

Indor**Tec**[®] THERM-E



ELECTRIC HEATING SYSTEM

The energy-saving 3-in-1 complete system

Sicher besser.

GUTJAHR

Warmth for today,
for tomorrow,
for the whole house.

The electric heating system.



Underfloor heating is the best kind of heat. More and more consumers and building owners are of this opinion and want underfloor heating that is uncomplicated, energy-efficient and future-proof. And which, of course, provides rapid underfloor heating - in the bathroom and beyond.



Even heat.

Electric underfloor heating systems provide quick, pleasant warmth underfoot, which - depending on the floor covering - remains stored in the floor for a long time. They also ensure even heat distribution and a healthy indoor climate. This is because the low air circulation means that hardly any dust is stirred up; good for allergy sufferers.



High energy efficiency.

Electric panel or underfloor heating systems only consume electricity when heat is needed. They react more quickly than hot water underfloor heating or radiator heating systems and can quickly meet the heating requirements of their users. The heat rises from the floor and radiates back from the walls and ceilings. This means that the room temperature can be kept lower and the switch-on time shorter than with conventional heating. This saves energy, money and conserves resources.

Thanks to its special mat structure, the electric panel heating from GUTJAHN also has a higher reaction speed and more efficient heat distribution than comparable electric panel heating systems, making it significantly more energy-efficient.



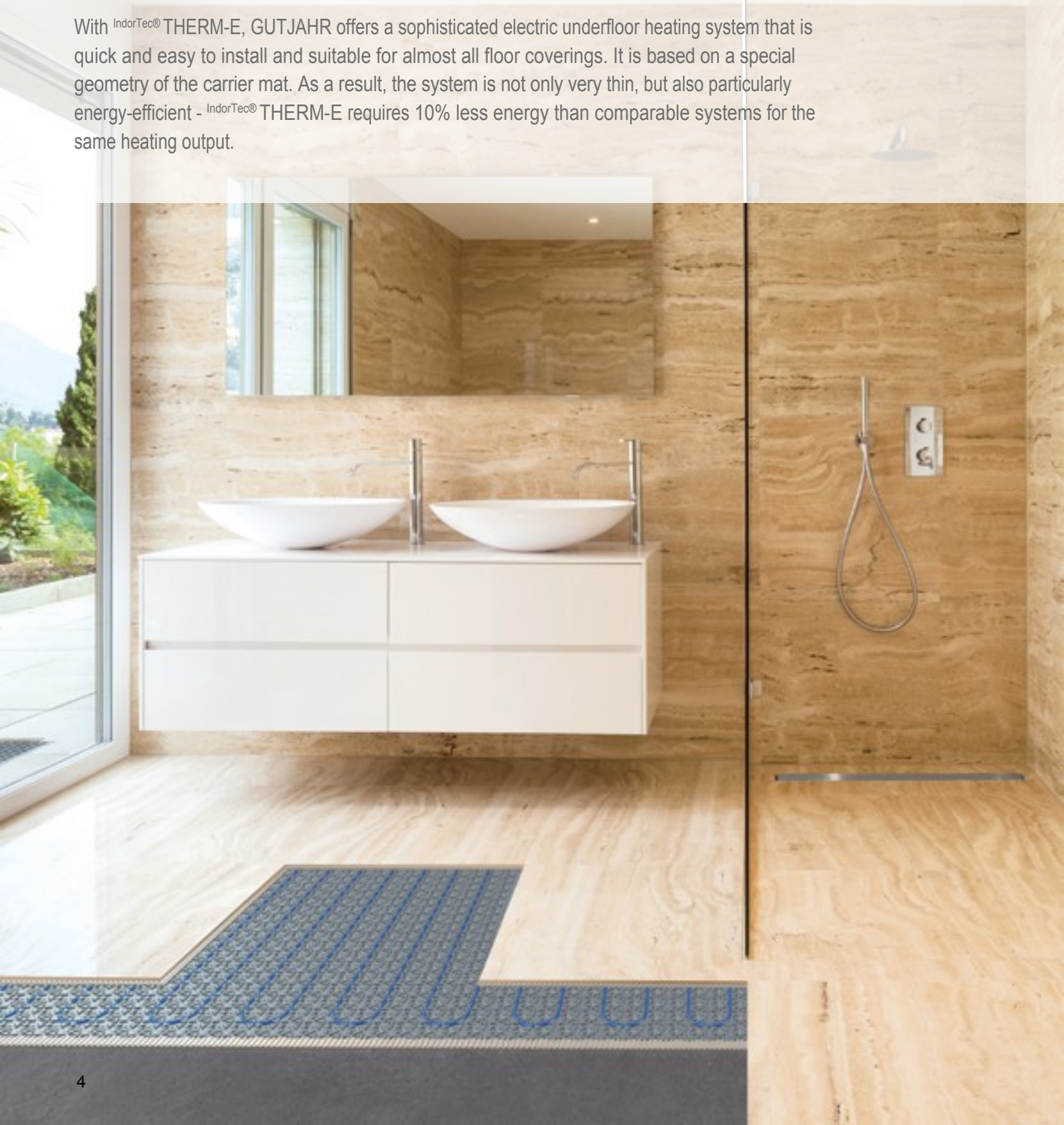
For renovation and new build.

In addition to simple installation without drying and waiting times, low investment costs without additional costs, maintenance-free operation and the option of integrating your own renewable energy sources such as photovoltaics, the low installation height is often a decisive advantage of electric underfloor heating systems. The 3-in-1 GUTJAHN underfloor heating can even be used with almost all floor coverings, on critical substrates as well as cracked screeds, wood or mixed substrates. Thanks to its extremely thin-layer structure, it is particularly suitable for renovation.

IndorTec® THERM-E

The 3-in-1 electric heating system. Surface heating, decoupling and sealing in one.

With IndorTec® THERM-E, GUTJAHR offers a sophisticated electric underfloor heating system that is quick and easy to install and suitable for almost all floor coverings. It is based on a special geometry of the carrier mat. As a result, the system is not only very thin, but also particularly energy-efficient - IndorTec® THERM-E requires 10% less energy than comparable systems for the same heating output.



Advantages



Optimal for the consumer

High-quality, maintenance-free underfloor heating for all rooms - with significantly lower energy requirements than comparable systems.

- Fast heating of the floor covering thanks to the unique geometry of the GUTJAHR heating mat - significantly more energy-saving than comparable systems.
- Free construction and room planning, as no radiators or boiler room are required.
- Suitable for all types of flooring. Can be used under ceramic/natural stone, multi-layer parquet, laminate or resilient and textile coverings.
- Comfortable complete system consisting of heating mat, heating cable and thermostats - tested and approved (VDE-REG F292)
- Maintenance-free heating without additional ancillary costs.
- +8 dB impact sound improvement (MPA Wiesbaden)



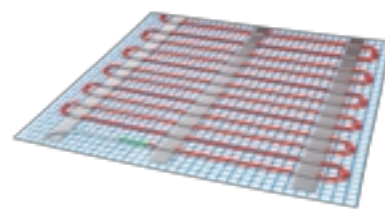
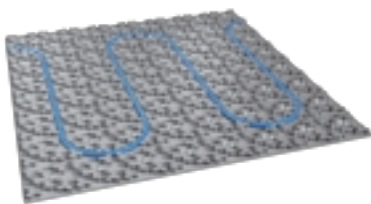
Simple for the installer

Sophisticated and tested system - exceptionally easy and quick to install.

- Surface heating, heavy-duty composite decoupling and waterproofing for wet rooms in one product.
- Easy installation thanks to optimum flatness and precise snapping of the heating cables into the support mat.
- Easy to work with, as it can also be used with fillers.
- Saves time, as it can be filled in "one wipe".
- Tested sealing with abP (MPA NRW), perfect for wet rooms and level-access showers - saves working time.
- Tested decoupling, also for critical substrates.
- Uniform heating cable cross-section in every length and jointless connection technology guarantee maximum installation convenience and functional reliability.



Comparison with fabric heating mats



IndorTec® THERM-E 3-in-1 surface heating mat

Surface heating, decoupling and bonded waterproofing in one - no further waterproofing work required

Fast processing: Creates a level, finished substrate for laying the flooring

Easy to fill: Cables are recessed and thus protected in the mat, the teeth do not get caught when the adhesive is applied

Reduced consumption of tile adhesive/filler: thanks to the special surface structure of the mat

Can also be used on critical substrates and young screeds thanks to the decoupling function

Conventional fabric heating mats

Pure heating mat, additional sealing is required for wet rooms

Additional leveling work required after laying the fabric heating mat

The raised cables can be damaged during filling

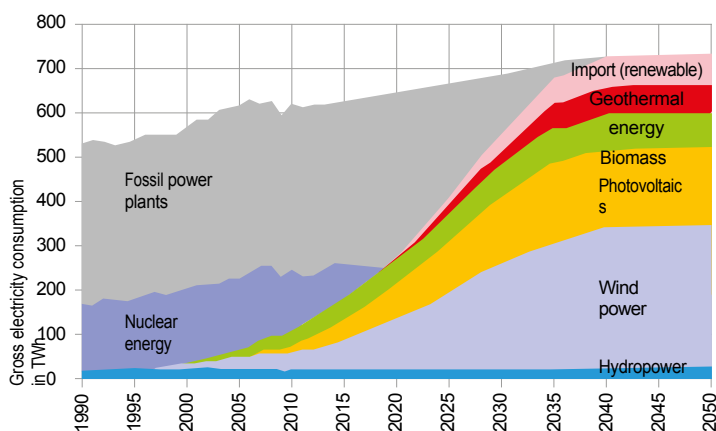
Higher consumption of tile adhesives/leveling compounds

Can only be used on suitable substrates

Electricity is the energy source of the future. Electric panel heating is the heating of the future.

Fossil fuels, and therefore also oil and gas heating systems, will soon be obsolete; the heating of the future will run on electricity, say leading energy experts*. In the long term, increasingly ecological electricity with a high proportion of wind power and photovoltaics, combined with the decentralized use of renewable energy sources, will ensure the energy supply of buildings.

Development of renewable energies



Source: Volker Quaschnig - Renewable energies and climate protection. Updated 2021

Autonomous power self-sufficiency with photovoltaics pays off

Private households currently pay around 30 cents per kilowatt hour, more than half of which is for taxes and levies. A family of three with an electricity consumption of 3,500 kilowatt hours per year pays around 100 euros in electricity costs per month. The cost of electricity from your own solar system is already lower than this. Depending on the solar system and place of residence, a homeowner in Germany can now produce their solar power for 10 - 15 cents per kilowatt hour. While the cost of household electricity could rise by an average of 60-80 cents in the next few years, the cost of self-generated solar power will fall to less than 10 cents by 2024, according to the Fraunhofer Institute. By 2040, the cost of self-generated solar power will remain constant at just 3.58 to 6.77 cents.

Electricity for heat

The concept of a self-sufficient power supply has therefore already become a reality. Thanks to new technologies and storage options, private electricity generation is becoming increasingly cheaper and more efficient and is worthwhile for the user if they consume the electricity themselves instead of feeding it into the grid. What could be more obvious than using the electricity to generate heat - with convenient, responsive, energy-efficient electric panel heating throughout the house, the heating concept of the future.



Electric panel heating - energy-saving and powerful

Regardless of which form of energy is used for heating - according to experts, underfloor heating always generates around 10% lower operating costs than radiator heating. Radiators have to be heated to a very high temperature in order to heat entire rooms with their relatively small surface area. This requires flow temperatures in the heating system of 60 degrees and more are required. With electric underfloor heating, on the other hand, the room is heated evenly everywhere - so flow temperatures of around 30 degrees are sufficient. This saves energy and money.

Energy



since 2018

**67.4 %
more**

Net rated output from
Photovoltaic systems



+ 2.6 million (as at June 2023)

Solar power systems

As of June 2023, 2.6 million photovoltaic systems* have already been installed on German roofs and properties.

*Balcony power plants are not included here. Source: Federal Statistical Office



500 per
Euro Head

According to the International Energy Agency (IEA), households in Germany save the most energy costs worldwide by implementing energy efficiency measures: almost 500 euros per capita per year.

Source: BMWK; Data basis: IEA



Click here for
your personal

**Consumption
cost calculator**

Example of operating costs: Bathroom approx. 5 m² heating surface (500W) and 4 hours of use/day



Use according to lifestyle,
z. e.g. 6-8 and 18-20 o'clock



Electricity price 0.30
€/kWh



Once the desired temperature has been reached, only 60% of the energy required to maintain the temperature is needed due to heating and lowering phases.

500 W x 60 % x 4 h x 0.30
€/kWh

= 0,36 €/day



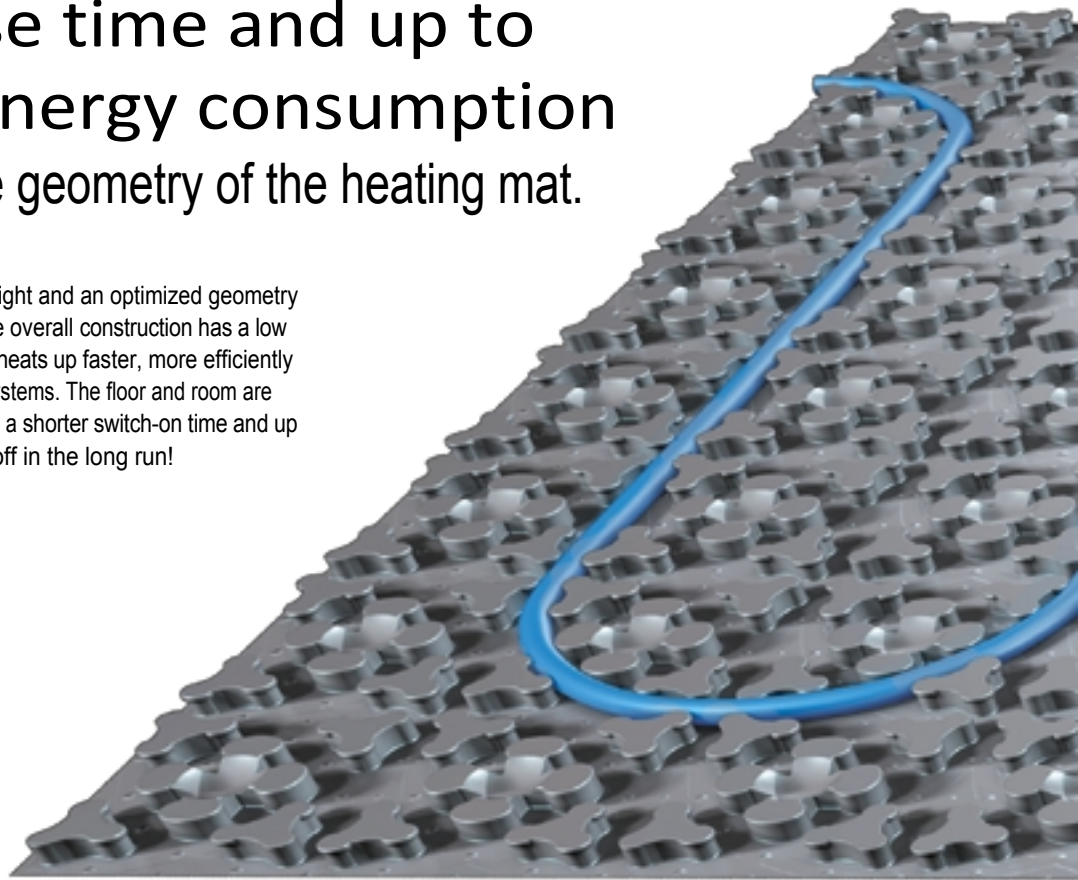
7 days
warm
Bathroom*

* with photovoltaics = 2 weeks hot bath

IndorTec® THERM-E

Fast response time and up to 10% lower energy consumption thanks to the unique geometry of the heating mat.

IndorTec® THERM-E has a low installation height and an optimized geometry of the support mat, which ensures that the overall construction has a low air void ratio. As a result, the construction heats up faster, more efficiently and more sustainably than comparable systems. The floor and room are warmed up faster and for longer, resulting in a shorter switch-on time and up to 10% less energy consumption. It pays off in the long run!



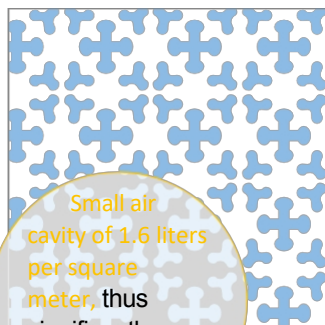
Low proportion of air cavity

Due to its specially developed structure, the IndorTec® THERM-E support mat has a 38% lower proportion of air cavities - and a correspondingly higher proportion of adhesive mass - than comparable systems. Air insulates, i.e. a heating mat with many air cavities must first heat the air before the heat can reach the covering. Mass, on the other hand, is a good heat conductor and -storage. The smaller the air cavity, the faster and more energy-efficient the system works.

Floating cable routing

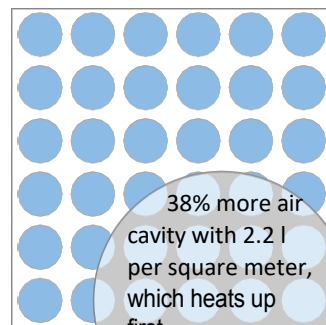
With IndorTec® THERM-E, the heating cables lie raised on contact points and are not in direct contact with the mat floor - in contrast to conventional systems. This allows the heating cables to be fully encased, i.e. free of air cavities all around, by filling compounds/tile adhesives. This means that the heat goes into the construction - and therefore faster upwards into the covering - and not into the substructure. The shorter the heating time, the shorter the switch-on time of the system.

IndorTec® THERM-E

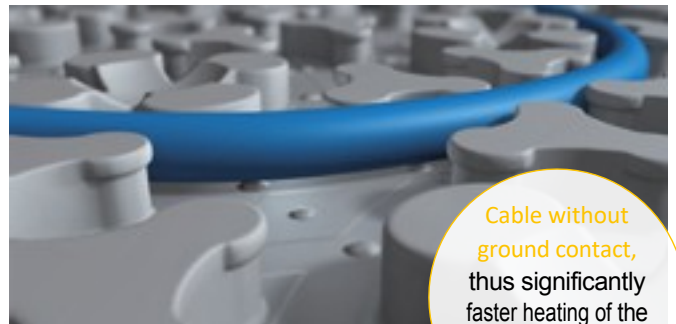


Small air cavity of 1.6 liters per square meter, thus significantly faster heating of the structure and flooring

Competitor product

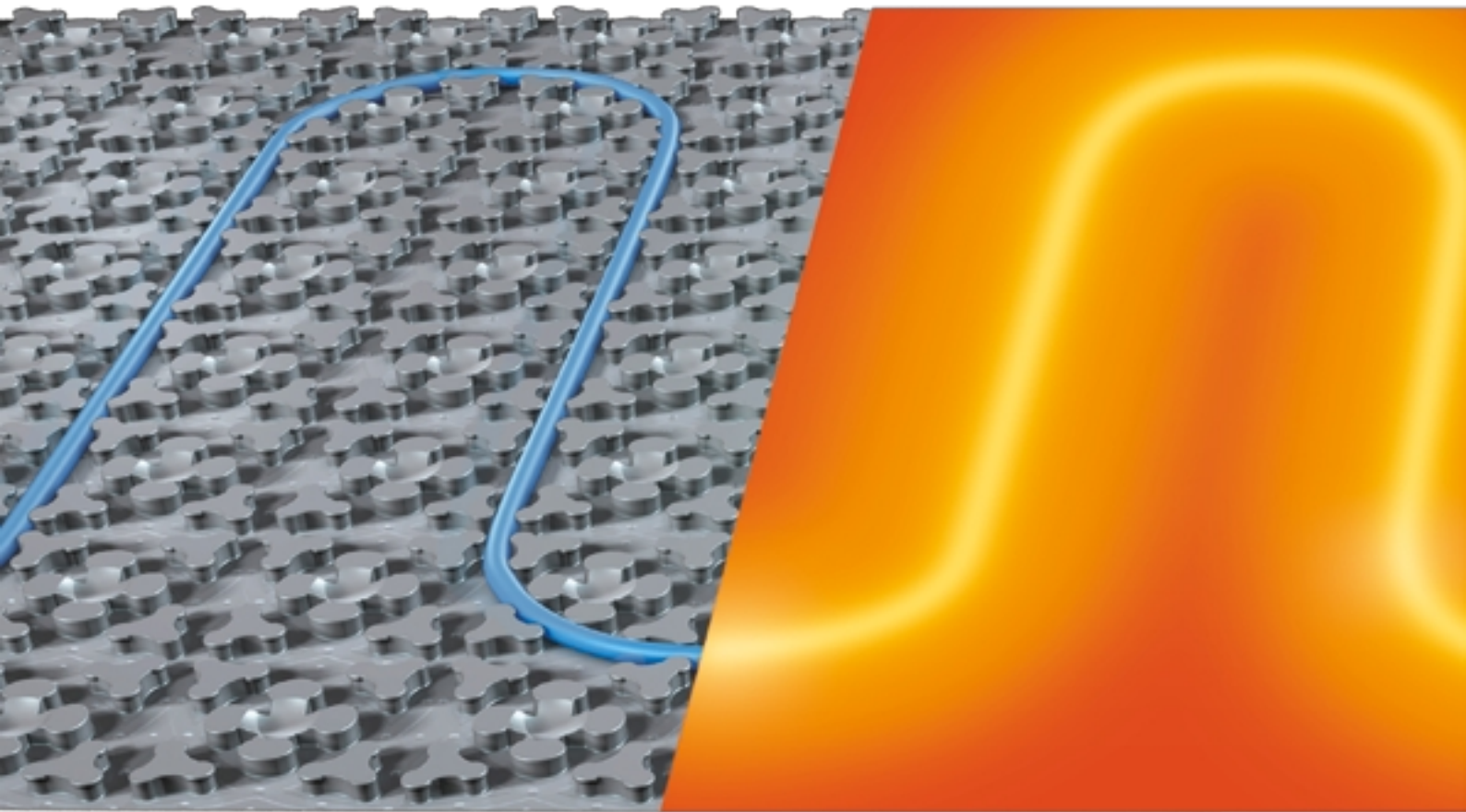


38% more air cavity with 2.2 l per square meter, which heats up first before the heat reaches the coating

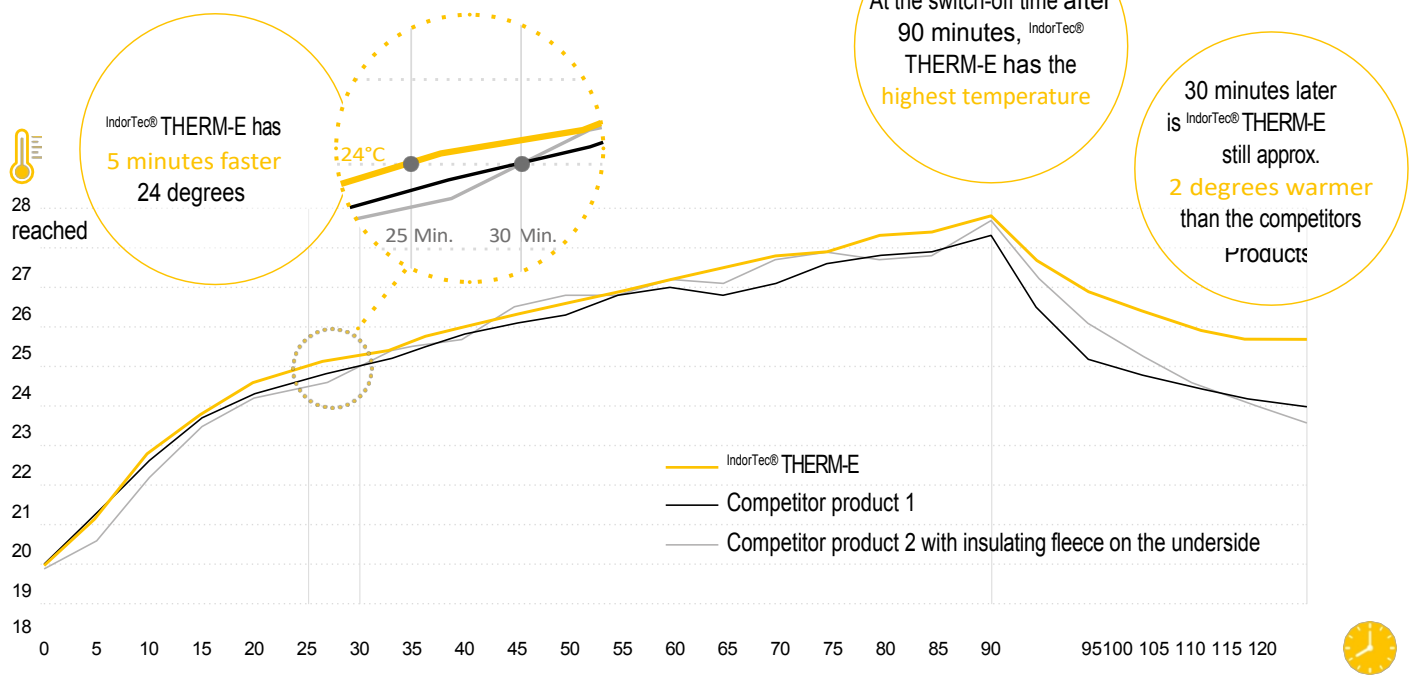


Cable without ground contact, thus significantly faster heating of the construction and the flooring

Efficiency



Faster, warmer for longer:
IndorTec® THERM-E in comparison



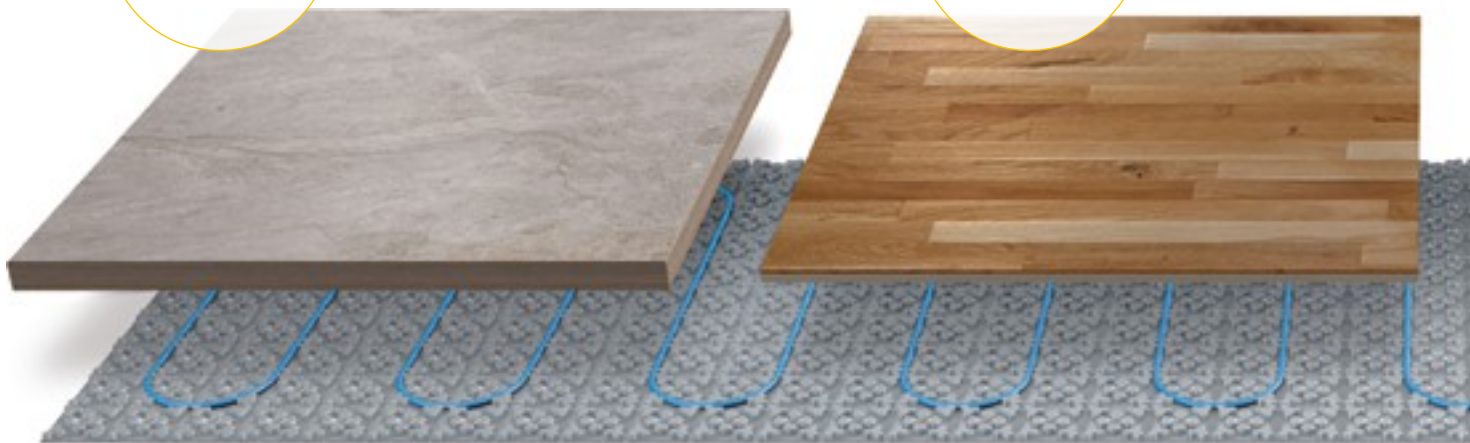
IndorTec® THERM-E

Extremely easy and quick to install 3-in-1 system for all floor coverings.

Tile and natural stone Coverings

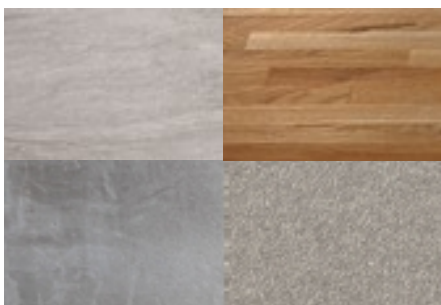


Multi-layer parquet and laminate



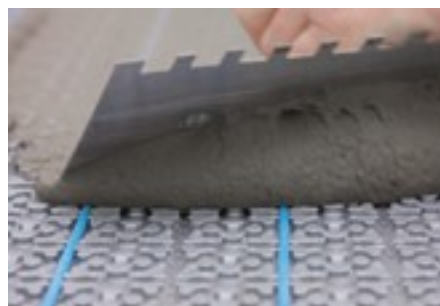
Suitable for all types of flooring

IndorTec® THERM-E enables a low installation height of 6 mm plus covering and is therefore ideal for renovation. It can be processed and used without waiting times. As an alternative to tile adhesive, suitable levelling compounds can also be used to lay underfloor heating-suitable multi-layer parquet and laminate flooring as well as textile and elastic coverings in addition to ceramic and natural stone.



Quick and easy to install floor and wall heating

IndorTec® THERM-E enables fast installation thanks to its optimum flatness. Thanks to the unique bone structure of the backing mat, the adhesive or filler spreads optimally in the gaps between the open structure "with a wipe", saving valuable time during installation.



Tested bonded waterproofing with abP, ideal for wet rooms

IndorTec® THERM-E has a general building authority test certificate (MPA NRW P-22-MPANRW-11393-18) and is therefore approved as a sealant for wet rooms and level-access showers.

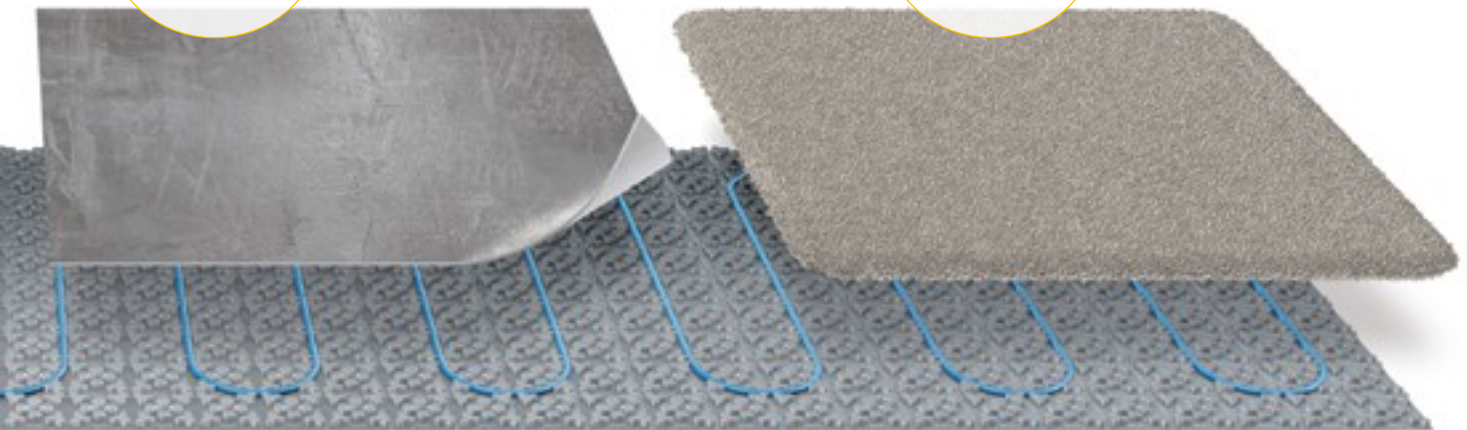


Processing

- ✓ Surface heating for **all coverings**
- ✓ **Tested** decoupling system
- ✓ Waterproofing membrane **with abP**

Elastic coverings

Textile coverings



Tested decoupling, even on critical substrates

IndorTec® THERM-E decouples the flooring from the substrate and compensates for stresses - just as effectively as a "classic" decoupling mat - with appropriate testing. This means it can be laid on young cement screeds, young calcium sulphate screeds, cracked (heated) screeds, wooden subfloors and dry screeds.

Radial, kink-free cable routing

Thanks to its special geometry, IndorTec® THERM-E, unlike comparable systems, has a radial cable guide with rapid, precise engagement of the heating cable in the support mat. This prevents kinking and damage to the cable.

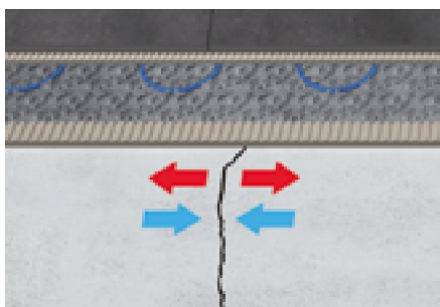
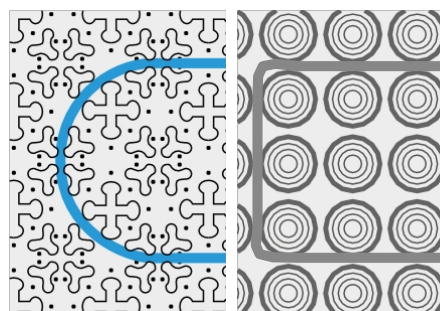
Ideally suited for use with fillers

Due to the open, flow-friendly structure of the backing mat, fillers can be optimally distributed in the mat.

In addition, IndorTec® THERM-E has excellent adhesive tensile strength values thanks to the claw fleece on the underside. It optimally absorbs the high residual stress of the filler and prevents the mat from detaching from the substrate.

IndorTec® THERM-E

Competitor product

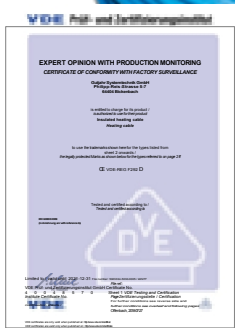
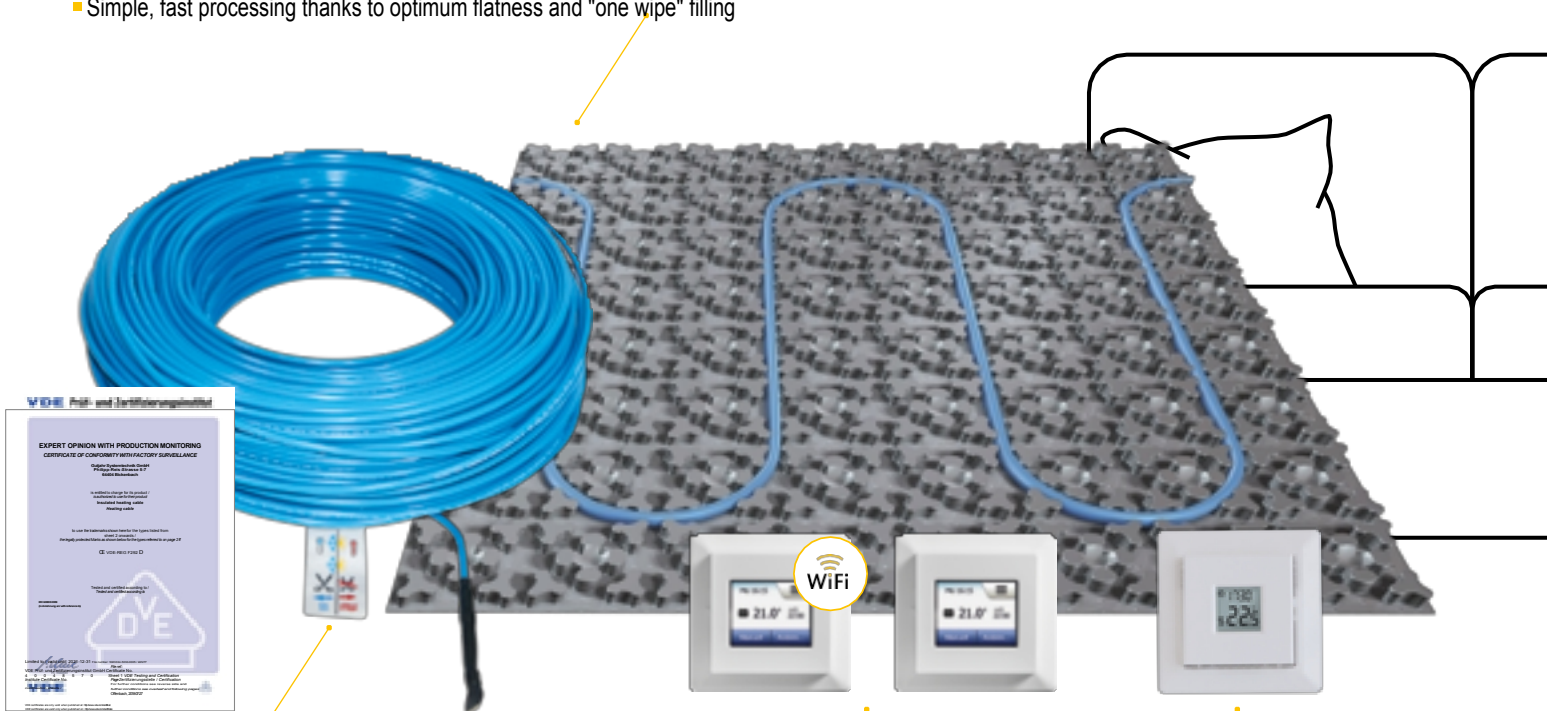


IndorTec® THERM-E

Convenient complete system consisting of support mat, heating cable and thermostats.

IndorTec® THERM-E backing mat

- Support system for heating cables, composite decoupling and damp-proofing in one
- Simple, fast processing thanks to optimum flatness and "one wipe" filling



IndorTec® THERM-E HK heating cable

- High-quality, pre-assembled cables - VDE-tested, VDE-REG F292; Made in Germany
- Available in 21 lengths for areas from 1.4 m² to 27 m²
- Uniform heating cable cross-section in every length - Enables precise snapping into the mat
- Socketless connection technology, i.e. smooth transition between PTC thermistor and heating cable - therefore no recesses required in the mat/floor



With voice control from 2024

IndorTec® THERM-E TS WiFi

IndorTec® THERM-E TD Touchscreen thermostat

- Programmable "all-in-one" touchscreen thermostat - for optimum comfort temperature at the desired time and minimum energy consumption
- With eco function
- Incl. floor sensor
- Compatible with commercially available sensors
- Flush mounting
- With voice control

IndorTec® THERM-E TM+

Manual Display Thermostat

- Manual, electronic on/off display thermostat for precise temperature setting between 0° and 40° C
- Preset night-time setback 5° C for automatic Comfort and lowering temperature
- Incl. floor sensor
- Flush mounting

Complete system

IndorTec® THERM-E TS WiFi Programmable touchscreen thermostat; Voice Control

Or IndorTec® THERM-E TD Programmable touchscreen thermostat

Or IndorTec® THERM-E TM+ Manual, electronic on/off display thermostat

New bathroom? Then go for a new shower channel.

Stainless steel shower channel:
Indor TEC FLEXDRAIN-ID
- Can be cut to size and ultra-flat
- Brushed stainless steel, anthracite or bronze

Gutjahr.com/ID



IndorTec® THERM-E BF floor sensor

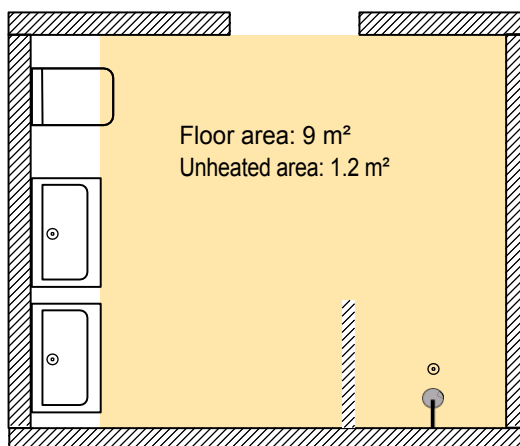
IndorTec® THERM-E HK heating cable

IndorTec® THERM-E mat

Simple material calculation

Calculation example

- 1** Measure the floor area and subtract unheated areas



- 2** Select the required quantity of backing mat for the base area

Article no.	Product dimensions (WxL)	Surface area
820 10 100 TE	Slab: 0.98 m x 0.79 m	= 0,77 m ²
820 10 101 TE	Roll: 0.98 m x 12.75 m	= 12,5 m ²

9 m² backing mat =
12 plates or
1 roll

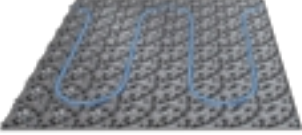






- 3** Select the required cable length for the heated area

The heating cable lengths correspond to the specified area sizes, in compliance with the edge stands, and must under no circumstances be shortened. Always use the next select smaller size.

Available heating cables, 230 V					
Article No.	Cable length m	Area m ²	Power Watt	Total Resistance Ohm (Ω)	
810 12 301 TE	12,07	1,40	138	383,95	
810 12 302 TE	17,66	2,00	207	256,07	
810 12 303 TE	23,77	2,60	275	192,06	
810 12 304 TE	29,87	3,30	345	153,53	
810 12 305 TE	35,97	3,90	413	128,05	
810 12 306 TE	41,56	4,50	482	109,72	
810 12 307 TE	47,67	5,10	555	95,34	
810 12 308 TE	53,77	5,80	619	85,49	
810 12 309 TE	59,87	6,30	690	76,63	
810 12 310 TE	71,57	7,50	831	63,70	
810 12 311 TE	83,77	8,80	972	54,45	
810 12 312 TE	95,47	10,00	1108	47,74	
810 12 313 TE	107,67	11,30	1228	43,07	
810 12 314 TE	119,37	12,40	1385	38,20	
810 12 315 TE	133,80	14,00	1544	34,25	
810 12 316 TE	155,70	16,00	1798	29,43	
810 12 317 TE	173,50	18,00	1993	26,55	
810 12 318 TE	193,70	20,00	2239	23,63	
810 12 319 TE	227,00	23,00	2618	20,20	
810 12 320 TE	244,50	25,00	2810	18,83	
810 12 321 TE	266,30	27,00	3070	17,23	

71.57 m heating cable for 7.5 m² heating surface

Components

<p>IndorTec® THERM-E mat</p> 	<ul style="list-style-type: none"> ▪ Ideal for large-format coverings made of ceramic/natural stone, wood/laminate, as well as textile and resilient coverings ▪ Support system for heating cables, composite decoupling and damp-proofing in one Stress-compensating, vapor pressure compensating ▪ +8 dB impact sound reducing 	<p>Sheet 6 mm, 0.98 x 0.79 m / roll 6 mm, 0.98 x 12.75 m</p>
<p>IndorTec® THERM-E HK heating cable</p> 	<ul style="list-style-type: none"> ▪ VDE-tested, <math>\langle \text{VDE-REG F292} \rangle</math> ▪ Protection class IPX7 ▪ For 230 V mains voltage Resistance tolerance -5%/+10% Minimum installation temperature $\geq 5^{\circ}\text{C}$ 	<p>Uniform cable cross-section for all lengths Delivery on easy-to-install cable drums Cold/hot transition seamless/without sleeve, waterproof</p> <p>Dimensions see table on the left</p>
<p>IndorTec® THERM-E TD / TW WiFi</p>  <p>TD TS</p>	<p>Touchscreen thermostat incl. floor sensor</p> <ul style="list-style-type: none"> ▪ Programmable touchscreen thermostat, 100 -240 V AC, 50/60 Hz Incl. WiFi - operation via app possible and with Voice Control (google/amazon alexa) ▪ Incl. floor and room sensor, NTC (12 K Ohm), 3 m long, compatible with commercially available sensors ▪ Suitable for tiles, stoneware, laminate and wooden floors ▪ Flush-mounted installation ▪ Radio frequency : 2.4 GHz ▪ WIFI: IEEE 802.11 b/g/n - 2.4 GHz ▪ Security standard: WPA/WPA2 	<p>84 x 84 x 40 mm (H x W x D)</p>
<p>IndorTec® THERM-E TM+ Manual display thermostat incl. floor sensor</p> 	<ul style="list-style-type: none"> ▪ Manual display thermostat, 230 -240 V AC, 50/60 Hz ▪ On/Off controller complies with the Ecodesign Directive ▪ Incl. floor and room sensor, NTC (12 KΩ), 3 m long ▪ Suitable for tiles, stoneware, ceramic and natural stone ▪ Flush-mounted installation 	<p>84 x 84 x 40 mm (H x W x D)</p>
<p>AquaDrain® RD edge insulation strips with SK foot</p> 	<ul style="list-style-type: none"> ▪ With self-adhesive base ▪ Prevents frictional clamping of the covering Installation between rising components ▪ Easy cutting to the required height using cutting lines 	<p>Roll /20 m, 80 x 40 x 8 mm (H x W x D)</p>
<p>AquaDrain® UB universal tape</p> 	<ul style="list-style-type: none"> ▪ Covers the joints of the decoupling and support mats ▪ Central perforation for separation 	<p>Roll, width 60 mm (2 x 30 mm) x 10 m</p>
<p>IndorTec® THERM-E panel heating complete set</p> 	<ul style="list-style-type: none"> ▪ Complete set consisting of support mat, heating cable, with WiFi thermostat or touch thermostat ▪ Including 1 flush-mounted box, 1 switch box and 3 m conduit 	<p>available from 2.3 m² to 7.7 m²</p>

Technical data sheets, installation instructions and installation videos can be found at Gutjahr.com/Therm-E




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UND NATURSTEIN**
im Zentralverband des Deutschen Baugewerbes



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