WARMSTAD

Comfortable living

For uniqueness,
value for money
and consumer's trust

Underfloor Heating

PRODUCT CATALOGUE

www.avalio.shop
+357 99710826

No more ice-cold floors...

ELECTRIC HEATING SYSTEMS FOR UNDERFLOOR WARMING

Underfloor heating is an economic and highly practical way of adding a «warm feeling» into the beautiful but cold floor covering of your dwelling. These systems provide thermal comfort and maintain even heat distribution throughout the room. Besides, these systems have low installation costs and may be easily installed in a short period of time. Underfloor heating brings warm and cozy ambient to your home.

Premium Comfort

Underfloor heating systems are a perfect way to create thermal comfort conditions in premises. Strategic placement to the floor surface ensures best performance and power savings. Due to the even heat distribution from below you are getting the optimal warmth distribution in your room. Underfloor heating can be used both for main heating and as an ambient heat installation.

Environmentally Friendly Heating

Electrical underfloor heating systems are the most environmentally friendly way of heating premises and the best way for creating thermal comfort. "*And radiant heating is a good choice for those with severe allergies as no potentially irritating particles get blown around the room.*"*

Underfloor heating takes care of your health: On the one hand the air is not dry, on the other there is no excessive humidity and cool air accumulation at the floor level. Besides, your children will always enjoy playing on the warm floor surface.

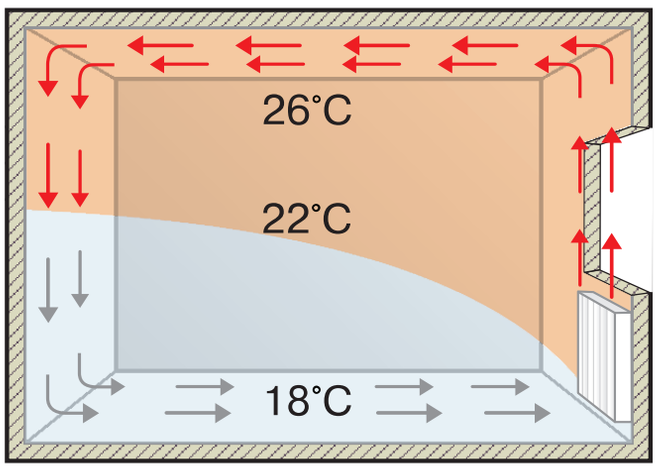
Aesthetic Qualities and Flight of Imagination in Design

In comparison to traditional heating sources, underfloor heating systems are completely invisible. They are placed below the floor surface, saving room space and giving you freedom to implement your designer's ideas. Get rid of that heating devices' confinement around you! Be free to create your own scenery!

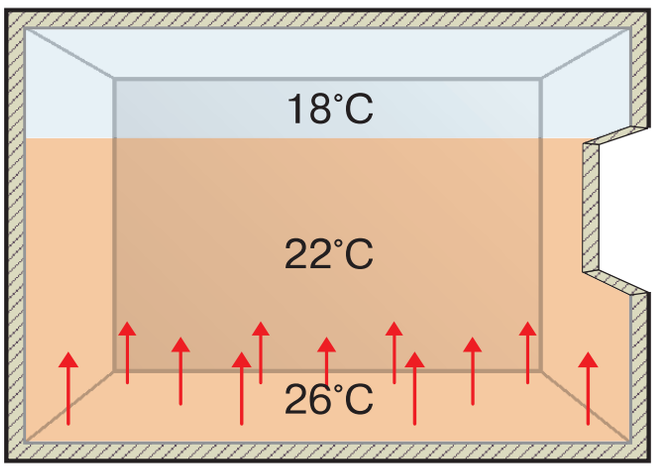
Easy Installation

Underfloor heating systems can be installed easily, both in the newly built home or as retrofit while re-modeling. They are suitable for all types of premises: rooms, bathrooms, nurseries, and offices. These heating systems are compatible with any type of floor coverings while being the best solution for «cold-type» coverings like ceramic tiles, natural stone, or terracotta.

*U.S. Department of Energy



Conventional Radiator Heating



Underfloor Heating System

Low Maintenance Costs

Underfloor heating systems help reducing your power bills. Underfloor installation of the heating system expands the surface of heat emission.

Strategic placement inside the floor structure ensures quick and optimal warming-up. Meanwhile, an electronic smart thermostat maintains comfortable temperature in the room by automatically turning the heating system «on» and «off» as you wish. When you are out, this smart device works in an energy-saving mode, while the premises will be warm enough on your return home. Underfloor heating systems work only when you need them. As a result, "*radiant systems transmit heat on average some 15 percent more efficiently than conventional radiators.*"** When properly designed and professionally installed, electric heated floors may reduce your heating costs by up to 50%.

Benefits

Underfloor heating systems share same benefits with storage heaters:

- operate in "switch on / switch off" customized cyclic modes, in conjunction with heat accumulation and release cycles, correspondingly
- may be timed and programmed in accordance with dwellers' daily routines and/or day/night power rates
- doesn't burn oxygen and doesn't dry air inside the dwelling

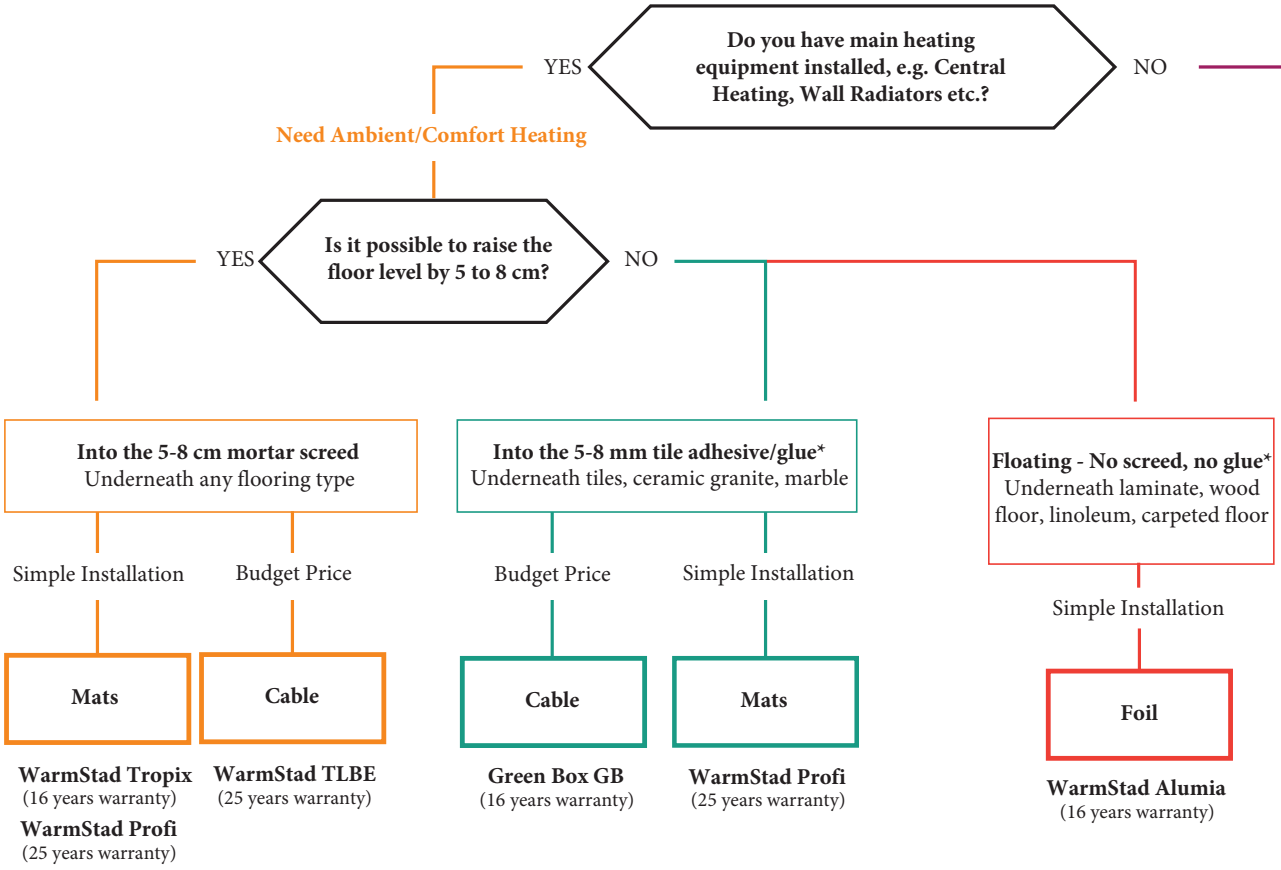
However, underfloor heating systems have certain irresistible advantages:

- distribute the heat more evenly across the premises
- establish more optimized heated air convection across the room
- create more comfortable feeling at the floor level, thus eliminating the need for excessive temperature settings, allowing more power savings

Long-life performance. Safety. Warranties.

Durability is a hallmark of underfloor heating systems. It is ensured not only due to their protection from environmental influence, but also due to the highest production quality of components and innovative technologies. Warm floors are absolutely safe. They are manufactured in full conformity with European Quality Standards. We ensure the highest factory warranties for our products.

**RESNet, www.resnet.us



*Dry rooms only. Not suitable for shower cabins, bathrooms, hammams, saunas, laundrettes

ELECTRIC UNDERFLOOR HEATING SYSTEM SELECTION

Radiant heated floors system is a modern and environmentally friendly solution for optimal maintenance of desired temperatures at home or in the office.

Heated floor creates an atmosphere of comfort and warmth in your apartment, in a country house or at your villa.

Electric heated floor system is one of the most popular types of underfloor heating. These systems have won the consumers' trust due to high reliability, availability, and ease of use.

Electric floor heating can be used in almost any room. Heated floors are most commonly used in residential properties: kitchens, bedrooms, nurseries, living rooms, hallways, bathrooms, and shower rooms.

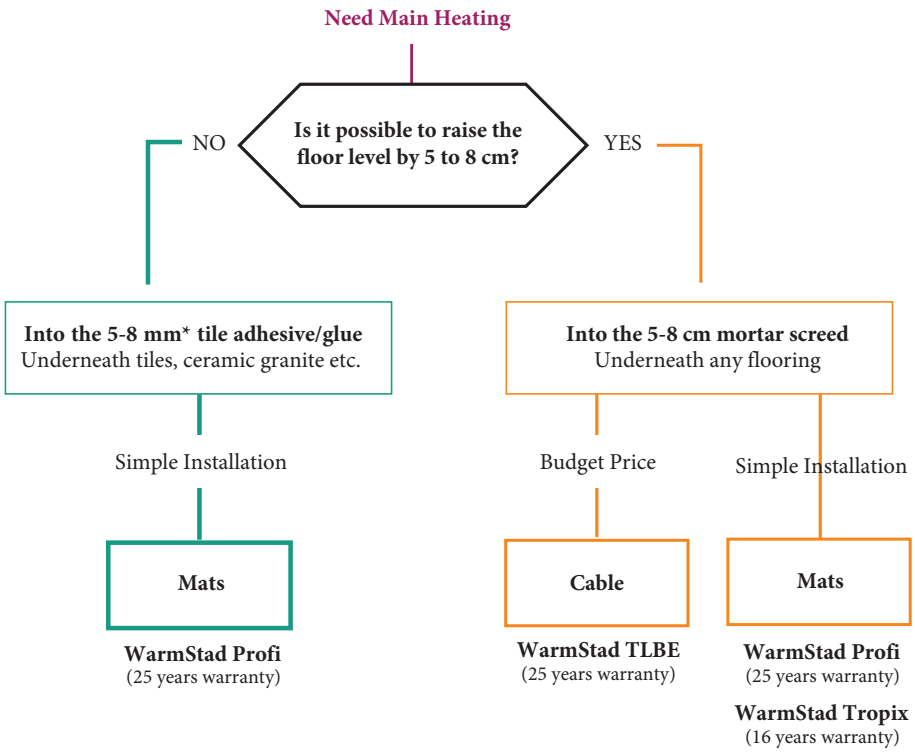
Heating mats and cables may be used under various flooring types: ceramic tile, laminate, carpets, linoleum, marble and other natural stone. Electric underfloor heating can be utilized both for the main heating, in case there is no central heating in the room, and for ambient comfortable heating. The latter is most popular application, while the former is picking up due to its installation costs going down with years.

Unlike conventional radiators, electric heated floors emit the heat from the bottom up, evenly warming the air in the room. Any possibility for drafts eliminated. There are no excessively hot air streams which usually carry dust and cause trouble for people suffering from allergies as well as asthmatics.

Indoors, a comfortable temperature is reached: warmer at the floor level, and cooler at the head level. According to the medics, this temperature balance that is most optimal for the human body.

Underfloor heating is an excellent solution for the room space design, since there's no need to install bulky wall radiators - especially if heated floor is used as the main means of heating.

Another heated floors' advantage - They do not require any maintenance. Its operation is easy to control with a thermostat. When installing a programmable thermostat, the user is choosing "peace of mind" because vthe system will be turned on and off when needed, according to the schedule set up by the user. Properly distributed heat helps a creating healthy and psychologically comfortable atmosphere at home. By installing electric heated floors in your house, one makes a long-term investment in their comfort and takes care of the beloved ones' health.



*Dry rooms only. Not suitable for shower cabins, bathrooms, hammams, saunas, laundrettes

Please select the room size/area to be equipped with electric heated floor system of your choice:

$S_{heating} = S_{total} - (S_{furniture} + S_{appliances})$ $P_{system} = S_{heating} \times P_{comfort/main\ heating}$

Heated cable shall be selected from the product line based on its power, where

Cable Loop Spacing (cm) = $(100 * S_{heated})/L_{section}$

Heating mat is selected based on the heated area. In case there's no perfect area match, pl;ease select the one step smaller size

ATTENTION!
It is prohibited to shorten the heating cable or the mat section heating element!

P = Power (W), S = Area (m^2), L = Length (m).

RECOMMENDATION ONLY! System parameters and installation procedure may vary depending on the customer's situation. Before purchasing and installing the Underfloor Heating System, please consult with the qualified professional.

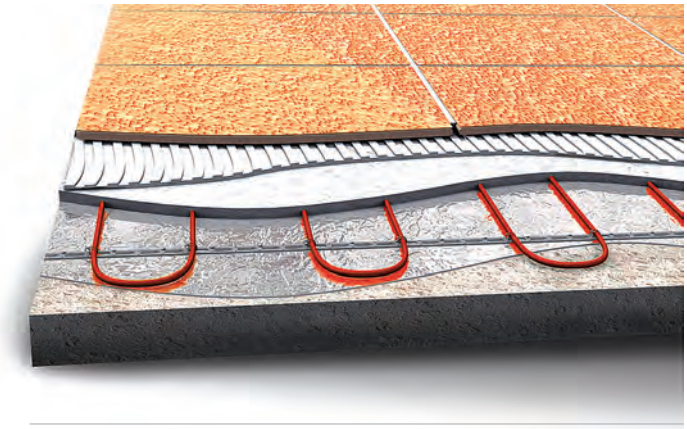
Warmstad TLBE

Underfloor heating with underlayment

Double-Core Heating Cables

FEATURES

- ✓ Maximum cost and energy saving
- ✓ Wide range of heating cable power outputs
- ✓ Wide range of application possibilities
- ✓ Long-life performance
- ✓ Easy handling
- ✓ 100% NO radiation



DESCRIPTION

Application

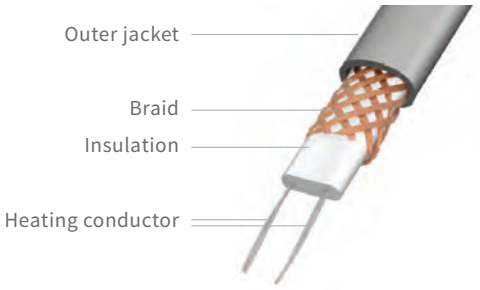
TLBE heating cables are applied as a basic heating system in thermally insulated buildings when it is impossible to use a central heating system. These systems are excellently applicable for installation in floor screed and can be used under any covering of your choice: tile, marble or carpet.

Construction

TLBE double-core heating section consists of a shielded heating cable with two cores, one coupling, one cold lead and a cable termination. Due to the double-core design of the heating cable, the electric power is supplied from one end of the section which makes the installation process easier. TLBE double-core heating sections are used in combination with thermostats. Therefore the consuming power of the system will be less than the installed power (up to 70% in winter and about 10% in spring and in autumn).

CABLE DESIGN

TLBE Double-core heating cable



TECHNICAL DATA

Rated voltage	230 VAC
Power	16–18 W/m
Maximum operation temperature	80 °C
Minimum operation temperature	–10 °C
Minimum storage temperature	–20 °C
Minimum installation temperature	–10 °C
Minimum bending radius	30 mm
Cold lead length	3 m
Cable diameter	5.5×7.9 mm

APPLICATION

Application		Installation	
Direct heating	■	Mortar screed	■
Comfort heating	■	Tile adhesive/glue layer	□

PRODUCT DESIGN

TLBE Double-core heating section

PRODUCT REFERENCES

Double-core heating section TLBE				
Section type	**Heating area recommended, m²**	**Rated power, W**	**Nominal power output, W/m**	**Section length, m**
TLBE-7-105	0.7–1.0	105	15.0	7.0
TLBE-9,5-150	1.0–1.5	150	15.8	9.5
TLBE-12,5-210	1.5–2.0	210	16.8	12.5
TLBE-15,5-260	1.7–2.6	260	16.8	15.5
TLBE-21-350	2.3–3.4	350	16.7	21.0
TLBE-27-460	3.0–4.3	460	17.0	27.0
TLBE-33-560	3.7–5.5	560	17.0	33.0
TLBE-42-730	4.8–7.2	730	17.4	42.0
TLBE-55-980	6.5–9.6	980	17.8	55.0
TLBE-71-1265	8.0–12.0	1,265	17.8	71.0
TLBE-84-1500	10–14.8	1,500	17.9	84.0
TLBE-102-1855	12.3–17.0	1,855	18.2	102.0
TLBE-131-2530	16.8–25	2,530	19.3	131.0
TLBE-159-2680	17.8–26	2,680	16.9	159.0

INSTALLATION

For uniform heat distribution, the heating sections are installed in loops with constant spacing by using the assembly tape. For the installation of the heating section an additional thermostat with an appropriate temperature sensor is required. The temperature sensor is embedded in the cement mortar. It should be placed in a corrugated tube in the middle of one cable loop. The thermostat should be mounted on the wall in the most suitable place for you. Applicable norms, rules and data sheets as well as instructions and manuals are to be followed! For detailed installation instructions please use the installation manual.

APPROVAL DETAILS

The compliance with all necessary requirements is approved by appropriate certificates:

CE VDE **RoHS**

ORDERING INFORMATION

Heating cable section **TLBE-131-2530**

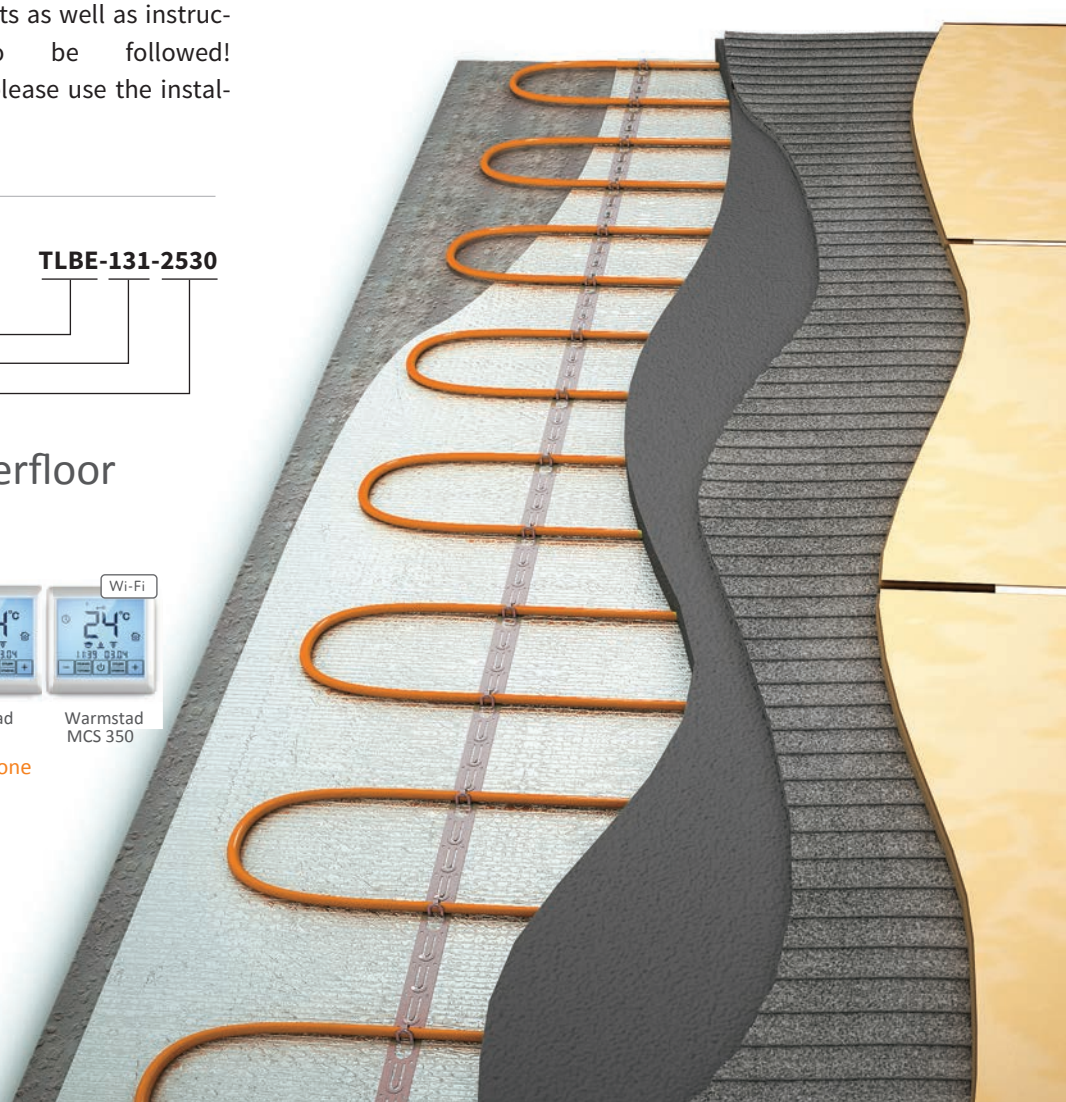
Product reference: type of the heating section
Section length, m
Power, W

Recommended for underfloor heating management

Warmstad 510 | Warmstad 515 | Warmstad 520 | Warmstad SE 200 | Warmstad MCS 350

Mechanical, programmable, touch- or smartphone operated thermostats

See details on page 17-23



Green Box GB

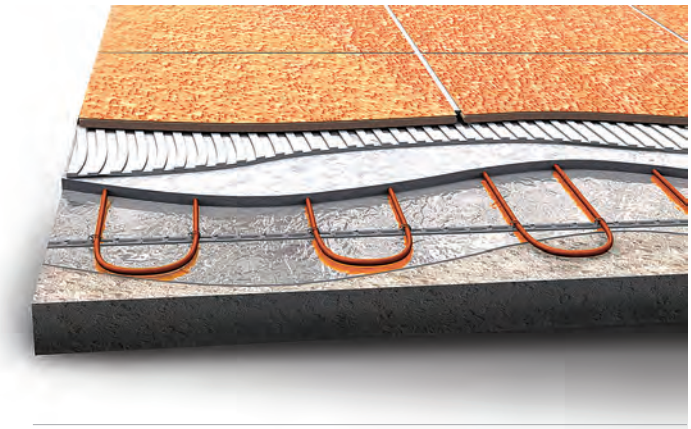
Underfloor heating
with underlayment

warranty 16 years

Ultra Thin Double-Core Heating Cables

FEATURES

- ✓ Small cable diameter
- ✓ Ecological compatibility
- ✓ 100% guarantee of electrical safety
- ✓ 100% NO radiation
- ✓ Additional protection against overheating
- ✓ Universal solution for premises with complex room layouts
- ✓ Maximum cost and energy saving
- ✓ Easy installation



DESCRIPTION

Application

GB heating sections are applied as a supplementary system for comfortable floor heating. In thermal insulated buildings the GB heating sections could be used as a basic heating system when it is impossible to use a central heating system. The ultra-thin GB heating sec-tions are excellently applicable for the installation in a tile adhesive layer or in screed. They can be applied under any covering of your choice: tile, marble or carpet.

Construction

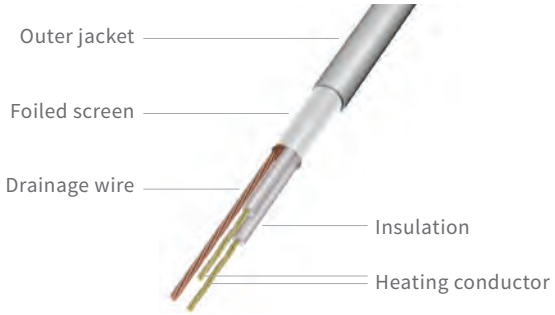
GB double-core heating section consists of a heating cable with two cores in a foil-coated screening sheath with a protective drainage wire, one coupling, one cold lead (3 m length) and a cable termination. Due to the double-core design of the heating cable, the electric power is sup-plied only from one end of the section, which makes the installation process easier. The cable insulation is made of tough heat-resisting non-flammable fluoropolymer. The cable shield is made of aluminium foil, reinforced with a copper line. The GB heating sections are made exclusively of high quality materials produced by world leading manu-facturers. The GB heating sections operate in combination with thermostats. Therefore the consuming power of the system will be less than the installed power (up to 70%).

APPLICATION

Application		Installation	
Direct heating	☐	Mortar screed	☐
Comfort heating	■	Tile adhesive/glue layer	■

CABLE DESIGN

GB Double-core heating cable

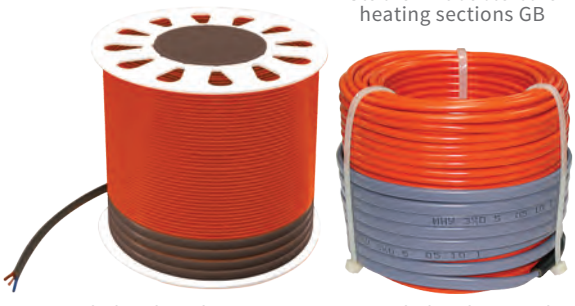


TECHNICAL DATA

Rated voltage	230 VAC
Power	12 W/m
Maximum operation temperature	90 °C
Minimum operation temperature	–10 °C
Minimum storage temperature	–20 °C
Minimum installation temperature	–10 °C
Minimum bending radius	30 mm
Cold lead length	3 m
Cable diameter	3.78–5.05 mm

PRODUCT DESIGN

Ultra-thin double-core heating sections GB



Spooled with reel

Spooled without reel

PRODUCT REFERENCES

Double-core heating section GB				
Section type	**Heating area recommended, m²**	**Rated power, W**	**Nominal power output, W/m**	**Section length, m**
GB-130-11	0.8–1.0	130	11.8	11.0
GB-220-18	1.4–1.7	220	12.2	18.0
GB-300-25	2.0–2.3	300	12.0	25.0
GB-470-39	3.0–3.6	470	12.1	39.0
GB-815-63	5.4–6.2	815	12.9	63.0
GB-1040-86	7.0–8.0	1,040	12.1	86.0
GB-1800-155	12.0–13.8	1,800	11.6	155.0

INSTALLATION

For the installation of the heating mat an additional thermostat with an appropriate temperature sensor is required. The temperature sensor is also embedded in the cement mortar. It should be placed in a corrugated tube in the middle of one cable loop. The thermostat should be mounted on the wall in the most suitable place for you.
Applicable norms, rules and data sheets as well as instructions and manuals are to be followed!
For detailed installation instructions please use the installation manual.

ORDERING INFORMATION

Heating section **GB-130-11**

Product reference: type of the heating section
Power, W
Section length, m

APPROVAL DETAILS

The compliance with all necessary requirements is approved by appropriate certificates:

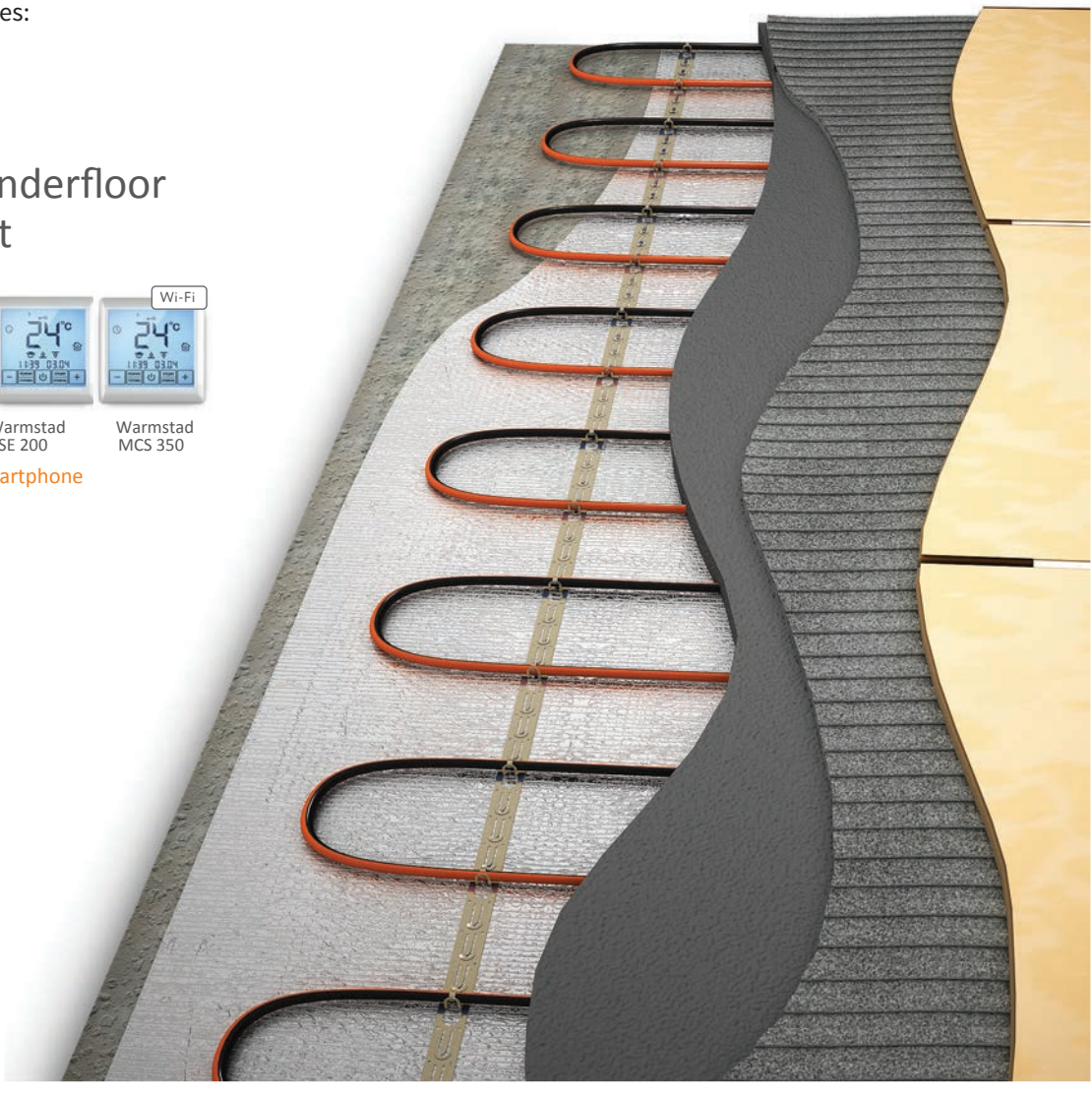
CE **RoHS**

Recommended for underfloor heating management

Warmstad 510 | Warmstad 515 | Warmstad 520 | Warmstad SE 200 | Warmstad MCS 350

Mechanical, programmable, touch- or smartphone operated thermostats

See details on page 17-23



Warmstad Profi

Ultra reliable underfloor heating

Warranty 25 years

Stitched Heating mats

FEATURES

- ✓ The best solution for premises with low ceilings
- ✓ Cost and energy saving system
- ✓ Wide range of power outputs
- ✓ Self-adhesive mats
- ✓ Easy installation
- ✓ Uniform laying
- ✓ 100% NO radiation

DESCRIPTION

Application

Warmstad Profi heating mat is applied as a supplementary sys-tem for comfortable floor heating. The system can be easily laid into a thin tile adhesive layer (8–10 mm). The system can be used under any covering of your choice: tile, marble or carpet. It is applicable for all types of premises and can be easily installed both on a new surface or on the existing floor in case of repair works, especially when it is highly important to keep a low thickness of the floor construction.

Construction

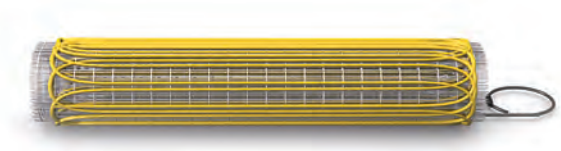
The double-core heating mat is made of a shielded double-core thin cable, stitched on to a fiber mesh. The Warmstad Profi heating mat is fitted up with a cold lead, a reliable coupling and end termination.

Thanks to the cable fixation on the self-adhesive mesh – there is no need to adjust the wire spacings and to fix the cable on the thin floor surface. Due to only one connection wire, the double-core mat construction makes the process of installation easier and reduces installation cost.

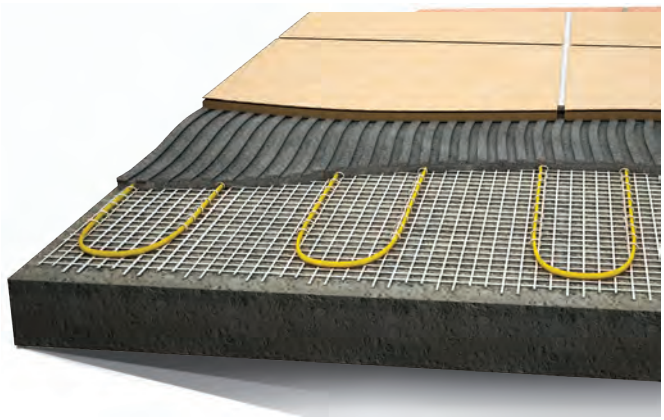
APPLICATION

Application		Installation	
Direct heating	■	Mortar screed	■
Comfort heating	■	Tile adhesive/glue layer	■

PRODUCT DESIGN

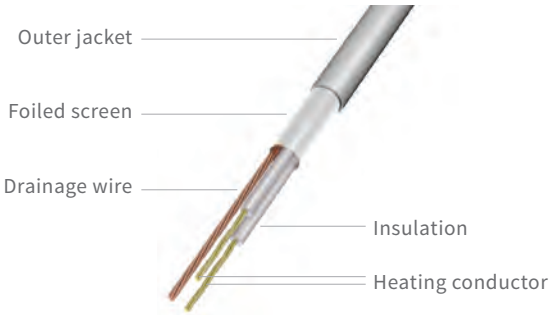


Warmstad Profi Double-core heating mat



CABLE DESIGN

Double-core heating cable CIRS



TECHNICAL DATA

Rated voltage	230 VAC
Power	100, 160, 200 W/m²
Maximum operation temperature	90 °C
Minimum operation temperature	–10 °C
Minimum storage temperature	–20 °C
Minimum installation temperature	–10 °C
Installation width	0,5 m
Cold lead length	5 m
Cable diameter	approx. 3.0–3.5 mm

ORDERING INFORMATION

Heating mat **MHH-N-100-1,00**

Product reference: type of the heating mat
Power, W
Area, m²

PRODUCT REFERENCES

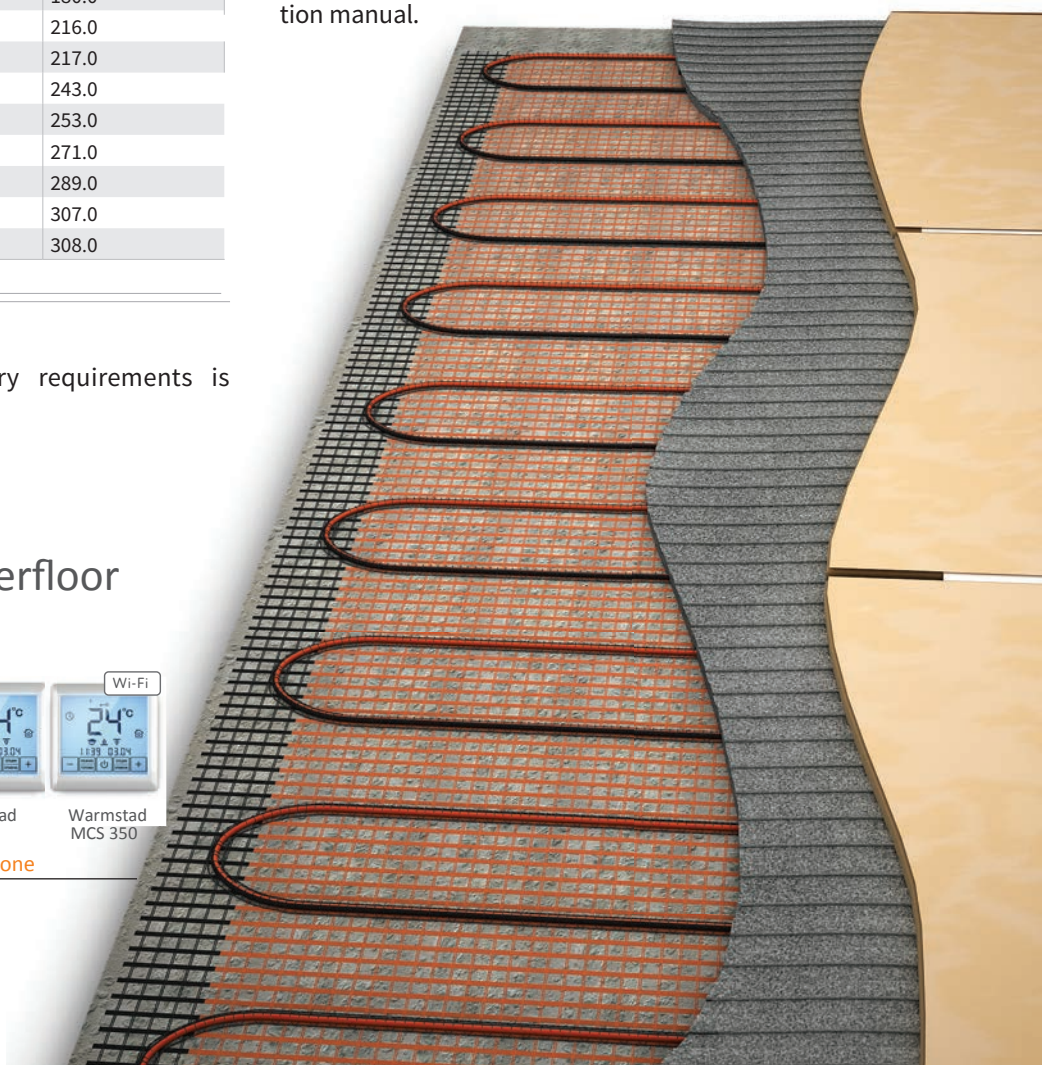
Double-core heating mat MHH-N 100 W/m²			
Mat type	**Area, m²**	**Power, W**	**Cable length, m**
MHH-N-100-1,00	1.00	100	11.5
MHH-N-150-1,50	1.50	150	18.0
MHH-N-200-2,00	2.00	200	28.0
MHH-N-250-2,50	2.50	250	29.5
MHH-N-300-3,00	3.00	300	40.0
MHH-N-350-3,50	3.50	350	49.0
MHH-N-400-4,00	4.00	400	47.0
MHH-N-500-5,00	5.00	500	62.0
MHH-N-600-6,00	6.00	600	75.0
MHH-N-700-7,00	7.00	700	86.0
MHH-N-800-8,00	8.00	800	110.0
MHH-N-900-9,00	9.00	900	110.0
MHH-N-1000-10,00	10.00	1,000	123.0
MHH-N-1200-12,00	12.00	1,200	165.0
MHH-N-1500-15,00	15.00	1,500	192.0

Double-core FAST heating mat MHH-N 160 W/m²			
Mat type	**Area, m²**	**Power, W**	**Cable length, m**
MHH-N-160-1,00	1.00	160	16.5
MHH-N-240-1,50	1.50	240	21.5
MHH-N-340-2,15	2.15	340	36.0
MHH-N-480-2,50	2.50	400	46.0
MHH-N-480-3,00	3.00	480	51.0
MHH-N-640-4,00	4.00	640	64.0
MHH-N-800-5,00	5.00	800	86.0
MHH-N-960-6,00	6.00	960	104.0
MHH-N-1120-7,00	7.00	1,120	110.0
MHH-N-1280-8,00	8.00	1,280	128.0
MHH-N-1440-9,00	9.00	1,440	150.0
MHH-N-1600-10,00	10.00	1,600	160.0
MHH-N-1760-11,00	11.00	1,760	183.0
MHH-N-1920-12,00	12.00	1,920	180.0
MHH-N-2080-13,00	13.00	2,080	216.0
MHH-N-2240-14,00	14.00	2,240	217.0
MHH-N-2400-15,00	15.00	2,400	243.0
MHH-N-2560-16,00	16.00	2,560	253.0
MHH-N-2720-17,00	17.00	2,720	271.0
MHH-N-2880-18,00	18.00	2,880	289.0
MHH-N-3040-19,00	19.00	3,040	307.0
MHH-N-3200-20,00	20.00	3,200	308.0

Double-core SUPER FAST heating mat MHH-N 200 W/m²			
Mat type	**Area, m²**	**Power, W**	**Cable length, m**
MHH-N-100-0,50	0.50	100	7.5
MHH-N-200-1,00	1.00	200	14.0
MHH-N-300-1,50	1.50	300	19.0
MHH-N-400-2,00	2.00	400	31.0
MHH-N-500-2,50	2.50	500	37.0
MHH-N-600-3,00	3.00	600	41.0
MHH-N-700-3,50	3.50	700	49.0
MHH-N-800-4,00	4.00	800	55.0
MHH-N-900-4,50	4.50	900	59.0
MHH-N-1000-5,00	5.00	1,000	71.0
MHH-N-1200-6,00	6.00	1,200	76.0
MHH-N-1400-7,00	7.00	1,400	90.0
MHH-N-1600-8,00	8.00	1,600	107.0
MHH-N-1800-9,00	9.00	1,800	119.0
MHH-N-2000-10,00	10.00	2,000	128.0
MHH-N-2200-11,00	11.00	2,200	137.0
MHH-N-2400-12,00	12.00	2,400	150.0
MHH-N-3000-15,00	15.00	3,000	202.0

INSTALLATION

For the installation of the heating mat a thermostat with an appropriate temperature sensor is required. The temperature sensor is also embedded in the cement mortar. It should be placed in a corrugated tube in the middle of one cable loop. The thermostat should be mounted on the wall in the most suitable place for you.
Applicable norms, rules and data sheets as well as instructions and manuals are to be followed!
For detailed installation instructions please use the installation manual.



APPROVAL DETAILS

The compliance with all necessary requirements is approved by appropriate certificates:

CE VDE

Recommended for underfloor heating management

Warmstad 510 | Warmstad 515 | Warmstad 520 | Warmstad SE 200 | Warmstad MCS 350

Mechanical, programmable, touch- or smartphone operated thermostats

See details on page 17-23

Warmstad Tropix

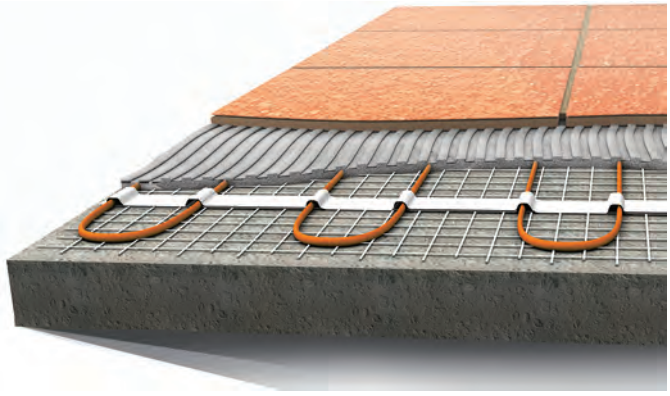
Double-Core Heating Mats

Thin underfloor heating system
No underlayment required

Warranty 16 years

FEATURES

- ✓ The best solution for premises with low ceilings
- ✓ Cost and energy saving system
- ✓ Wide range of power outputs
- ✓ Approved long-life performance
- ✓ Self-adhesive mats
- ✓ Easy installation
- ✓ 100% NO radiation



DESCRIPTION

Application

Warmstad Tropix heating mat is applied as a supplementary system for comfortable floor heating. The system can be easily laid into a thin tile adhesive layer (8–10mm). The system can be used under any covering of your choice: tile, marble or carpet. It is applicable for all types of premises and can be easily installed both on a new surface or on the existing floor in case of repair works, especially when it is highly important to keep a low thickness of the floor construction.

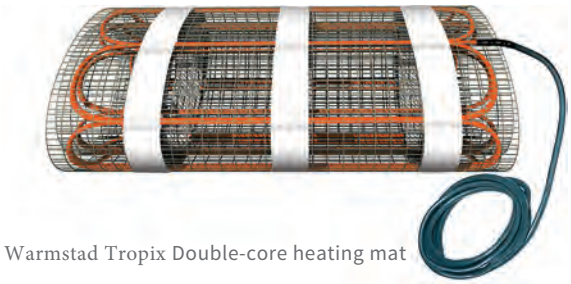
Construction

Warmstad Tropix double-core heating mat is made of a shielded double-core cable, fixed on a fiber mesh. Warmstad Tropix heating mat is fitted up with a cold lead, a reliable coupling and end termination. Thanks to the cable fixation on the self-adhesive mesh – there is no need to adjust the wire spacings and to fix the cable on the floor surface. Due to only one connection wire, the double-core mat construction makes the process of installation easier and reduces installation cost.

APPLICATION

Application		Installation	
Direct heating	■	Mortar screed	■
Comfort heating	■	Tile adhesive/glue layer	□

PRODUCT DESIGN



Warmstad Tropix Double-core heating mat

CABLE DESIGN

MHH Double-core heating cable

TECHNICAL DATA

Rated voltage		230 VAC
Power		100, 150, 200 W/m²
Maximum operation temperature		90 °C
Minimum operation temperature		–10 °C
Minimum storage temperature		–20 °C
Minimum installation temperature		–10 °C
Installation width		0,5 m
Cold lead length	for 100 & 150 W/m²	2 m
Cold lead length	for 200 W/m²	4 m
Cable diameter		approx. 3.5–5.0 mm

ORDERING INFORMATION

Heating mat **MHH-220-1,60**

Product reference: type of the heating mat
Power, W
Area, m²

Warmstad Tropix Mats Specifications

PRODUCT REFERENCES

Double-core heating mat MHH 100 W/m²			
Mat type	**Area, m²**	**Power, W**	**Cable length, m**
MHH-75-0,75	0.75	75	10.0
MHH-135-1,30	1.3	135	11.0
MHH-220-2,10	2.1	220	18.0
MHH-300-3,00	3.0	300	25.0
MHH-380-3,80	3.8	380	32.0
MHH-470-4,60	4.6	470	39.0
MHH-545-5,30	5.3	545	45.0
MHH-650-6,40	6.4	650	54.0
MHH-815-7,80	7.8	815	66.0
MHH-930-9,10	9.1	930	77.0
MHH-1040-10,10	10.1	1,040	86.0
MHH-1225-12,00	12.0	1,225	102.0
MHH-1515-14,70	14.7	1,515	125.0

Double-core FAST heating mat MHH 150 W/m²			
Mat type	**Area, m²**	**Power, W**	**Cable length, m**
MHH-95-0,65	0.65	95	8.0
MHH-135-1,00	1.0	135	11.0
MHH-220-1,60	1.6	220	18.0
MHH-300-2,10	2.1	300	25.0
MHH-380-2,70	2.7	380	32.0
MHH-470-3,40	3.4	470	39.0
MHH-545-3,80	3.8	545	45.0
MHH-650-4,80	4.8	650	54.0
MHH-815-5,70	5.7	815	66.0
MHH-930-6,80	6.8	930	77.0
MHH-1040-7,80	7.8	1,040	86.0
MHH-1225-9,00	9.0	1,225	102.0
MHH-1515-11,00	11.0	1,515	117.0
MHH-1690-12,70	12.7	1,690	132.0
MHH-2000-14,00	14.0	2,000	156.0
MHH-2250-15,00	14.9	2,250	172.0
MHH-2400-16,00	16.0	2,400	185.0
MHH-2550-17,00	17.0	2,550	202.0
MHH-2700-18,00	18.0	2,700	212.0
MHH-2850-19,00	19.0	2,850	227.0
MHH-3000-20,00	20.0	3,000	240.0

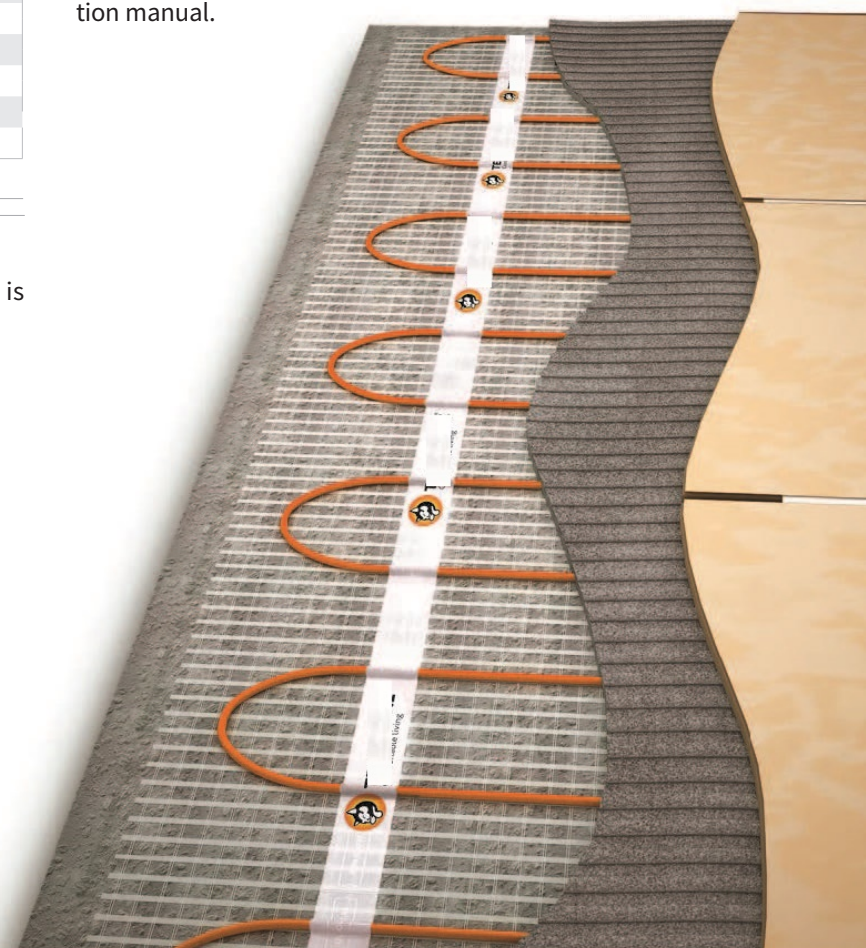
Double-core SUPER FAST heating mat MHH 200 W/m²			
Mat type	**Area, m²**	**Power, W**	**Cable length, m**
MHH-100-0,5	0.5	100	7.5
MHH-200-1,0	1.0	200	14.0
MHH-300-1,5	1.5	300	24.0
MHH-400-2,0	2.0	400	31.0
MHH-500-2,5	2.5	500	37.0
MHH-600-3,0	3.0	600	41.0
MHH-700-3,5	3.5	700	49.0
MHH-800-4,0	4.0	800	55.0
MHH-900-4,5	4.5	900	59.0
MHH-1000-5,0	5.0	1,000	71.0
MHH-1200-6,0	6.0	1,200	76.0
MHH-1400-7,0	7.0	1,400	90.0
MHH-1600-8,0	8.0	1,600	107.0
MHH-1800-9,0	9.0	1,800	119.0
MHH-2000-10,0	10.0	2,000	128.0
MHH-2200-11,0	11.0	2,200	137.0
MHH-2400-12,0	12.0	2,400	150.0
MHH-3000-15,0	15.0	3,000	187.0

INSTALLATION

For the installation of the heating mat a thermostat with an appropriate temperature sensor is required. The temperature sensor is also embedded in the cement mortar. It should be placed in a corrugated tube in the middle of one cable loop. The thermostat should be mounted on the wall in the most suitable place for you.

Applicable norms, rules and data sheets as well as instructions and manuals are to be followed!

For detailed installation instructions please use the installation manual.



APPROVAL DETAILS

The compliance with all necessary requirements is approved by appropriate certificates:

CE VDE **RoHS**

Recommended for underfloor heating management

Warmstad 510 | Warmstad 515 | Warmstad 520 | Warmstad SE 200 | Warmstad MCS 350

Mechanical, programmable, touch- or smartphone operated thermostats

See details on page 17-23

Warmstad Alumia

Ultra Thin Heating Foil

Unique technology

Warranty 16 years

FEATURES

- ✓ Safe solution for **laminate and parquet** flooring
- ✓ Electrical safety due to earthing
- ✓ 100% NO radiation
- ✓ Cost and energy saving system
- ✓ Easy installation

DESCRIPTION

Application

Warmstad Alumia heating mat with aluminium foil is applied as a supplementary system for comfortable floor heating. The system can be used under laminate, parquet or carpet. It is applicable for all types of premises and can be easily installed both on a new surface or on the existing floor in case of repair works, especially when it is highly important to keep a low thickness of the floor structure.

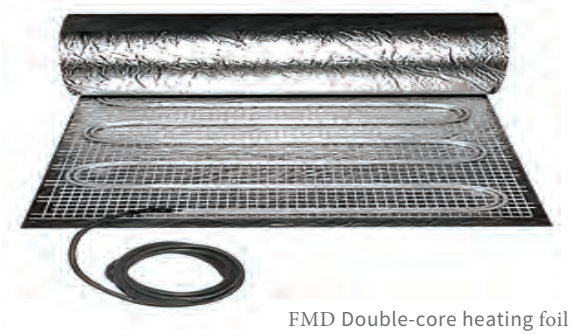
Construction

FMD foil is a thin self-adhesive double-core heating mat covered with aluminium foil on one side. DFM foil is a thin double-core heating mat covered with aluminium foil on both sides. The heating cable is fixed with a tape onto a fiber mesh. Warmstad Alumia heating foil is fitted up with a cold lead, a reliable coupling and end termination. Thanks to the cable fixation on the mesh – there is no need to adjust the wire spacings and to fix the cable on the floor surface. Due to only one connection wire, the double-core mat construction makes the process of installation easier and reduces installation cost.

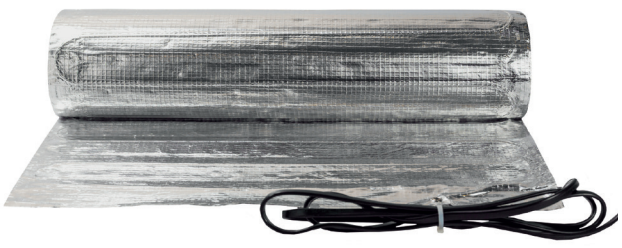
APPLICATION

Application		Installation	
Direct heating	☐	Mortar screed	☐
Comfort heating	■	Tile adhesive/glue layer	☐
		Floating	■

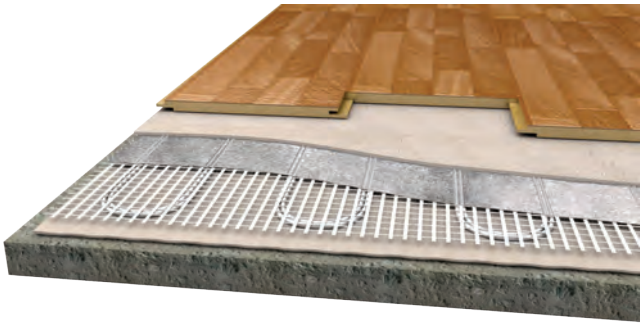
PRODUCT DESIGN



FMD Double-core heating foil

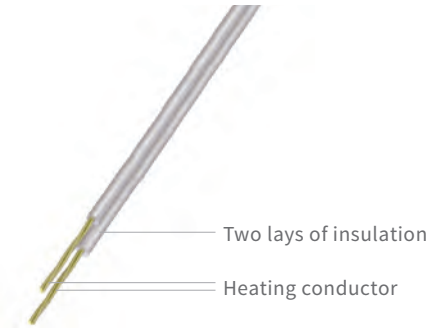


DFM Double-core heating foil



CABLE DESIGN

Double-core heating cable FMD



TECHNICAL DATA

Rated voltage	230 VAC
Power	150 W/m²
Maximum operation temperature	80 °C
Minimum operation temperature	–10 °C
Minimum storage temperature	–20 °C
Minimum installation temperature	–10 °C
Installation width	0,5 m
Cold lead length for 150 W/m²	4 m
Cable diameter	1.18–1.62 mm

PRODUCT REFERENCES

Double-core heating mat with aluminium foil DFM 80 W/m²		
Mat type	**Area, m²**	**Power, W**
DFM-80-1.0/80	1.0	80
DFM120-1.5/80	1.5	120
DFM-160-2.0/80	2.0	160
DFM-200-2.5/80	2.5	200
DFM-240-3.0/80	3.0	240
DFM-280-3.5/80	3.5	280
DFM-320-4.0/80	4.0	320
DFM-360-4.5/80	4.5	360
DFM-400-5.0/80	5.0	400
DFM-480-6.0/80	6.0	480
DFM-560-7.0/80	7.0	560
DFM-640-8.0/80	8.0	640
DFM-720-9.0/80	9.0	720
DFM-800-10.0/80	10.0	800
DFM-960-12.0/80	12.0	960
DFM-1200-15.0/80	15.0	1,200

Double-core FAST heating mat with aluminium foil DFM 150 W/m²		
Mat type	**Area, m²**	**Power, W**
DFM-150-1.0/150	1.0	150
DFM-225-1.5/150	1.5	225
DFM-300-2.0/150	2.0	300
DFM-450-3.0/150	3.0	450
DFM-600-4.0/150	4.0	600
DFM-675-4.5/150	4.5	675
DFM-750-5.0/150	5.0	750
DFM-900-6.0/150	6.0	900
DFM-1050-7.0/150	7.0	1,050
DFM-1200-8.0/150	8.0	1,200
DFM-1350-9.0/150	9.0	1,350
DFM-1500-10.0/150	10.0	1,500
DFM-1800-12.0/150	12.0	1,800
DFM-2250-15.0/150	15.0	2,250

Double-core FAST heating mat FMD 150 W/m²		
Mat type	**Area, m²**	**Power, W**
FMD-75-0.50/150	0.5	75
FMD-112-0.75/150	0.75	112
FMD-150-1.0/150	1.0	150
FMD-225-1.5/150	1.5	225
FMD-300-2.0/150	2.0	300
FMD-450-3.0/150	3.0	450
FMD-600-4.0/150	4.0	600
FMD-750-5.0/150	5.0	750
FMD-900-6.0/150	6.0	900
FMD-1050-7.0/150	7.0	1,050
FMD-1200-8.0/150	8.0	1,200
FMD-1350-9.0/150	9.0	1,350
FMD-1500-10.0/150	10.0	1,500

ORDERING INFORMATION

Heating mat **FMD-225-1.5/150**

Product reference: type of the heating mat
Power, W
Area, m²
Power per square meter, W/ m²

Recommended for underfloor heating management

Warmstad 510 | Warmstad 515 | Warmstad 520 | Warmstad SE 200 | Warmstad MCS 350

Mechanical, programmable, touch- or smartphone operated thermostats

See details on page 17-23

INSTALLATION

For the installation of the heating mat a thermostat with an appropriate temperature sensor is required. The temperature sensor is also embedded in the cement mortar. It should be placed in a corrugated tube in the middle of one cable loop. The thermostat should be mounted on the wall in the most suitable place for you.

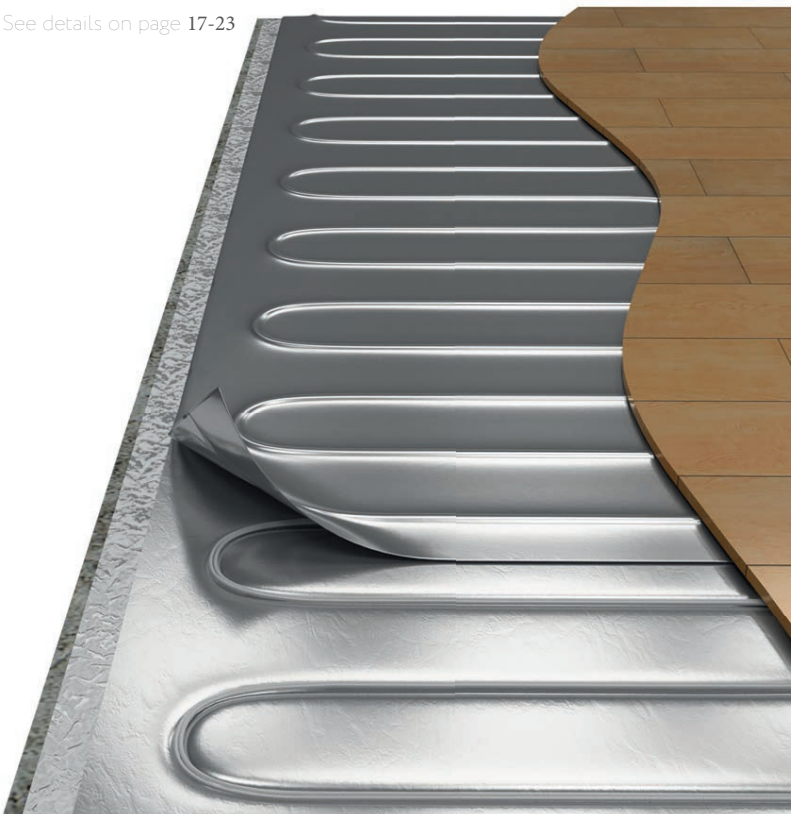
Applicable norms, rules and data sheets as well as instructions and manuals are to be followed!

For detailed installation instructions please use the installation manual.

APPROVAL DETAILS

The compliance with all necessary requirements is approved by appropriate certificates:

CE **RoHS**



WARMSTAD

Thermostats

Warmstad Thermostats –

A line of innovative devices for managing temperature and the operating time of underfloor heating systems.

Thermostats are designed to automate your underfloor heating system and reduce energy costs. A thermostat only turns on the underfloor heating system to maintain comfortable temperature.

Warmstad MCS 350 | Warmstad SE 200 | Warmstad 520 AIR | Warmstad 515 | Warmstad 510

Management classics

Warmstad mechanical thermostats with simple temperature control are ideally suited for users who do not need to create an operating scenario for underfloor heating.

Comfort programming

Warmstad smart thermostats can heat the floor by a specified time or turn off the heating system when it is not needed. They make underfloor heating systems energy-efficient by saving energy.

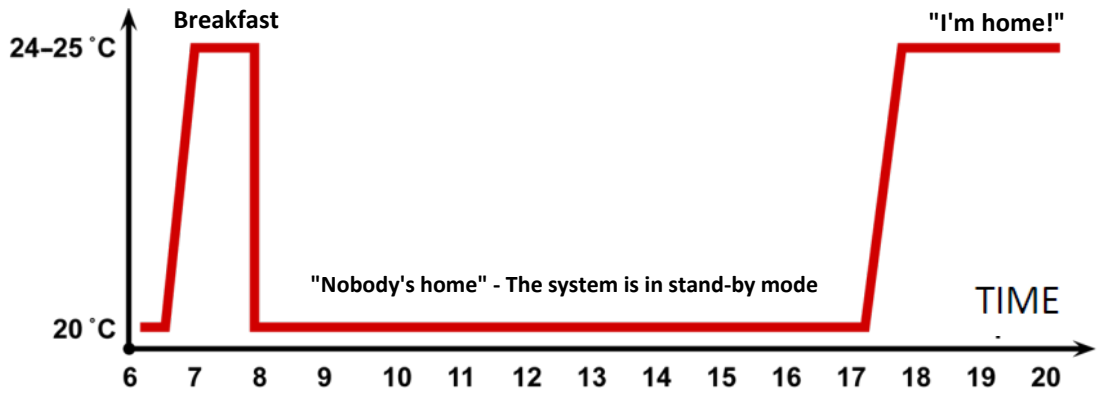
Easy and simple

A wide range of thermostats and a detailed, well-illustrated manual make it easy to understand the thermostat's functions and set an appropriate operating scenario for the underfloor heating.

Quality

With our long-term experience in manufacturing electric products, we provide customers with the most reliable and attractive devices available.

Programmable Thermostats Power Economy Principle



Warmstad Premium MCS 350

Wi-Fi Smartphone controlled

Warmstad MCS 350 includes a thermostat with a built-in Wi-Fi module and a special free app for mobile devices. The heating system is managed remotely using a Wi-Fi connection directly from a smartphone with the Cloud app installed or through a Wi-Fi home router. Warmstad MCS 350 can manage various room heating systems:

- electric underfloor heating;
- electric radiators and other electric equipment.

Warmstad MCS 350 keeps the heated surface at a comfortable temperature while optimizing energy consumption.

- Wi-Fi module for smartphone-based management;
- free app for mobile devices;
- control up to 32 electric heating systems in different rooms;
- 24/7 programming;
- two temperature sensors: floor and air.

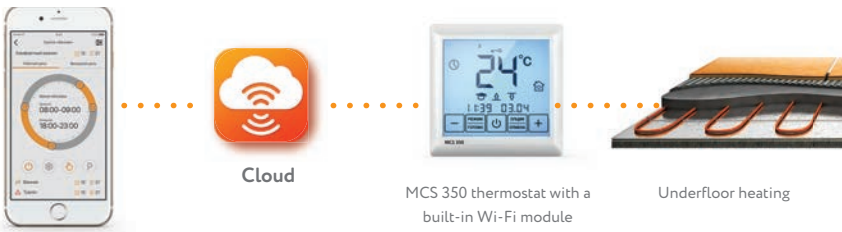
MCS 350

Advantages

- You can manage heating systems using the touch display or the Cloud app on a smartphone
- Using two temperature sensors simultaneously
- energy consumption statistics
- automatic blocking touch keyboard
- ability to use third-party temperature sensors

System workflow

Floor heating is managed remotely through a Wi-Fi connection directly from a smartphone with the Cloud application installed.



Your smartphone with the MCS 350 app

Cloud

MCS 350 thermostat with a built-in Wi-Fi module

Underfloor heating

Warmstad MCS 350 Thermostat Specifications

Controller type	digital
Maintenance	+
Programming	4 events/7 days
Power supply voltage	230 V
Max load current	16 A
Dimensions	90x90x40
Protection level	IP21
Protection class	II
Settings are retained when power is off	12 months
Clock operates	4 hours
Operating temperature	+5...+ 40 °C
Temperature adjustment limits	+5...+ 45 °C
Acceptable relative air humidity	80%
Remote floor temperature sensor	NTC 6,8 kΩ
Built-in air temperature sensor	NTC 6,8 kΩ
Each sensor operates independently	+
The sensors work together	+
Compatible with other sensors	6,8; 10; 12; 15; 33; 47 кОм
Operating mode without floor sensor	+
Self-testing	+
Anti-freezing mode	+
Backlight	+
Clock	+
Power consumption statistics	+
Colour	white
Warranty	2 years
Lifetime	10 years

Free app

Components supplied

- Warmstad MCS350 thermostat
- Floor temperature sensor
- Datasheet
- User manual

Approvals

CE

Warmstad Sensor SE 200

Touch-Screen Thermostat

Warmstad Programmable thermostat with a touch screen is a new concept of design and comfort management. The thermostat has a large touch display that allows the customer to manage comfort with a single touch.

Warmstad SE 200 is designed for managing room heating systems with:

- electric and water* underfloor heating;
- electric radiators and other electric equipment.

Warmstad SE 200 thermostat maintains comfortable heated surface temperature for specified time periods and saves up to 60—70% of energy. Warmstad SE 200 provides management using floor and air temperature sensors simultaneously or independently.

Advantages

- Programming 24/7 comfortable heating mode
- Large, high-contrast backlit 70x64 mm display
- Two temperature sensors: built-in and remote
- Each sensor can be used independently
- Touch operation
- Remote sensor self-test
- Self-learning mode with shutdown feature
- Automatic touch display blocking


Touch operation


Large, high-contrast backlit display


Two temperature sensors

Warmstad SE 200 Thermostat Specifications

Controller type	digital
Maintenance	+
Programming	4 events/7 days
Power supply voltage	230 V
Max load current	16 A
Dimensions	90x90x40
Protection level	IP21
Protection class	II
Settings are retained when power is off	12 months
Clock operates	4 hours
Operating temperature	+5...+ 40 °C
Temperature adjustment limits	+5...+ 45 °C
Acceptable relative air humidity	80%
Remote floor temperature sensor	NTC 6,8 kΩ
Built-in air temperature sensor	NTC 6,8 kΩ
Each sensor operates independently	+
The sensors work together	+
Compatible with other sensors	-
Operating mode without floor sensor	+
Self-testing	+
Anti-freezing mode	+
Backlight	+
Clock	+
Colour	white
Warranty	2years
Lifetime	10 years

Components supplied

- Warmstad SE 200 thermostat
- Floor temperature sensor
- User manual

Approvals

CE

Warmstad

Thermostats

Warmstad thermostats have a unique,special and contemporary design which distinguishes them from competitors and allows them to fit into any interior.

Warmstad 510. Heat Management Classics

- Simple management mechanism
- The switch is integrated into the control disc
- Ideal for scenarios where programming is not required
- Stylish solid body with no additional framework. Warmstad 510 does not have many parts, so is easy to install

Warmstad 515. Master of Heat Precision

- Temperature indicator on a large display
- Digital adjustment
- Precise temperature maintenance (±1 °C)
- Built-in clock
- Two temperature sensors: built-in and remote
- Favourite temperature mode
- Supports 6.8, 10, 12, 15, 33, and 47 kΩ floor temperature sensors

Warmstad 520 AIR. Programmable Heat Saver

- Backlit display
- Programming 4 scenarios per day
- Up to 70% power saving
- Two temperature sensors: built-in and remote
- Heats up the floor by the time you come home and turns the heating off when you go out
- Fully shares its your lifestyle with a separate schedule for every day of the week
- Favourite temperature mode
- Supports 6.8, 10, 12, 15, 33, and 47 kΩ floor temperature sensors

Warmstad 520

Installation

The thermostat is mounted into the wall by cutting-in with a mounting box, and is ideally suited for any interior.

Warmstad 510

Simple management mechanism and stylish design

Warmstad 515

Creating temperature scenario using convenient buttons

Warmstad 520 AIR

Event-driven programme mode and up to 70% energy saving

White or cream body

Favourite temperature mode – quickly configure your comfort

Specifications

	Warmstad 510	Warmstad 515	Warmstad 520 AIR
Thermostat type	analogue	digital	digital
Maintenance	+	+	+
Programming	-	-	4 events/7 days
Power supply voltage	230 V	230 V	230 V
Max load current	16 A	16 A	16 A
Dimensions	86x89x36	86x86x42	86x86x42
Protection level	IP21	IP21	IP21
Protection class	II	II	II
Settings are retained when power is off	-	10 years	10 years
Favourite temperature mode	+	+	+
Operating temperature	+5...+ 40 °C	+5...+ 40 °C	+5...+ 40 °C
Temperature adjustment limits	+5...+ 45 °C	+5...+ 45 °C	+5...+ 45 °C
Acceptable relative air humidity	80%	80%	80%
Remote floor temperature sensor	NTC 6,8 kΩ	NTC 6,8 kΩ	NTC 6,8 kΩ
Built-in air temperature sensor	-	NTC 6,8 kΩ	NTC 6,8 kΩ
Each sensor operates independently	-	+	+
The sensors work together	-	+	+
Compatible with other sensors	-	6,8; 10; 12; 15; 33; 47 kΩ	6,8; 10; 12; 15; 33; 47 kΩ
Operating mode without floor sensor	-	+	+
Self-testing	-	+	+
Anti-freezing mode	-	+	+
Clock	-	+	+
Clock operation time	-	4 hours	4 hours
Warranty	2 years	2 years	2 years
Lifetime	10 years	10 years	10 years

Included:
TST02 floor temperature sensor

Connection wire length	2 m
Measured temperature range	+5 °C ... +45 °C
Sensor type	Thermoresistor 6,8 kΩ / 25 °C

Components supplied

- Thermostat
- Floor temperature sensor
- Manual

Approvals

CE

Warmstad Flora

Classy Towel Dryers

Style and functionality

Warmstad Flora is an ultra thin glass electric towel rail - elegant and functional interior feature.

The Warmstad Flora towel rail provides quick, even and delicate drying of textiles, without deforming, or damaging them.

Electric towel rails are particularly useful in cottages and summer residences without central water, heating, pipe systems or conventional water tower rail are available.

Warmstad Flora can be hung on any wall in a bathroom, kitchen or hallway. There is no need. to carry out major renovations or to cut into the existing water supply system. Warmstad Flora is extremely easy to install and operate. The installation procedure only takes 30 minutes.

It is an ideal solution for comfort in any room

Thanks to its design, Warmstad Flora can be used without towel rails as a heater to provide a comfortable temperature in separate occupied spaces.

- Kitchen In addition to towel drying, Warmstad Flora adds brightness to the interior and creates a comfortable environment for family and social gatherings.
- Children's room It does not dry the air and generates very soft heat with constant temperature, regardless of how long it operates. Made from eco-friendly and safe materials.
- Bedroom It preserves oxygen and provides a comfortable climate for sleeping.
- Hallway. It provides additional heating and effectively dries rain-soaked clothing.

Advantages

- Up to 40% more effective than metal towel rails
- Distinctive and stylish design
- Quick and delicate drying
- Independent from the water supply, heating or piping conditions
- Easy to install and operate
- Cost-effective
- 16 design styles

Colour range

* The colour shade may slightly vary from that shown

Installation

Warmstad Flora is mounted onto a wall and plugged into a 230V power system. When used as a wall mounted heater, it can be placed horizontally, vertically or as a rhombus.

Components supplied

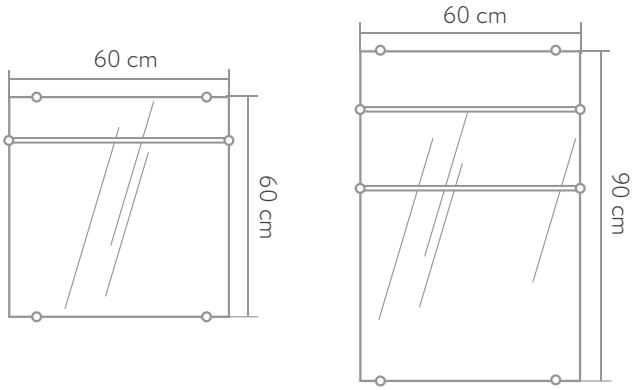
- Towel rail/s
- Set of holders – 4 pcs.
- Alan Key – 2 pcs.
- Mounting and installation guide – 1 pc.
- Set of self-driving screws
- Towel rail*

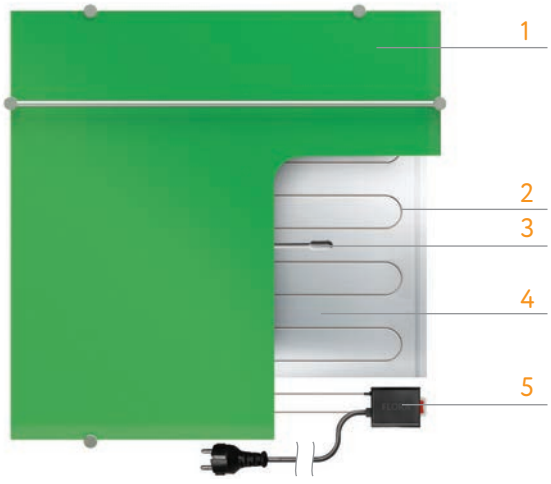
*1 pc. for 60×60
2 pcs. for 60×90

Design

1. Tough hardened glass provides even heat transmission
2. The heating cable with two-layer insulation withstands temperatures up to 120 °C
3. The thermoswitch provides overheating protection
4. The flame-resistant ABS plastic cover provides fire safety
5. The small, moisture-proof switch located behind the decorative panel provides a high level of ingress protection (IP44) and is imperceptible in the interior

Dimensions





Specifications

Dimensions (H×W), cm	60×60	60×90
Power, W	160	260
Power supply voltage, V / frequency, Hz	230±10%/50–60	
Electric shock protection class	II	
Ingress protection level	IP44	
Operating temperature on the heater's surface, °C	65–75	
Power cord length, m	2	
Warranty	2 years	
Weight of radiator with mountings and towel rails, kg	5,2	10,5
Towel rail's maximum admissible load, kg	4	
Maximum number of towel rails, pcs.	2	4

Approvals

CE

Warmstad Mirror

Mirror De-Mister

Warmstad Mirror demister removes humidity from the mirror's surface, preventing condensation and providing total comfort in bathrooms or any other high-humidity rooms, such as saunas, washrooms, etc. Just stick the heater to the reverse of the mirror, plug it into a power source and enjoy an always dry and clear mirror!

Advantages

- Fits almost any size and configuration of mirrors
- Equipped with heat insulation
- Glue layer for easy instant mounting
- Can be plugged into the mirror's backlight or main power system

Design

1. The product can be plugged into the mirror's built-in lighting system with its power cord.
2. The heating cable's ground circuit provides electrical safety.
3. Foiled heat insulation provides maximum effectiveness.
4. The location of the heating cable enables even heat distribution.
5. An adhesive layer provides easy mounting.

Components supplied

- Mirror demister
- Datasheet
- User manual

Specifications

Dimensions (W×H), cm	50×42	60×50
Nominal power, W	35	50
Supply voltage, V	~230	~230
Ambient operating temperature, °C	от +18 до +30	
Heater operating temperature, °C	40	
Electric shock protection class	I	
Moisture protection level	IPX4	
Installation wire length, m	1,5	
Warranty	2 years	

Installation

1. Remove part of the protective paper to free the adhesive layer. Place the heater's edge with the protective paper removed onto the area marked on the mirror. Glue the heater to the mirror, carefully removing the paper.

2. We recommend connecting heaters to the mirror's built-in backlight if the backlight's cabling is rated for additional load. The heater is most effective for mirrors 4–6 mm thick.

Approvals

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Warmstad Express

Portable Under-Carpet Heating

Warmstad Express is a simple and comprehensive solution for homes and summer residences. Just lay it on the floor, cover it with a carpet, plug it into a power source and - Voilà! - enjoy your floor heating! You can take the Warmstad Express from your city apartment to your summer residence; it can be used in different rooms and is easy to store. Warmstad Express is a heating mat based on a thin heating cable enclosed in waterproof protective cover and equipped with 2.5 m installation wire.

Advantages

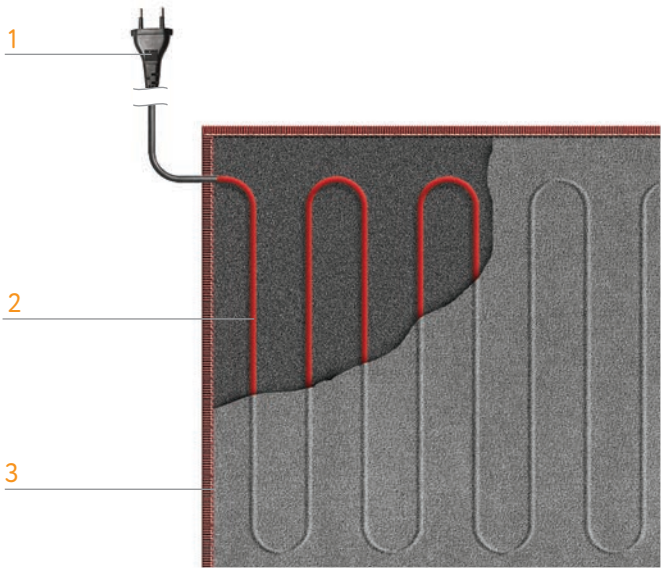
- Fully ready for use and does not need to be mounted
- Suitable for any floor (wooden or parquet, linoleum, different types of tiles)
- The right solution for off-season periods, especially for summer residences and cottages
- The best underfloor heating solution for rental apartments
- Safe and practical – easy to clean, store and transport

Specifications

Dimensions, m	2.0×1.4	2.8×1.8
Area, m^2	2.8	5.04
Supply voltage, V	~230	
Nominal power, W	300	560
Maximum carpet surface temperature, °C	30	
Time to reach maximum temperature, min.	60	
Installation wire length, m	2,5	
Warranty	2 years	
Electric shock protection level	II	
Ingress protection level	IPX7	

Design

1. Universal plug for all types of sockets.
2. The thin and flexible heating cable evenly distributes heat and is not noticeable during operation.
3. The tough artificial felt cover is easy to clean.

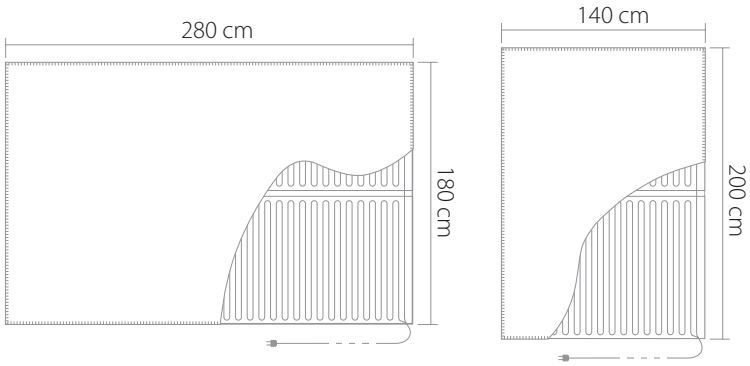


Installation

1. Lay the heater on the floor.
2. Cover it with a carpet.
3. Plug the heater into the power system.

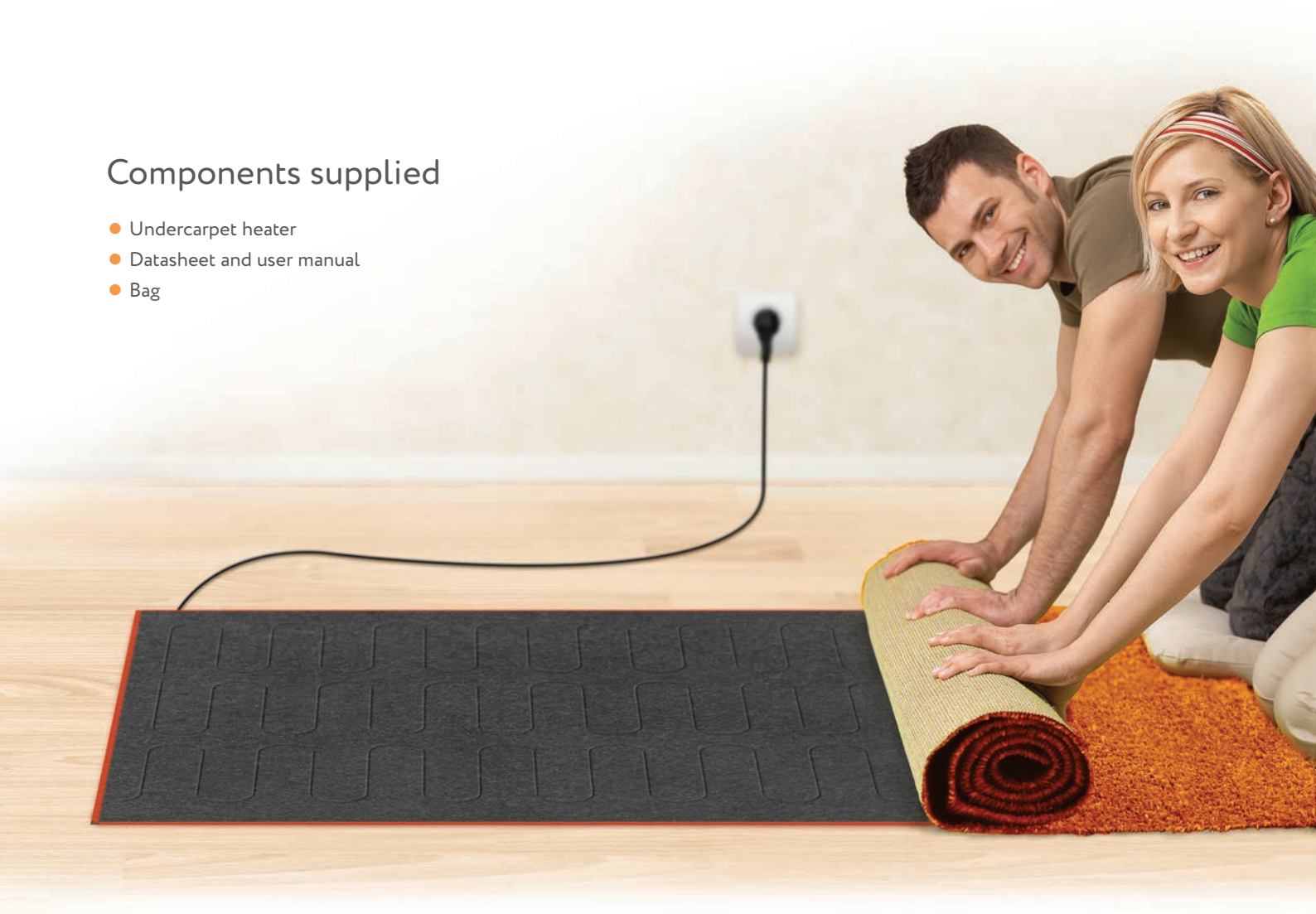
We recommend using low-pile, pile-free or tufting (woven) carpets.

Warmstad Express is available in 2.0x1.4 m and 2.8x1.8 m designs, which are suitable for standardized floor carpets.



Components supplied

- Undercarpet heater
- Datasheet and user manual
- Bag



Approvals

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Warmstad Carpet

Warming Carpet

Warmstad Carpet is designed to delicately dry shoes and warm your feet. The carpet removes moisture and keeps your shoes in shape. It provides gentle care and softly dries shoes made of leather, suede and other delicate materials. Warmstad Carpet is a must have where comfortable heat is needed (for example, at your desk).

Advantages

- The temperature at the carpet's surface does not exceed 40 °C, which ensures that your feet are kept comfortably warm and your shoes are gently dried
- Fully ready for use – just plug it into the socket
- Compact and cost effective – power consumption is only 70 W/h
- High operational safety: high protection even from water spray (IP67 protection level)
- Easy to remove dust and dirt

Components supplied

- Heated carpet
- Datasheet and user manual

Design

1. Grounded Euro plug.
2. Sealed, moisture-proof PVC base.
3. Flexible, resistant to mechanical impact heating cable.
4. Tough pile dirt-retentive coating.

Installation

1. Lay the heater on the floor.
2. Plug the heater into the power system.

Approvals

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Specifications

Dimensions, cm	80×50
Power, W	70
Voltage, V	~230
Electric shock protection class	I
Ingress protection level	IP67
Installation wire length, m	at least 1.8
Surface temperature, °C	35–40
Pile color	grey
Warranty	1 year

Moisture Desiccant

RELIABLE AND HYGIENICAL

MOLD PROTECTION FOR YOUR HOME

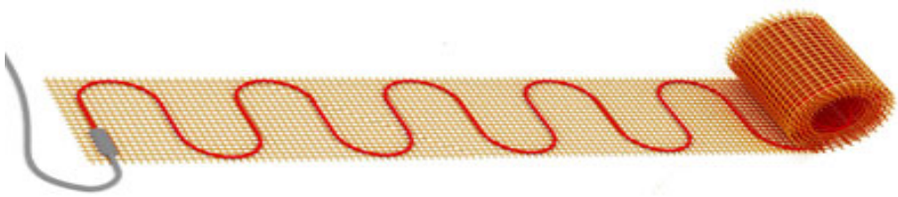
Dr. Dryman Moisture Desiccant is designed to protect against the appearance of mold and mildew.

Dr. Dryman system is installed under ceramic / stone tiles or curbs in spots most prone to moisture accumulation in bathrooms, pools, saunas, kitchens and other areas with high humidity content.

BENEFITS:

- *Eliminates dampness which causes mold and mildew formation*
- *Creates comfortable and healthy microclimate*
- *Does not occupy your valuable lifespace and is interior newtral*
- *High efficiency and effectiveness*

TYPE	Width, m	Length, m	Area, sq m	Power, W
PN-2.5-75	0.1	2.5	0.25	75
PN-4.2-125	0.1	4.2	0.4	125
PN-6.5-195	0.1	6.5	0.6	195



DESCRIPTION

Dr. Dryman Moisture Desiccant is a flexible heating mat with two-core cable laid out and sewn onto a 100mm wide glass mesh, equipped with a 2m long "cold" installation wire.

Dr. Dryman Moisture Desiccant is controlled by a timer with automatic shutdown. While in operation, **Dr. Dryman** provides a surface temperature about +40°C. The timer allows using the dryer only when necessary, then turning it off automatically, thereby saving energy. The timer allows setting operation time in the range of 10 min to 2 hrs.

The system meets the power safety requirements by means of installation wires' double-layered electrical insulation.

INSTALLATION

Dr. Dryman Moisture Desiccant is designed for installation underneath ceramic / stone / terracotta tiles or curb where the moisture tends to appear the most, e.g. bathrooms, swimming pools, saunas, hammams, kitchens, laundrettes, and other rooms with high humidity.

SAVE ON MOLD CLEANING CHEMICALS!

Notes

WARMSTAD

Comfortable living

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