Cooperation with partners therefore

requires readiness for action, flexibility, diligence and highest professionalism.

ETHERMA sets course for ingenious warmth with customized products.

ETHERMA underfloor heating is used to control the temperature of the mammoth floors. The large selection of different mats and technologies, but above all the customization of the mesh heating mats - a specialty of ETHERMA - tipped the scales in favor of the cooperation. Because the geometry of a yacht rarely follows straight lines, the mesh heating mats here were made to measure for a precise fit. This is not only individual

adaptation, but also facilitates a very easy installation.

An ideal product combination now works on 120 m² of floor, meeting all features, settings, but also architectural and requirements in daily use. The different types of ETHERMA mats create individual warmth, e.g. in the VIP and guest cabins, bathrooms, the main dining salon and the corridor area.



FACTS

Product(s):

Screed underfloor heating, infrared heating with art print, open space heating under asphalt, outdoor infrared heaters

Installed kW output:

19.5 kW floor heating
1.5 kW infrared heating panels
9.4 kW open space heating
2.8 kW Terrace infrared heaters

Application(s):

Full heating, new construction, private house

Installation: 2017

THE ALL-IN CONCEPT FOR HOUSE AND LAND

„FUTURE NOW!“ THAT WAS THE MOTTO OF THE BUILDERS WHEN THEY STARTED PLANNING THE HEAT OF THEIR HOUSE. NOW EVERYTHING IS 100% IN, EVERYTHING IS ON AND EVERYTHING IS FINE. EMISSION? ZERO!

The Gerl family's house follows the „all electric, zero emission“ formula. For Josef Gerl, it is the only sensible one: „We decided on the basis of the total costs - i.e. investment, operating plus maintenance costs. The all-electric solution from ETHERMA came out on top. Moreover, heating with electricity means heating independently and cleanly. Because in addition to our PV system, we mainly obtain electricity from hydro, wind and solar power. That gives us a good feeling.“

The criteria were therefore clearly defined: Independence from oil, gas or pellets, no cost-intensive maintenance appointments,

no fear of malfunctions. It should be a future-proof, independent, emission-free heating system - in perfect combination with PV - that meets all requirements for comfort, design and easy handling.

Full program for full attitude to life.

The pleasant, dust-free radiant heat of an underfloor and infrared heating system from ETHERMA was convincing right from the start. In addition, there is the screed floor heating, which stores heat in the concrete core and gradually releases it. The bathroom and staircase surprise with two absolute highlights: the LAVAART

design infrared radiators from the strictly limited Jürgen Fux Edition (only 50 pieces worldwide). All electric also plays an important role in the outdoor area. On the terraces, mobile infrared heaters provide flexible, efficient heat. Safety and comfort aspects in the access area are fulfilled by an outdoor heating system. After all, the house is exposed on the Mondsee mountain, and winters can be severe. The company's own photovoltaic system and battery storage complete the modern energy management system, which permanently coordinates and optimizes the electricity generated in the house.



FACTS

Product(s):

Extra robust underfloor heating with special width

Installed kW output: 36 kW

Application(s): Floor heating, church temperature control

Installation: 2019

IT GETS WARMER AROUND THE HEART

THE COLD GIVES WAY AND A CHURCH WELCOMES ITS CONGREGATION WITH SIMPLICITY, FINE WARMTH AND SECURITY. EVEN IN THE COLD SEASON.

People are looking for security, even when the temperatures drop. So it happened that new warmth moved into the church in Oberwart. Especially in winter, the exciting concrete building by the architects Domenig-Huth was a bit too cold for some and they stayed away from the service. Interim solutions such as glowing spotlights under the benches (the „Wadlbrenner“) were not a solution.

The heating of historic churches is generally a great challenge. Conventional heating systems with convection heaters are not suitable due to the high ceilings, as the air will not circulate and the effect

of convection heating will not be achieved. The heat only accumulates under the ceiling - with immense, inefficient energy consumption. Infrared and radiant heat made more sense, because it works quickly and directly. The relatively young church in Oberwart (built 1967-1969), however, allowed for a completely different solution from ETHERMA.

ETHERMA warms the soil and a little bit the hearts of people.

In the course of renovation in 2017-2019, electric floor heating was installed. The extra robust heating mesh ETHERMA

NST were manufactured, all made to measure, with a special width of 45 cm. This created heating zones of approx. 120 m² between the concentrically arranged benches. The electric heat is fast and direct, without having to heat a medium (water or air).

The invisible underfloor heating allowed to keep the deliberately simple style inside. Color and life bring people into the Church, which is now comfortably warm and invites you to linger.



UNDERFLOOR HEATING

STAND ON IT EVENTS

Ingenious event locations of the Austrian company Loidl GmbH, convince through design, quality, sustainability and problem-free assembly as well as disassembly - up to 30 times. One thing is certain - it always needs heat on the floor. This comes from ETHERMA, e.g. under quickly laid parquet. Precisely pre-calculated and precisely laid. Roll out and start heating! And when the caravan moves on, we simply move with it.

Temporary event locations from Loidl GmbH, worldwide



UNDERFLOOR HEATING – CUSTOM-MADE

WHEN THE GONDOLAS CARRY HEAT

The gondolas on the Ferris wheel require special know-how when it comes to bringing heat in and moisture out. ETHERMA's dipole mesh heating mat, made to measure, promotes drying and a pleasant, temperature-controlled feeling at airy heights thanks to short heating times. And in the VIP gondolas, LAMINOTHERM dipole heating mats on the walls make it a bit cozier.

Giant Ferris Wheel Prater, Vienna, Austria



WALL HEATING

OLD WALLS ARE CHANGEABLE

Renovations present their own challenges. In the old Upper Bavarian farmhouse, nothing disturbs the idyll anymore. Instead of moisture in the walls, mold growth and a clammy feeling in the room, warmth comes out of the walls after renovation. The solution: ETHERMA NST mesh heating mats, laid under the clay plaster.

Farmhouse, Upper Bavaria Germany



WELLNESS HEATING – CUSTOM-MADE

SEA CLIMATE AT THE PUSH OF A BUTTON

Wellness, wonderful warmth and well-being. Breathing deeply in the SOLEUM SPA, the elements of radiant heat, water and salt have a truly soothing effect. ETHERMA with its custom-made products is a predestined manufacturer and supplier of wellness products. Here, for example, with the NSST mesh heating mat, which warms the dome, wall, benches and floor with pinpoint accuracy.

Soleum Spa, Austria



UNDERFLOOR HEATING – CUSTOM-MADE

SMALL, SMART, SMILE

Small is beautiful. The trend continues, and with it the tendency to equip intelligent Tiny Homes with high-tech to make them livable. ETHERMA is part of it and uses photovoltaics for heating the 25 m² homes. Heating mats, minimal installation height, total efficiency and being self-sufficient. Smart Heating is fun!

Smart Tiny Home, Germany



WALL HEATING

CHIVALROUS HEAT

If there is warmth on the landmark of the city of Salzburg - in the incorporated museum - it is certainly because of the exhibits. But also because of the ETHERMA heating mats WST, which were applied directly under clay plaster. Invisible and never disturbing the overall historical picture. But preventive against mold growth.

Hohensalzburg Fortress, Salzburg, Austria



LOCATION

Salzburg,
Austria

SERVICE

Consulting,
planning,
projecting,
laying plan



FACTS

Product(s):

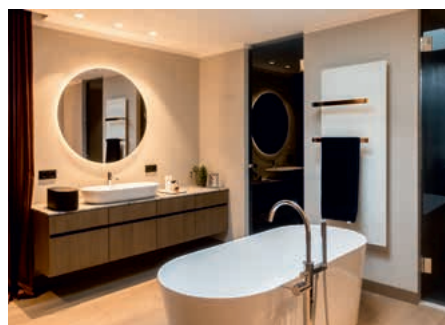
Screed underfloor heating,
bathroom infrared heating,
integrated terrace infrared heaters

Installed kW power:

11 kW screed floor heating
2 kW bathroom infrared heating panels
5 kW terrace infrared heaters
9 kWp PV plant

Application(s): Full heating, new
construction, ZERO EMISSION HOME

Installation: 2021



ARCHITECTURE AND QUALITY OF LIFE - TODAY FOR TOMORROW

ARCHITECT AND BUILDER IN ONE, THAT PROMISES SOMETHING EXTRAORDINARY IN EVERY RESPECT. IN MATTERS OF HEAT, THE ARCHITECT'S HOUSE SHOWS A NEW EFFECT OF DESIGN AND SUSTAINABILITY.

The well-known Austrian architect Robert Blaschke realized his dream of owning his own home. After several project experiences with ETHERMA, the topic of heating was quickly decided for him: „For our own house, we were able to go the most intelligent, sensible and probably also most sustainable way for us - with a purely electric underfloor heating system“.

The criteria were clear from the outset: independence from oil and gas, a healthy indoor climate that was as dust-free as possible, and a heating system that required absolutely no maintenance. And since an architect does not need any disturbing lines, invisibility was the top priority.

The concrete planning is quickly sketched: pleasant radiant heat indoors, patio spotlights outside look comfortable and almost invisible. The power comes from the photovoltaic system and modern energy management ensures optimal results.

ARCHITECTURE AND QUALITY OF LIFE - ETHERMA OPENS UP DESIGN AND SUSTAINABLE POSSIBILITIES.

The overall concept of the ETHERMA planning team combines all criteria and requirements of the architect and builder Robert Blaschke. This is because the

heating system is completely invisible and interferes in no way, so as to detract from the elegant, harmonious room concept. The screed floor heating system combines the direct heat emission of an electric floor heating system with the storage of heat in the floor concrete core. The core then gradually releases the heat into the room. The robust ETHERMA dipol heating mats are laid on 180 m² directly in the screed. In the bathrooms, the increased demand for heat is taken into account with the installation of two design-strong LAVA® bathroom infrared heating panels with towel rails.

In addition to storing the generated electricity as heat, a battery storage system performs important functions in an intelligent energy management system. This coordinates all aspects of the generated electricity and optimizes consumption in the house, as well as outside, for example when the built-in infrared heaters provide pleasant, efficient heat on the terraces.

Robert Blaschke was convinced of the advantages of electric heating right from the start, and his summary is equally positive: „Heating with electricity means heating independently and cleanly. For our own electricity production from our PV system, we obtain green eco-electricity. That's a good feeling and that's how we imagine sustainability.“

THE ADVANTAGES AT A GLANCE

- Pleasant, comfortable radiant heat
- Sustainability thanks to green electricity
- Reduction of heating costs through optimal energy management
- Maximum efficiency through precise control and heating on demand - costs are only incurred when heating is taking place
- Independence from fossil fuels, such as oil, gas, pellets, etc.
- Healthy, dust-free room climate due to radiant heat
- No maintenance costs, no downtime
- Self-sufficient energy budget through combination with PV system and battery storage system
- Over 40 years of service life of the electric floor heating system
- Quality Made in Austria



FACTS

Product(s):

Convector storage heating, under-floor heating under tiles, bathroom infrared heating panels

Installed kW power

2-room apartment unit:

3.5 kW convector storage heaters

0.8 kW floor heating

0.5 kW bathroom infrared heating panels

Application(s): Replacement of old night storage heaters, renovation

Installation: 2020

INTELLIGENT RENOVATION GENERATES COMFORT

THE GENERAL REFURBISHMENT OF A RESIDENTIAL COMPLEX FROM THE 1960S MAKES IT CLEAR: FUTURE TECHNOLOGY CREATES A NEW LIVING EXPERIENCE.

The attractiveness of an older residential property can be increased immensely. According to the formula: The interaction of the best solutions is the best solution.

High heating costs, cold or overheated rooms, poorly controllable night heaters and furnaces, little insulation, drafty windows - the status is a real challenge. Small steps don't cut it. That's why the owner decided on a general renovation.

The facade was renewed with full thermal insulation and well-insulated triple-glazed windows were installed. The energy demand in the apartments was significantly reduced.

For the completely new heating system, an efficient, future-oriented technology was sought for more living comfort and lower operating costs. The new system was to be used as the main heating system and ensure rapid heating of the rooms.

ETHERMA brings modernity even to older residential complexes.

With ETHERMA, a system was designed that integrates the high quality of thermal insulation and operates both economically and energy-efficiently: a combination of convector storage heaters and electric underfloor heating. The two complement each other perfectly and

adapt to the respective heat requirement. The ETHERMA DUO PLUS convector storage heaters provide the basic heat supply. Thanks to the modern technology, the kWh output could be reduced by up to 50% per residential unit.

ETHERMA DS heating mats were installed in the tile adhesive of the bathrooms. The near-surface installation makes the heating particularly responsive. Furthermore, a LAVA® BATH infrared heating panel heats each bathroom with 500 W and, thanks to its modern design, ideally matches the bathroom interior. Smart thermostats control the heating specifically in each room and save costs without compromising on comfort.



LONG LIVE INDEPENDENCE

IF YOU HAVE YOUR SIGHTS SET ON THE FUTURE, YOU WILL ALREADY FIND HEATING SOLUTIONS FROM ETHERMA THAT PERFECTLY ADDRESS THE ISSUES OF AUTONOMY, EFFICIENCY AND EFFECTIVENESS.

The future is autonomous! The owner of the low-energy house has realized an impressive „all inclusive“ project. In timber construction, nothing follows chance. The spruce wood was cut in the perfect moon phase. The ceilings are made of 14 cm solid wood (walls 10 cm). Insulation is provided by rock wool, soft wood fiber, a rear-ventilated facade and larch sheathing. This is how you create a low-energy house with living space ventilation on 140 m². In the search for absolute autonomy in the heating system, ETHERMA entered the game.

Autonomy and ETHERMA - a strong duo.

The specifications were virtually predestined for infrared heating: low-energy house, low heat demand and own power production via the PV system, nominal power 8.7 kWp (= kilowatt peak, unit of measurement for the maximum power under standard conditions). A wind turbine with 4.6 kWp and a battery storage with 9 kWh. 21 °C comfort temperature was the goal. To achieve this, 15 LAVA® infrared heating panels (total output 8.35 kW) were installed on the ceilings. This saves space and ensures

efficient heat radiation. Since the infrared heat reaches walls, floors and objects unhindered. The secondary radiation (= stored heat from objects and people that is released again) can be best utilized. This homogeneous heating results in only a small temperature gradient between floor and ceiling. Convection currents and heat loss upwards are prevented. A blessing for allergy sufferers, as there is no dust whirling up. All in all, a quiet and carefree system. Infrared heaters operate without moving parts and are therefore absolutely silent. They have a long service life and are maintenance-free and reliable.

Generating your own electricity is a very important factor when choosing a heating system in order to heat as self-sufficiently as possible. Without own power production, the monthly costs in 2021 were approx. € 50 at a heating power price of 21 cents/kWh. The high level of own electricity production

and the possibility of feeding electricity into the grid with a remuneration of 25 cents/kWh (since 01/2022) resulted in an extremely positive balance sheet for the owner. Final figures for 2022 are not yet available, but estimates are available. At approx. 40 cents/kWh for heating electricity, the heating costs for the entire house would be € 95/month, if you did not produce your own electricity.

FACTS

Product(s): Infrared heating panels with special color

Installed kW output: 8.35 kW

Application(s): New construction, low-energy house with wind turbine and PV system, ZERO EMISSION HOME

Installation: 2018

Jahr	Heating (kWh) Customer	PV (kWh) Producer	Wind turbine (kWh) Producer
2020	2344	8287	1429
2021	2940	7896	1283
1 - 6/2022	1629	3305	1102



FROM 100 TO 0 - THAT'S THE FUTURE

ZERO EMISSION IS MORE THAN A VALUE OR A TREND. IT IS THE DEFINITION OF THE FUTURE IN HEAT GENERATION.

The future has moved in and lives with them. The young family from Gammertingen experiences this day in, day out. In terms of heat recovery, cost reduction and zero emissions, their home is a prime example of ecological and economical living on a spacious 221m².

The specifications for the building owners and ETHERMA were clear: sustainability, low energy supply, zero emissions. The building's own electricity is produced by the PV system on the roof and used, among other things, for the infrared heating system. It heats the entire house. Add to that a battery storage system, the smart home solution, and we're talking ZERO EMISSION. „With a ZERO EMISSION HOME we can actively contribute to the protection of our environment and at the

same time reduce our own costs. Our efficient and modern heating system is the key to achieving this,“ the owner knows.

ETHERMA systematically brings the future of heat into the home.

Modern buildings have an extremely low heating requirement, and conventional heating solutions are often oversized here. Together with the ETHERMA technical team, the ideal combination was developed. Electric heaters can be used in a variety of ways. Depending on requirements, they can be installed as underfloor heating or mounted on walls and ceilings as infrared heaters. They are particularly characterized by their

POWER CONSUMPTION

Electricity from PV system: 4.933 kWh
Electricity purchased: 5.079 kWh

10.012
KWH

PV EARNINGS

Own consumption: 4.933 kWh
Grid feed-in: 5.742 kWh

10.675
KWH

CONSUMER

Heat & hot water: 6.114 kWh
Household electricity: 3.898 kWh

10.012
KWH

COST ACCOUNTING*

	POWER 2021	POWER 2022
POWER PURCHASE		
Without bonuses	€ 1.619,69	€ 1.895,00
5.079 kWh á average		
31.89 [2021] 37.3 [2022] Ct/kWh		
INPUT PV		
5.742 kWh á average	- € 441,56	- € 494,00
7.69 [2021] 8.6 [2022] Ct/kWh		
TOTAL COSTS		
Electricity, heat, light, household, hot water	€ 1.178,13	€ 1.401,00

* Actual consumption values 2021; ø electricity costs and feed-in tariff in Germany Basis 2021 and 2022.



€ 98,18 mth. € 116,75 mth.

FACTS

Product(s): Infrared heating panels

Installed kW output:

7.2 kW infrared heater panels
10 kWp PV system

Application(s): New construction, ZERO EMISSION HOME

Installation: 2017



FACTS

- Product(s):** Industrial infrared ceiling heaters
- Installed kW output:** 18.2 kW
- Application(s):** Temporary heating of event premises, hall heating
- Installation:** 2020

WHEN MODERNITY MOVES INTO TRADITION

NO MATTER WHAT WAS GOING ON IN THE VILLAGE MEMORIAL HALL, DRAFTS AND HUGE TEMPERATURE DIFFERENCES BETWEEN FLOOR AND CEILING WERE CONSTANT PLAYERS. IT'S ALL OVER NOW.

A venue where the community, clubs and individuals meet should not be one thing: cool, draughty, uncomfortable. That's why things had to change at Denham Village Memorial Hall, which was built in 1921 and had an outdated, ineffective and overly expensive heating system.

The convection heating system (125 kW gas boiler) and warm air fan had noticeable problems to heat the main hall (700 m³) and common area. The warm air quickly rose to the 4.7 m high ceiling. Next to the entrance door, at the seats furthest to the back, it remained cold. The temperature difference between floor and ceiling was 15 °C.

It took a long time and cost a lot to create comfort. In addition, the rising air created convection currents - cold air was sucked in under the doors, resulting in unpleasant drafts.

ETHERMA makes an entire community feel good.

The Village Hall Committee was looking for a comfortable, energy-efficient and maintenance-free system. Two types of infrared heaters were defined with ETHERMA: in the main hall, with a ceiling height of 4.7 m, medium-wave infrared heaters; in the other rooms (ceiling height up to 3 m) long-wave infrared panels.

Ceiling mounting prevents damage, avoids cold bridges and keeps the floor area completely free. Since infrared heating heats the guests directly, and not the air, the warm-up time is much shorter. This direct heating also compensates for the temperature difference in a room and avoids wasting energy by overheating the room near the ceiling.

Each heating zone is controlled by a wall-mounted eNEXHO-CL thermostat and regulated by the eNEXHO house system. The programming of zones and daily or weekly programs saves even more operating costs!



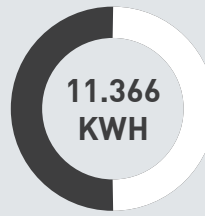
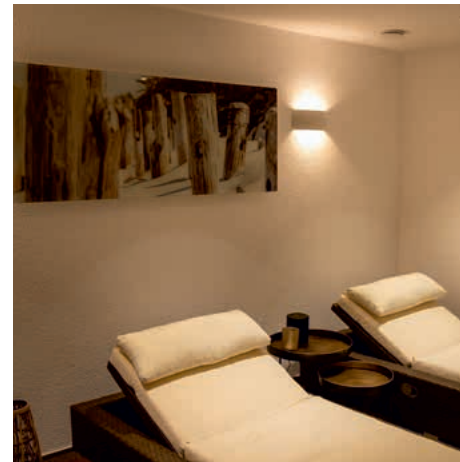
LOCATION
Danube Valley,
Germany

SERVICE
Consulting,
planning,
projecting,
laying plan



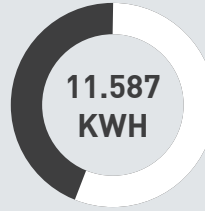
FACTS

Product(s): Infrared heating panels, underfloor heating under tiles, hot water heat pump, outdoor heater
Installed kW power: 8.5 kW
Installed PV power: 9.96 kWp
Application(s): Full heating new building, ZERO EMISSION HOME
Installation: 2021



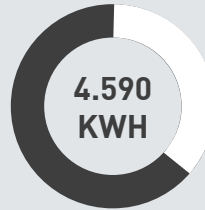
POWER CONSUMPTION

Electricity from PV system: 4.590 kWh
 Electricity purchased: 6.776 kWh



PV EARNINGS

Own consumption: 4.590 kWh
 Grid feed-in: 6.997 kWh



OWN CONSUMPTION*

Heating & hot water, household, charging electric car, sauna, terrace heaters

*only one electricity meter installed

COST ACCOUNTING*

	POWER 2021	POWER 2022
POWER PURCHASE		
without bonuses	€ 2.087,00	€ 2.528,00
30.80 (2021) 37.3 (2022) Ct/kWh		
INPUT PV		
6.997 kWh á average	- € 623,00	- € 602,00
8.90 (2021) 8.6 (2022) Ct/kWh		
TOTAL COSTS		
Hot water, heating, Household, charging car, Sauna, patio heater	€ 1.464,00	€ 1.926,00

*Actual consumption values 2021;
 ø electricity costs and feed-in tariff in Germany Basis 2021 and 2022.



€ 122,00 mth. € 160,00 mth.

WITH TEAMWORK TO THE OPTIMUM

LIFE PLANNING, KNOW-HOW, EXPERIENCE AND TOP QUALITY ARE THE BEST ADVISORS WHEN BUILDING A HOUSE. WITH THE ETHERMA TEAM, ALL FACTORS COME INTO THEIR OWN. THAT MAKES SAFE FOR DECADES.

The dream house has become reality for a young couple. A KfW 55 house - self-sufficient, full of comfort, sustainable and future-proof. The planning was perfect: a modern home with 135 m² of living space and 67 m² of basement space, timber frame construction according to KfW 55 standards, two bedrooms, an office, two bathrooms, an open kitchen-living-dining area, in the basement a technical room, a storage room and a hobby room with sauna.

Professional implementation: Everything should be future-proof, efficient and as self-sufficient as possible. Especially when it comes to the heating system, because everything here has a direct impact on investment, energy, maintenance and operating costs.

The consulting 100%: The client had already been involved with ETHERMA professionally and relied fully on the intensive project and technical advice provided by the experts. Infrared panels from the Far East - online or in the do-it-yourself market - were out of the question. Conventional heating systems were ruled out because of the good insulation and the resulting low heating requirement of around 35 W/m² - too oversized and cost-intensive.

ETHERMA SUPPORTS THE HOUSING FORMULA: LESS COST, MORE SUSTAINABILITY, EVEN MORE LIVABILITY.

In addition to the 40% lower acquisition costs compared to a heat pump, the

arguments were quite different: targeted individual room control, independence from fossil fuels, healthy indoor climate! The ETHERMA infrared heating system was ideal as the main heating system. In addition, an electric underfloor heating system was installed in the bathrooms and the sauna room. A 9.96 kWp photovoltaic system was installed on the roof, along with central ventilation with heat recovery and a home automation system.

A wallbox for the car is installed in the garage, plus a smart meter for optimal distribution of the self-generated energy. And since heating generally accounts for around 40% of electricity consumption in private house construction, this is where the greatest potential lies. That's why the builders put their trust in ETHERMA, which ensured detailed and competent planning as well as the correct design and placement of the individual panels in the rooms.

Individuality is the trump card, because it depends on all factors: Heating requirements, desired room temperature, but also the intended furnishings. On the other hand, infrared heating is not just infrared heating. The materials used, the true radiation efficiency, a homogeneous surface radiation with very good insulation of the rear side and the safety are decisive factors for the quality and performance efficiency. Viewed holistically, the young couple now lives with an efficient, future-proof and affordable heating system. With self-generated electricity sustainable, CO₂-free and largely independent of fluctuating electricity prices.

THE ADVANTAGES AT A GLANCE

- Pleasant, comfortable radiant heat
- Self-sufficient, comfortable and future-proof heating
- Perfectly coordinated energy management in every room
- General reduction of heating costs
- Independence from fossil fuels, such as oil, gas, pellets, etc.
- Approx. 40% lower initial costs than for a heat pump
- Highest efficiency through precise control; heating on demand
- Healthy, preferably dust-free room climate; no exposure to house dust due to radiant heat
- No maintenance costs
- Self-sufficient energy budget through PV system
- Over 40 years of service life of the electric floor heating system
- Quality Made in Austria



WHERE HEAT HELPS HELPERS

WHERE WARMTH OF HEART IS SO CRUCIAL FOR CHILDREN, PEOPLE WHO GIVE WARMTH ARE NEEDED. AND THESE PEOPLE SHOULD ALSO BE NICE AND WARM.

The 15th anniversary of Haven House Children's Hospice also saw major changes, renovations and redesigns. Space was reallocated and new buildings were needed. So was an office building on the hospice grounds for the finance and marketing team, which provides 80% of the hospice's income.

The new building was not connected to the gas network, so electric heating was an obvious choice. Electric underfloor heating was already installed on the ground floor, but there were specific requirements to be met on the first floor: limited headroom, large windows, maximum floor space for desks and storage cabinets. Wall heating was ruled out, as was convection heating. Because of the cathedral ceiling (2.4 m to 3.9 m), the warm air in conventional convection

heating can rise up into the ceiling cavity and create unpleasant convection currents.

ETHERMA warms from above like the sun and completely silently.

The ETHERMA planning relied fully on four LAVA® infrared panels with 750 W and a programmable thermostat from the eTOUCH series. The panels were mounted at a height of 3 m and connected to form a heating circuit. The eTOUCH thermostat takes over the intelligent control - smoothly, fully automatically and energy-saving. In total, the 63 m² office is now heated with 3 kW infrared heating.

The infrared heating panels on the sloping ceiling keep the walls and space at the windows free and ensure uniform

heat distribution. The infrared waves are absorbed by the thermal mass (ceiling, walls, floor, furniture and people) and gradually released as heat. A nice side effect in the office: The infrared heaters have no moving parts, so they are absolutely noiseless, maintenance-free and fail-safe.

FACTS

Product(s): Infrared heating, built-in thermostat

Installed kW power: 3 kW

Application(s):
Full heating renovation

Installation: 2019



ON THE SUNNY SIDE OF LIFE

SOUTH SEA ATMOSPHERE IN CHELTENHAM. IT IS CLEAR THAT HEAT PLAYS A DECISIVE ROLE IN THIS GASTRONOMIC CONCEPT. INFRARED HEATERS LET THE SUN SHINE.

When „sun and vacation feeling“ determine the café concept, the right heat source is crucial. In their Island Café in the Regent Arcade Shopping Center, Cheltenham, England, Poke & Yoh focus on a South Seas feeling and delicious Hawaiian food. The sun must be shining and the skin must be warm.

Not the easiest task, because the location is open on all sides. So a heating solution was needed that would bring the heat to the guests with pinpoint accuracy, without pointlessly and expensively heating the air in the cool surroundings.

ETHERMA in gastronomy: atmospheric heat at will.

The warm atmosphere, coupled with the hospitality of Poke & Yoh, is now

supported by five ETHERMA LAVA® infrared heating panels (500 W). They are the ideal solution and are arranged in such a way that the radii of action interlock exactly. The infrared heating directly heats the guests, tables and chairs from above and provides a pleasant, comfortable and sun-like feeling of warmth.

The hard facts are also impressive: Ceiling mounting saves space and the heaters are protected from damage or dirt. Also convincing are the long service life and no maintenance or service costs.

Due to the optimally insulated back of the infrared heaters, the heat is also not lost to the back, but is directed downwards to the guests. This saves operating costs.

FACTS

Product(s): Infrared heating panels
Installed kW output: 2,5 kW
Application(s): Zone heating, shopping center
Installation: 2017



LOCATION

Salzburg,
Austria

SERVICE

Project,
planning,
assembly,
service



FACTS

Product(s): Outdoor infrared heater

Installed kW power: 120 kW

Application(s): Open-air, event
location, gastronomy, outdoor

Installation: 2022



THE HEAT IS ON!

GREAT ATMOSPHERE, GREAT SOUND AND ROCKED OUT WITHOUT END. A FESTIVAL CAN OFFER SO MUCH. AND WHEN IT STORMS AND RAINS, THE PERFECT TECHNOLOGY COMES ALONG.

4 days of partying, 5 stages, over 160 artists and around 180,000 visitors: The Electric Love Festival 2022 transformed the Salzburger into probably the largest dance floor in Europe. What culminated in the VIP area of the ELF 2022, with around 80 ETHERMA EXO® infrared heaters and over 120 kW heating capacity, began in 2013. ETHERMA has been a proud partner of the Electric Love Festival at the Salzburger since the very beginning.

Festival organizer Manuel Reifenauer knows that ETHERMA heat is sometimes also really popular at festivals: „The weather god was not in a very good mood this weekend and brought rain and cold.“ This can happen not only in the Salzburg spring/summer, but everywhere.

That is why the ETHERMA partnership is like sunshine at the push of a button, especially in the VIP area of the ELF: comfortable, fast, pleasantly effective like sunbeams, also and especially in the evening and night hours. In addition, there is the reliability and the flexible readiness for use, precisely on time.

ETHERMA ALSO SHOWS ITS FULL STRENGTH ON FESTIVALS.

The Electric Love Festival was the perfect time for the product launch of the first premium infrared heater series developed in-house. ETHERMA EXO®. It is the high-end line among terrace heaters and sets new standards in the areas of sustainability, efficiency, durability, design and performance. On the ELF,

80 ETHERMA EXO® infrared heaters with more than 120 kW of heating power ensured that it did not get uncomfortable in the VIP area and the entrance area, despite the adverse weather conditions. Set up in 4 days according to optimal planning by the ETHERMA team, efficient infrared heat was created quickly and reliably at the push of a button. It is very similar to the heat of the sun's rays, penetrates the air quickly and is also noticeable in drafts or wind. It thus offers decisive advantages over conventional, dissipating convection heat, which is used by gas radiators, for example. Not to mention the safety aspect.

LAVA infrared panels were used so that employees and guests in the bar area could also enjoy comfortable and pleasant warmth. This was „hot stuff“ in the right place, because the temperatures this weekend were 12 to 14 °C, plus light rain. ETHERMA is absolutely the ingenious heat for festivals of all kinds. And the know-how of the ETHERMA teams brings it exactly where the heat is.

THE ADVANTAGES AT A GLANCE

- Fast, comfortable infrared heat
- Optimally plannable and adjustable
- Reliable and flexible to use
- Highest efficiency through pinpoint heating
- No heat loss due to wind as with convection heat
- Safe and reliable heat immediately after switching on
- Quality Made in Austria



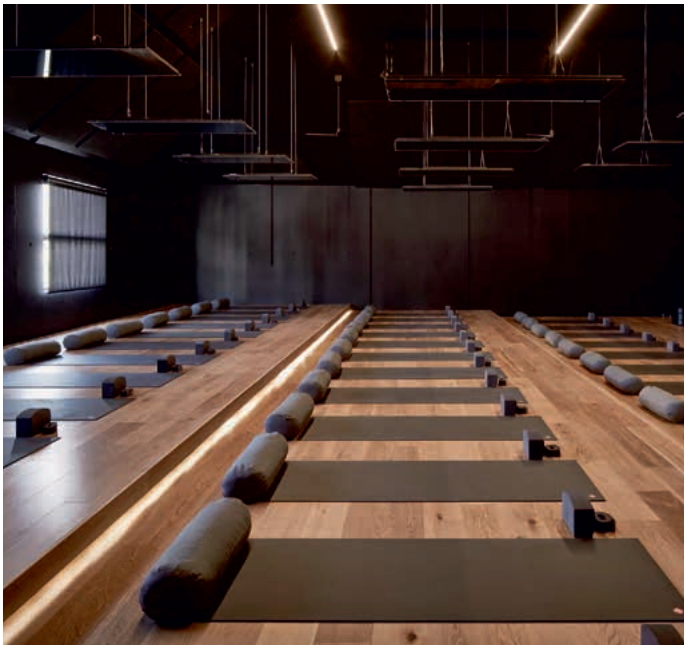


OUTDOOR INFRARED HEATER

ENJOY YOUR MEAL, ENJOY WARMTH

When you want to get to the heart of culinary excellence outdoors, infrared heat is the first choice. At Plachutta, 14 infrared heaters from ETHERMA fulfill all aspects. Visually, quickly, accurately and effectively. 90% of the energy used is immediately released as heat. Gas heaters only manage 40% here.

Restaurant Plachutta, Vienna, Austria



INFRARED HEATING

INNER PEACE, OUTER WARMTH

„Enter and leave the world outside.“ The credo of the Yoga Teams shows itself in the perfect reduction, in the concentration on simplicity and space. The heaters also had to follow this thinking. That is why the LAVA® GLAS infrared heating panels from ETHERMA were chosen. Following the principle of solar radiation, 15 units suspended from the ceiling warm the bodies and minds.

Humming Puppy Yoga, Melbourne, Australien



INFRARED HEATING

LET THE PARTY START

Of course, it's hot at the Wiesn and it rarely stops with one beer. But! In the outside areas it can at times get a little colder. The BRÄUROS� host thought so, too, and that's why 20 infrared heaters from ETHERMA are working in the guest garden. This warms everybody's heart, no matter how cool it really is.

Oktoberfest Munich, Germany



INFRARED HEATING

WHEN HEAT MAKES ROOM

Make the room and large windows work, offer openness and size, heat temporarily and very efficiently. In these architectural and everyday challenges, LAVA® ceiling infrared heating panel shows its strengths. Walls, objects and people absorb the infrared heat and store it. It's like sunshine in a room, coming from the ceiling, effective everywhere.

Hotel am See, Rust, Austria



INFRARED HEATING

PLUG & HEAT & LIVE

Renovation, revitalization, modernization - with the highly efficient infrared systems ETHERMA LAVA® even international requirements are completely fulfilled. Whether ceiling or wall - the plug & play technology, the highest precise radiation effect, the modern individual design, the optional wireless design and the intelligent control systems score points in every residential complex, in every apartment, in every style of living.

Apartment complexes, Netherlands & Great Britain



INFRARED HEATING

INGENUITY IS THE BEST RECIPE

Take an old barn, extend the kitchen by 40 m², choose a LAVA® FRAME built-in infrared heating system and enjoy the new livable space. At any time of the year. Inconspicuous, absolutely noiseless, but perfectly effective and the most cost-effective option based on total costs.

Private house, Great Britain



LOCATION

Salzburg,
Austria

SERVICE

Consulting,
planning,
projecting,
installation



FACTS

Product(s): Open area heating in concrete, roof area heating, roof gutter heating tapes, fully automatic control system

Installed kW power:
740 m heating tape
185 m² open space heating in concrete
34.2 m running meters stair heating
incl. 4 m² platform in concrete
Approx. 87 kW total power

Application(s): Safety solution frost protection, roofs, gutters, stairs, sidewalks, underground parking accesses

Installation: 2019



THE NEW HOUSE RULES: SNOWFALL SAFELY MANAGED

SNOW MANAGEMENT IS STANDARD IN THIS HOTEL. THIS SIMPLY ADDS EVEN MORE SAFETY TO THE FUN IN THE SNOW.

Snow and ice, a dream in white. To make sure it stays that way and the dream doesn't crash, the hotel owners of Dachsteinkönig have decided to provide safety with intelligent heat in many crucial outdoor areas. The Leading Family Hotel & Resort Dachsteinkönig in Gosau needs, in addition to the many amenities for families, also and especially maximum safety. The list of sources of danger in winter is long. Excessive amounts of snow, sometimes overnight, cause excessive roof loads. These, in turn, pose dangers to people and buildings. All guests, especially families with children, must be able to move around safely. Roof avalanches, icicles, icy sidewalks, stairs or underground garage entrances must be eliminated as sources of danger.

Together with the ETHERMA planners, the challenges posed by the architecture and various special features were examined and weighted accordingly. The large roof surfaces of the hotel area cause snow to accumulate at individual points, with selective static overloads. The roof slopes cause snow to slide down quickly, creating a roof avalanche hazard for all passersby and hotel guests. The formation of icicles on the gutters could also cause recurring problems.

ETHERMA PROVIDES „THAW“ WHERE IT NEEDS TO BE.

The ETHERMA planning team delivered a structurally perfect overall solution. First, with the custom-made, robust and weather-resistant DSN heating mats, which prevent snow from accumulating at specific points. They ensure uniform defrosting. The control is fully automatic and efficient.

Thus, the heating of the roof surfaces begins only when a precisely defined, low outdoor temperature and, at the same time, a certain humidity are reached. Then the outdoor heating switches on and melts snow quickly and reliably, the roof and the statics of the hotel remain protected. To prevent the gutters from freezing and dangerous icicles from forming, the ETHERMA eTRACE self-regulating heating cable was installed in the gutters. It has an overheating protection, so it can also be used with plastic gutters, and it withstands the strong UV radiation in the summer.

The important outdoor areas of walkways, outdoor stairs and underground parking garage access roads were equipped with the BRS heating mat. This is laid directly in the concrete, is particularly resilient and, in conjunction with a moisture- and temperature-dependent control system, ensures efficient heating and defrosting.

The ETHERMA overall concept fully complies with the safety philosophy of the Leading Family Hotel & Resort Dachsteinkönig. The snow can come. The fun too.

THE ADVANTAGES AT A GLANCE

- Self-activating safety from roof avalanches and icicles
- Avoidance of excessive roof loads and static overloads
- Energy-saving heating due to precisely defined temperature and humidity sensors
- Gutter heating against freezing
- No additional workload, no hazards for employees
- Energy efficient, can be activated at any time if necessary
- Individual planning, customized production
- UV, ozone and weather resistant
- Materials resistant to acids and alkalis
- Ice-free and safe sidewalks, outdoor stairs and underground parking garage entrances
- No costly storage of snow clearing equipment



LOAD REDUCTION AT A GREAT HEIGHT

WHEN HIGH LOADS DUE TO SNOW AND ICE HIT THE OFFICE BUILDING IN WINTER, SOLUTIONS ARE NEEDED THAT TAKE EFFECT AT THE VERY TOP.

The winter delegation always brings special challenges for an Austrian official building: Avoiding roof avalanches and falling icicles, reducing the snow load on the historic building and the skylights. In addition, protection of the building envelope from penetrating moisture, which can freeze and thus lift the roof sheets.

In addition to all the protective measures, Austria also has a legal obligation for property owners to ensure safety in winter: by clearing snow sufficiently and avoiding roof avalanches or icicles.

Roof surfaces and gutter heating systems from ETHERMA protect people and buildings.

ETHERMA's empirical values were the optimal basis for a perfect heating system. First, the gutters and ledges were heated to reliably prevent snow avalanches and icicles. Self-regulating and constant heating tapes were installed. Self-regulating cables were used where the output could be reduced as the ambient temperature rose - on ledges and in less deep gutters. Constant power heating tapes in particularly deep gullies to prevent tunneling in the snow. Next point: avoidance of „snowbagging,“ i.e. larger quantities at neuralgic points exceeding the maximum roof load (also at the skylight). 2500 m of heating tapes and around 22 m² of DSN heating mats were laid - partly at dizzying heights.

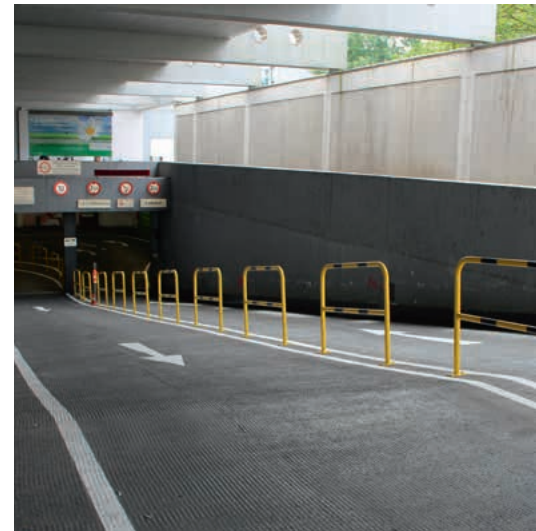
FACTS

Product(s): Roof heating mats, gutter heating

Installed kW output: Approx. 2,500 m heating cable, approx. 90 kW total output

Application(s): Frost protection solution for the safety of people in buildings

Installation: 2022



FREE RIDE TO KNOWLEDGE

EDUCATION AND INFORMATION MUST ALWAYS BE SAFELY ACCESSIBLE. THAT'S WHY THE WIFI CENTER LINZ CLEARS THE WAY ALL YEAR ROUND.

Easy, free and safe. That is the ETHERMA formula for the Wifi-Center Linz open space heating project. Snow, slush and ice are reliably avoided, because safe access to the underground parking garage is a must at any time of year. In the course of the general renovation of the entrance to the underground car park, the existing ramp heating system was renovated or replaced. A special discipline of ETHERMA, because the antifreeze solutions offer a wide range of products for almost any problem.

ETHERMA and traffic safety - individually planned, perfectly made.

With the commissioning of the company Bauschutz 2021, ETHERMA started with the exact, individual planning. Things got underway at the beginning of summer 2021 - consistently and professionally.

The ETHERMA technical team drew the installation plans and specified the time schedule.

ETHERMA's in-house installation team then completed the project in August.

The ramp was completely rebuilt from the waterproofing level. The ETHERMA GSN open-space heating system was laid in mastic asphalt. Here, the heating mat with its fiberglass mesh showed its advantages: excellent installation properties, no floating up of the heating cable during installation. The heating conductor is absolutely resistant to spherical acids and alkalis. Self-regulating heating tapes with protective braiding were laid in the infiltration trenches. They have a particularly long service life and are resistant to UV, ozone and weathering.

This guarantees long, reliable protection against frost. The fully automatic control of the frost protection solution was connected to the control center of the Wifi-Center so that the building technicians can have full control over the system at all times. The system was then put into operation in time for the winter season. Perfectly on schedule!

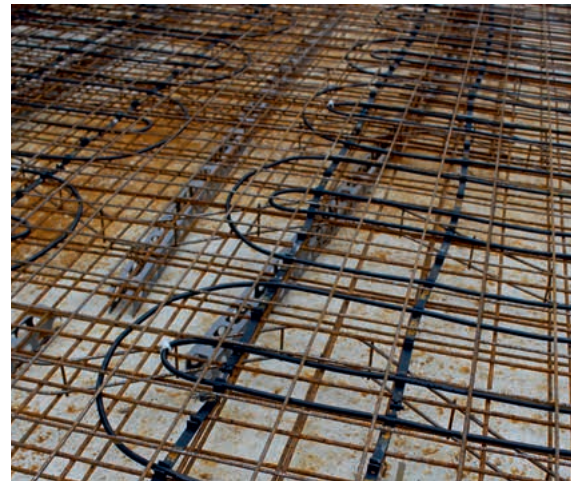
FACTS

Product(s): Open space heating under asphalt, fully automatic control

Installed kW power: 45 kW

Application(s): Ramp renovation, underground parking, public building

Installation: 2021



FREEZERS NEED IT WARM UNDER THE FLOOR

FROST PROTECTION IN THE FREEZER? THAT SOUNDS LIKE A 50 SUN PROTECTION FACTOR IN A SOLARIUM. BUT IT'S BASED ON PROFESSIONAL KNOW-HOW TO PROTECT A FREEZING HALL FROM SERIOUS DAMAGE TO THE BUILDING.

Frozen storage halls and ingenious heat form a very intelligent symbiosis. Because from a holistic point of view, a freezer needs heat to survive. Cold storages and freezer rooms give off cold to their surroundings. In the area of pillars, foundations and floors, the ground absorbs the cold. The natural heat from the environment is not sufficient, and the moisture freezes in the ground. This leads to expansion and ground heaving. The result: considerable damage to the building.

For this reason, Linz AG was looking for a sub-zero heating system and a frost protection solution for its approx. 2000 m² deep-freeze high-bay warehouse and an approx. 1500 m² deep-freeze commission hall for the door area and the airlocks.

This is where ETHERMA came into play. For special requirements, 40 years of experience in the field of frost protection are a strong argument.

No ground frost, no problems.

Customized heating mats for installation in concrete were used for freeze protection. These are laid on the load-bearing sub-layer according to the individual installation plan and then the concrete is applied. The specialists from the electrical company carried out perfect installation work after receiving training from ETHERMA.

The ETHERMA special mats act on around 3,500 m² and thus counteract heat dissipation and freezing of the ground.

In the door areas and the airlocks of the deep-freeze rooms, ETHERMA special mats prevent ice buildup by means of electrical heating loops. In addition, the sealing lips retain the necessary elasticity to close sufficiently. For maximum safety, an additional heating conductor and a spare control unit were installed in each case.

FACTS

Product(s): Special heating solution floor, fully automatic control

Installed kW power: 120 kW

Application(s): Frost protection floor heating for frozen storage halls and industrial buildings

Installation: 2021



HEAT AS A LIFESAVER

WHEN RESCUE IS IMMINENT, THE LANDING SITE AND ROUTES MUST BE CLEAR. UNCONDITIONALLY, BECAUSE EVERY SECOND COUNTS.

Landing approach to a hospital. Luck is not an option here. Everything must be meticulously coordinated and fit perfectly. This also applies to the safety of the landing site. No matter what the weather or the season.

With the partial reconstruction of a hospital, the helipad also had to be rebuilt. The old landing pad could no longer carry the load of today's much heavier helicopters, so a new helipad was needed. Planned with open-air heating for safe operation and the fast, smooth transport of patients in any weather. Top priority: spot-on landings! Strong gusts of wind are challenge enough for the pilots, but ice formation and snow drifts must

be absolutely avoided. Heating, however, places particularly high demands on the technology here.

ETHERMA makes landings safe: day and night, summer and winter, fully automatic.

Together with ETHERMA, it was defined that the heating should be installed as close to the surface as possible. In this way, it acts directly and quickly. Here, where even helicopters with claws on their skids land, the heating mats absolutely had to be laid in concrete on reinforcement grids. In many cases, the heating tapes are also installed in infiltration trenches and gutters and

stairs kept free of snow and ice with heating mats.

Safe operation of the heating is ensured by a fully automatic control system with measuring points at the decisive points.

FACTS

Product(s): Open space heating in concrete, fully automatic control

Installed kW capacity:

705 m² open space heating in concrete
215 kW total power

Application(s): Frost protection solution

Installation: 2020



OPEN SPACE HEATING

UP AND DOWN WITH KNOW-HOW

Not all open spaces are the same. Ice formation and snow drifts occurred on the concrete floors of the SCA garage in the on/off ramps. A special coating was developed and applied to the concrete for the installation of the heating mats. This prevented the ETHERMA heating mats from slipping and floating during the application of the mastic asphalt. Problem solved, road open.

Shopping Center Alpenstraße, Salzburg



OPEN SPACE HEATING

A SAFE WAY COMES IN SLEEP

It's not a luxury to sleep in when there's fresh snow. ETHERMA open space heating clears the way. Noiselessly, without effort, without machines, without exhaust fumes, without salt. And without manpower - neither your own nor that of expensive clearing services. A calculation that is sure to pay off.

Private house access, Upper Austria



FROST PROTECTION SPECIAL SOLUTION

ALL GOOD THINGS COME FROM ABOVE

And to keep it that way, the covered conveyor belt, which runs over a public road, is equipped with an ETHERMA roof heating that works fully automatically, reliably preventing snow build-up. Thus, there are no surprises or even dangers from icicles and snow avalanches. ETHERMA is the perfect partner for everything that needs to be heated.

Covered conveyor belt, Stallinger Holz, Upper Austria



OPEN SPACE HEATING

FREE SPACE FOR FINANCE

On the Erste Campus, the spacious open areas offer 5,000 employees a special feel-good atmosphere. Even in winter. Because the outdoor area remains free of snow and ice. Thanks to ETHERMA BRS open-air heating and TS stair heating. Perfectly integrated into concrete and tailor-made for the stairs. Fully automatic operation!

Erste Campus, Vienna, Austria



ROOF HEATING

HEATING MATS AS A ROOF BRAND

Snow is wonderful. In nature, on the slopes, in the mountains. On the huge rooftops of the Mountain Resort Feuerberg (at 1,766 m above sea level), masses of snow pose enormous static problems and dangers for guests. The custom-made ETHERMA DSN heating mats are the solution. No snow, no roof avalanches, no uncontrollable masses. Pure relaxation for man and material.

Mountain Resort Feuerberg, Carinthia, Austria



OPEN SPACE HEATING

4 CM AGAINST ICE AND SNOW

Entry, exit and access from parking deck to parking deck are problem-free for all shoppers. Thanks to ETHERMA open space heating. Experience is important here: The maximum gradient for mastic asphalt is 15%. So the heating mats had to be fixed before two layers of mastic asphalt were laid over them. Only 4 cm thick and yet so effective. The control system? Fully automatic, humidity- and temperature-dependent.

Shopping Center Seiersberg, Austria

Detailed information and extensive tender texts can be found on our website at www.etherma.com.

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ETHERMA[°]
INGENIOUS HEATING