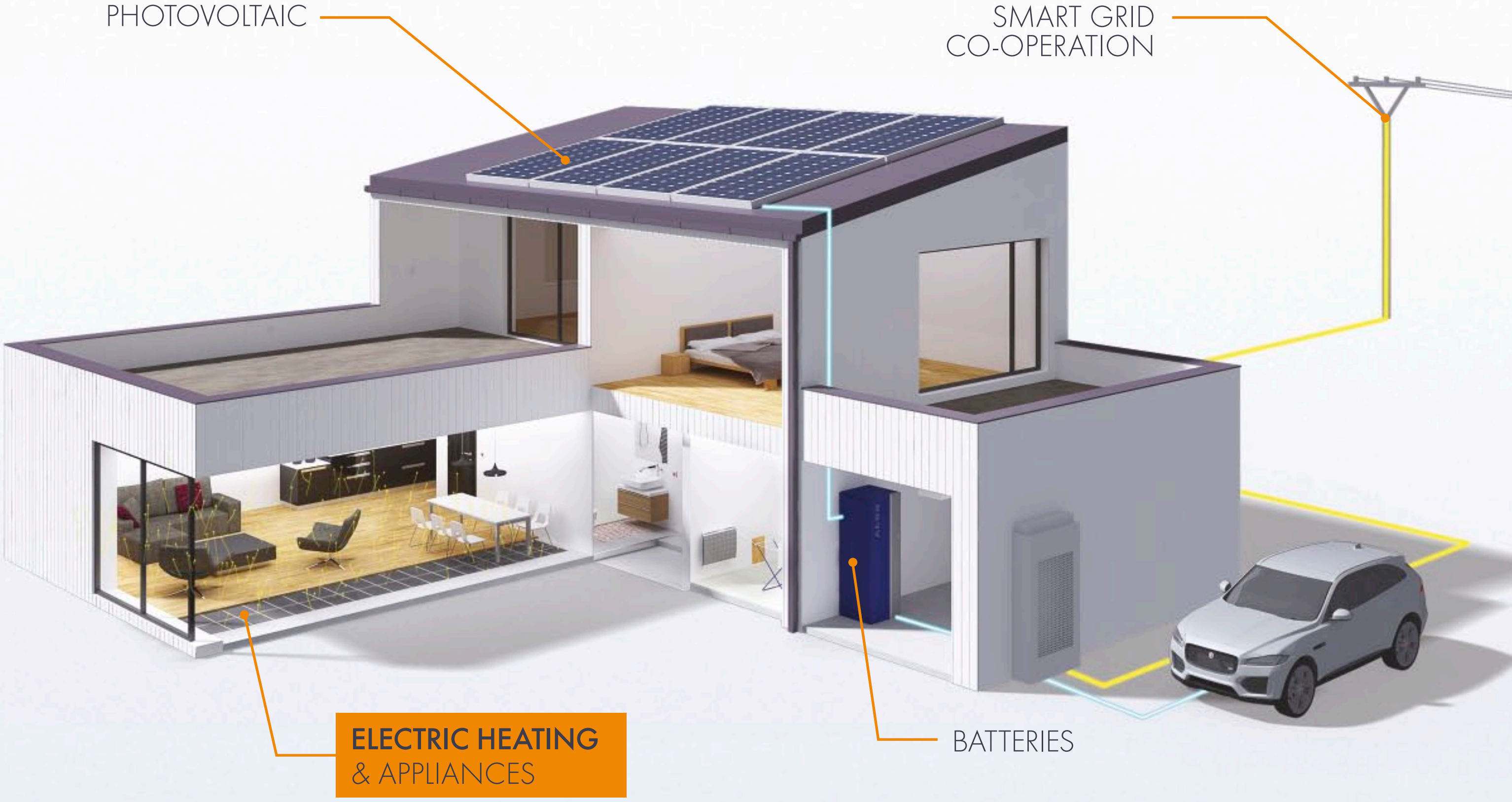
FENIX

2025/April

THE FUTURE IS ELECTRIC


PHOTOVOLTAIC
SMART GRID
CO-OPERATION
ELECTRIC HEATING
& APPLIANCES
BATTERIES

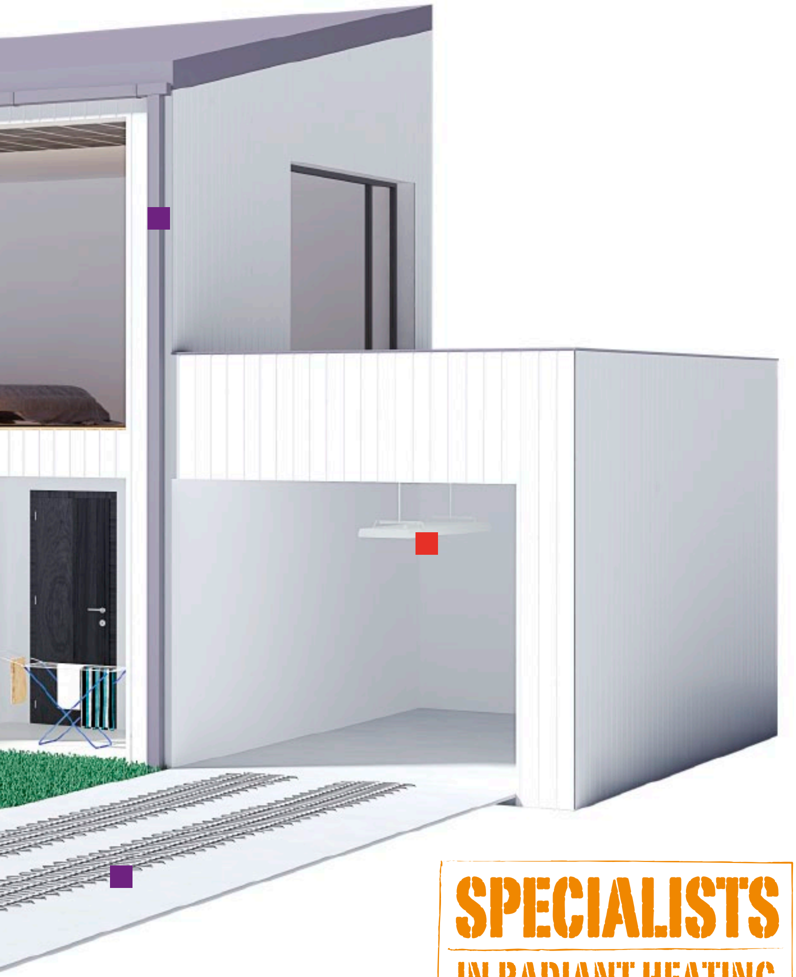
PRODUCT
CATALOGUE

ONLY THE SUN DOES IT BETTER...

FENIX

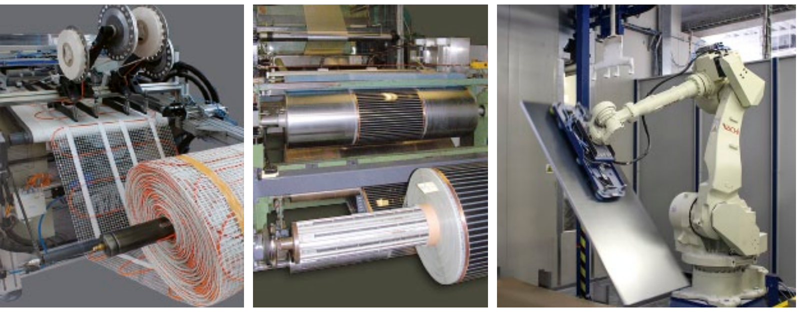
Fenix was founded in 1990 as one of the first private companies in the Czech Republic following the “Velvet” Revolution. The first items produced were the successfully marketed ECOSUN electric radiant heating panels, however, as market demand increased these products were followed by ECOFLEX electric convectors, ECOFLOOR heating cables and mats and ECOFILM heating films. The company also offers a wide range of supplementary products including heating system controls, cable kits and cable mats. With the increase in demand the structure of the company developed – for the reason of retaining maximum flexibility a holding company structure was chosen, with individual and independent members.

The following companies were incorporated successively: **Fenix s.r.o.** – plant producing electrical heating systems; **Fenix Trading s.r.o.** – trading company; **Fenix Slovakia s.r.o.** – production and trading company, representing FENIX in Slovakia; **Fenix Group a.s.** – a company which provides property management and services (strategic planning, administration of property, economic and financial services); **Flexel International Ltd.** – manufacturing and trading company located in the United Kingdom. In 2008 FENIX Holding acquired the production and trading company **Demista Ltd.** – manufacturer of special applications, such as mirror demisting heaters, vivarium heaters, caravan and mobile home heating equipment. At the end of 2009 / in early 2010 Fenix Holding acquired two other production and trading companies: **ACSO SAS.** – production and trading company with its headquarters in France; **CEILHIT S.L.U.** – producer of heating cables and trading company with its headquarters in Spain, covering the market in Spain, Portugal and South America. **Fenix Deutschland GmbH** – The company, which was founded in 2003 under the name Limmer Heizelemente,



SPECIALISTS

IN RADIANT HEATING



became a member of the Fenix Group a.s. holding company in 2018. It has a high-capacity warehouse and a sales team that sells the entire range of FENIX brand products across the German market. **Fenix Polska Sp. z o.o.** – new member of the Fenix Group since February 2019 – Trading company with its headquarters in Poland. **ELMARK d.o.o.** – a trading company based in Serbia. Founded in 1993, the company is the most important seller of electric heating systems in Serbia. It became a member of the group in 2021. Presently, the company **Fenix Holding s.r.o.** is one of the largest European producers of surface electric heating systems, and currently exports to 70+ countries worldwide. **AERS s.r.o.** (2016) – A Technology Company engaged in designing, production and installation of HES home energy battery storage.

ECOSUN – radiant heating panels
low temperature radiant heating panels
pages 4–11
high temperature radiant heating panels
page 12
Terrace Heaters, Radiant heaters for church pews
page 13

ECOFLOOR – heating cable systems
heating cable circuits and cable mats,
complete floor heating installation kits,
deicing gutter and eaves trough de-icing, snow melting,
de-icing of outdoor surfaces, frost protection of pipes
pages 14–28

ECOFILM – heating film systems
E-set – *underfloor heating, kit for DIY installation*
F – *underfloor heating films*
C – *radiant ceiling heating films*
MHF – *mirror fogging prevention*
pages 30–33

ULTRATHERM – heating for vivariums
and terrariums
pages 34–35

ECOFLEX – electric convectors
classic convection heaters
pages 36–37

THERMOSTATS AND CONTROLS
regulation units, control units,
room and floor sensors,
and regulators for reduction
of main circuit breaker value
pages 38–41

SUPPLEMENTARY PRODUCTS
hand dryers, tubular heating elements,
filaments for 3D printing
page 42

Principle of infrared heating

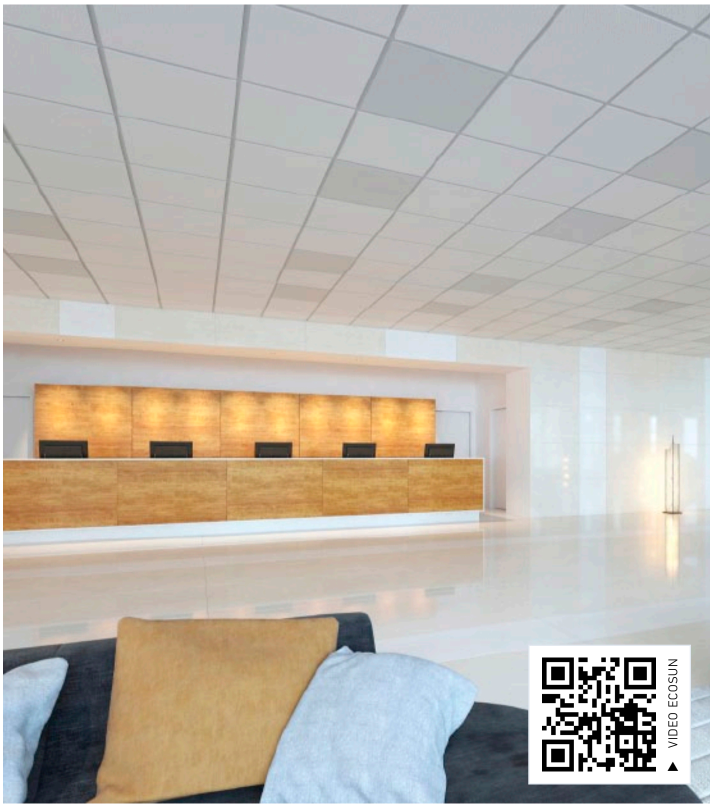
Whereas in **convection heating** the air is warmed by a convector which then transfers heat as it flows over the objects that are to be heated (walls, furniture), **radiant heating** panels transfer heat mainly through radiant energy. Upon encountering objects (walls, furniture, floors), radiant energy is partially reflected (approx. 15 %) while the majority (approx. 85 %) is absorbed by the objects. This radiant energy is converted to heating energy as it raises the temperature of the objects, which then transfer heat to the cooler air by convection. Thanks to unique Silicating technology, high temperature radiant panels reach a high emissivity of up to 0.98 mu.

Fenix utilises unique state-of-the art technology in respect of the finished panel surfaces. Thermocrystal for low temperature panels and Silicating for high termperature panels.

ECOSUN GS WITH PRINT

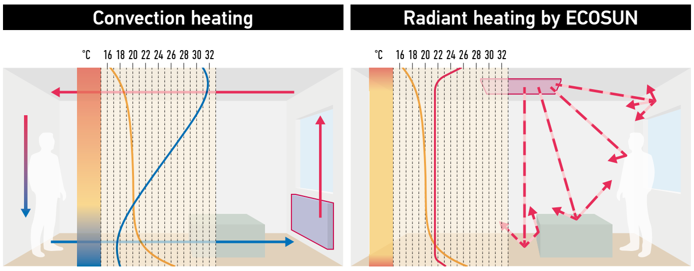
The principles mentioned create the following advantages:

- the surface of the radiant panel generates a heat flow whose spectrum is in the wavelength greater than 5 micrometers and is thus absorbed to a large degree by the human body: people are therefore heated in a manner similar to the objects in the room.
- when the radiant heat flow increases the temperature of the objects in the room to 20–22 °C, comfort conditions are achieved even with air temperatures of 18–19 °C which can lead to energy savings of 18–24 %.
- radiant panels permit the temperature distribution in a room to be more vertically balanced giving a 1–2 degree difference between the floor and the ceiling (for convection heating the difference is given as 1 °C per metre of height, 30–50 cm of height).
- there is lower circulation of dust therefore dust particles due to Brownian motion, thus reducing the risk of illnesses – asthma, mucous membrane infection, etc.
- increased wall temperatures mean a lower possibility of surface condensation, although the humidity in the room is not lowered.
- glass is not “transparent” (we might say “transthermant”) when it comes to radiation with wavelengths over 3 and thus the radiant flow is not lost through windowpanes.
- the panels do not require maintenance



ECOSUN C/VT

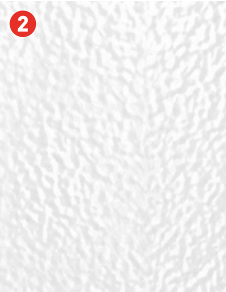
VIDEO ECOSUN ▲


Convection heating
Radiant heating by ECOSUN
°C 16 18 20 22 24 26 28 30 32
°C 16 18 20 22 24 26 28 30 32

🟧 ideal temperature characteristic 🟥 ECOSUN temperature characteristic
🟦 convection heating temperature characteristic

SURFACE TREATMENT OF LOW TEMPERATURE PANELS

Gravelly Snow



Smooth surface

Thermocrystal

LOW TEMPERATURE RADIANT PANELS

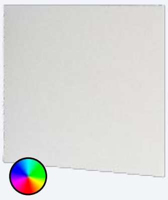
ECOSUN U, U+ – universal panel for living and non-living spaces, possibly mounted onto ceilings or into suspended ceilings.

TYPE	[W]	[V]	⤓	Rating	Dimensions [mm]	Weight netto [kg]	Recommended clearance	Qty on pallet	Cat. No.	
									U	U+
ECOSUN 300 U / U+	300	230	①	IP 44	592×592×30	5.0	from 2.5 m	40	5401037	5401161
ECOSUN 600 U / U+	600				1192×592×30	9.4	from 2.5 m	20	5401047	5401162
ECOSUN 700 U / U+	700					9.4	from 2.7 m	20	5401171	5401163
ECOSUN 850 U+	850				1192×800×30	12.6	from 3 m	15	–	5401174

Accesorries: aluminium frame; flush mount frame; cable suspension system – see page 11

- **Type U+** for ceiling and wall installation, fitted with a thermal fuse. **Bolts and ceiling fixing frame** are included in the packing.
- **Class** I.; **Basic colour:** white (RAL 9016); Other colours are available to order for an additional fee; **Connection cable:** 1 m

ECOSUN BASIC – "smooth" versions of ECOSUN U+ panels. The Basic panel type doesn't have the Thermocrystal surface finish, only a resistant white powder plastic coating with an orange peel structure. The absence of the Thermocrystal surface finish results in a partial decrease in the radiant component in favour of convection heat transfer. However, the smooth surface is considerably easier to maintain and clean. ECOSUN Basic is therefore particularly suitable for health care institutions or for users with asthma problems or allergies.

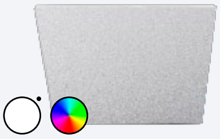


TYPE	[W]	[V]	⤓	Rating	Dimensions [mm]	Weight netto [kg]	Recommended clearance	Qty on pallet	Cat. No.
ECOSUN 300 BASIC	300	230	②	IP 44	592×592×30	5.0	from 2.5 m	40	5401154
ECOSUN 600 BASIC	600				1192×592×30	9.4	from 2.5 m	20	5401156
ECOSUN 850 BASIC	850				1192×800×30	12.6	from 3 m	15	5401158

Accesorries: aluminium frame; flush mount frame; cable suspension system – see page 11

- The panel is fitted with a supply lead for connection to a wiring box. **Bolts and ceiling fixing frame** are included in the packing.
  Thanks to a thermal fuse, the panel is also suitable for wall and ceiling installation.
- **Class** I.; **Basic colour:** white (RAL 9010); Other colours are available to order for an additional fee; **Connection cable:** 1 m

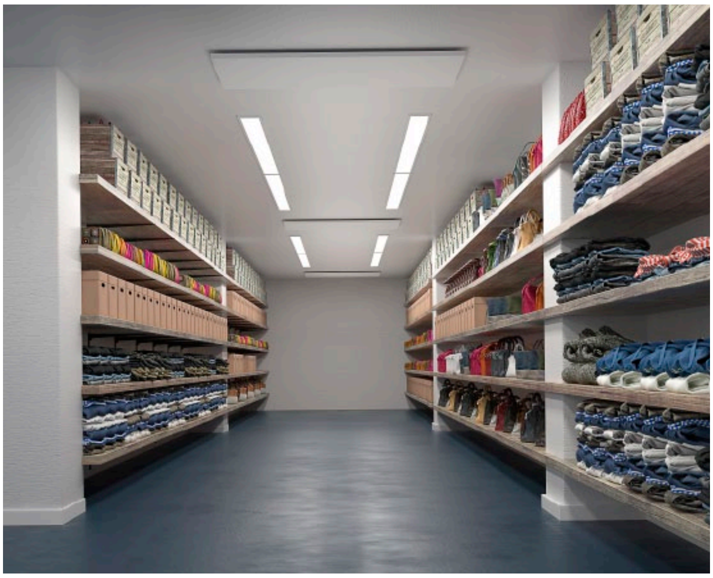
ECOSUN C/VT – heating panels only for mounting into suspended ceilings.



TYPE	[W]	[V]	⤓	Rating	Dimensions [mm]	Weight netto [kg]	Recommended clearance	Qty on pallet	Cat. No.
ECOSUN 300 c 600/VT	300	230	①	IP 20	574×574×35	5.1	min. 2.5 m	40	5401065
ECOSUN 600 c 600/VT	600				574×1174×35	10.2	min. 2.5 m	20	5401075

- **Class** I.; **Basic colour:** white (RAL 9016); Other colours are available to order for an additional fee

ECOSUN C/VT



ECOSUN U

⤓ Surface treatment, see page 4

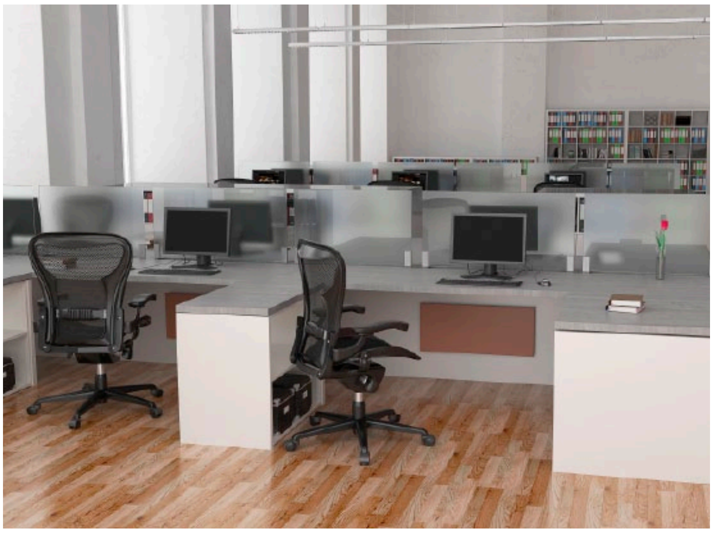
ECOSUN K+ – heating panel used for warming church pews, desks in offices and administrative buildings. They can be hung on a wall in the standard way.

○ ● ●

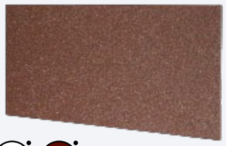
TYPE	[W]	[V]	⤓	Rating	Dimensions [mm]	Weight netto [kg]	Recommended installation	Qty on pallet	Cat. No. BROWN	Cat. No. WHITE
ECOSUN 100 K+	100	230	③ ①	IP 44	500×320×30	3.4	vertical or horizontal position	45	5401200	5401202
ECOSUN 200 K+	200				750×320×30	4.5		45	5401205	5401207
ECOSUN 270 K+	270				1000×320×30	6.5		30	5401210	5401212
ECOSUN 330 K+	330				1250×320×30	7.2		30	5401215	5401217
ECOSUN 400 K+	400				1500×320×30	8.9		30	5401220	5401222

Accesories: cable suspension system – see page 11

⊞ **Class** I.; **Basic colour:** brown (RAL 8016) thermocrystal surface, white (RAL 9016) gravelly snow surface; Other colours are available to order for an additional fee; **Connection cable:** 0.75 m for 100–270 K+, 1.2 m for 330–400K+; **Bolts and ceiling fixing frame** are included in the packing.



ECOSUN IKP, IN, IN-2 – panels for industrial and agricultural applications (i.e. in workshops, greenhouses, livestock facilities); for installation on the ceiling it is necessary to order a ceiling frame.



○ ●

TYPE	[W]	[V]	⤓	Rating	Dimensions [mm]	Weight netto [kg]	Recommended clearance	Qty on pallet	Cat. No. BROWN	Cat. No. WHITE
ECOSUN 750 IKP	750	230	②	IP 54	1192×592×30	8.8	2.5–3.0	20	—	5401177
ECOSUN 700 IN	700		③	IP 66	1192×592×30	8.7	2.8–3.3	20	5401181	5401180
ECOSUN 700 IN-2	700		③	IP 66, E Ex 2			3.0–3.5	20	5401186	5401185

Accesories: cable suspension system; ceiling fixing frame; supports – see page 11

⊞ **Class** I.; **Colour:** brown (RAL 8016), white (RAL 9016) / IKP 750 W only white (RAL 9010) smooth version; **Connection cable:** 1 m

⤓ Surface treatment, see page 4

▶ **ECOSUN GS** – a glass radiant panels, which combine the elegant design of frameless GR panels and the versatility of ECOSUN panels – the brackets enable the installation of the GS panel on the wall (vertically) and on the ceiling (horizontally). In rooms with limited space such as the bathroom is adapted the type of ECOSUN GS 500, which with its dimensions fits to vertical installation. The panel is fitted with a thermal fuse.

TYPE	[W]	Dimensions * [mm]	Weight netto [kg]		Qty on pallet	Cat. No.						
		COLOR (MIRROR)	COLOR	MIRROR		WHITE	BLACK	BASALT	PLATINUM GRAY	GRAPHITE	WINE RED	MIRROR
						○	●	●	●	●	●	○
GS 300	300	585×585×40 (41)	9.7	11.55	30	5437148	5437154	5437186	5437187	5437188	5437185	5437160
GS 500	500	1200×400×40 (41)	14.05	16.5	15	5437180	5437182	5437179	–	5437183	5437178	5437184
GS 600	600	1185×585×40 (41)	17.6	21.15	15	5437150	5437156	5437196	5437197	5437198	5437195	5437162
GS 850	850	1185×785×40	21.85	–	10	5437152	5437158	–	–	–	–	–
Accesories: cable suspension system; spacing set; supports; towel rail – see page 11												

- **Recommended installation:** for ceiling min. 2.5 m (GS 300, GS 500, GS 600); for ceiling min. 3 m (GS 850); or on the wall
- 230 V; **Rating** IP 44; **Class** I; **Connection cable:** length of supply cables 1.9 m with plug connection; **Bolts and ceiling fixing frame** are included in the packing.

▶ **ECOSUN GS+** – the GS+ panel is a standard GS glass panel but it has an integrated Watts wireless receiver. This means that a **Watts V22 wireless thermostat has to be purchased** in order to operate the panel. However, one shared V22 thermostat is sufficient to control up to 4 panels in one room, which is why it should be ordered independently. The GS+ panel can also be connected as a SLAVE to GS-WiFi, eliminating the need for an additional thermostat. Wall brackets are included with the product, but **fasteners** (wall anchors, screws) are not, as they need to be chosen according to the type of installation.

TYPE	[W]	Dimensions * [mm]	Weight netto [kg]		Qty on pallet	Cat. No.						
		COLOR (MIRROR)	COLOR	MIRROR		WHITE	BLACK	BASALT	PLATINUM GRAY	GRAPHITE	WINE RED	MIRROR
						○	●	●	●	●	●	○
GS+ 300	300	585×585×40 (41)	9.7	11.55	30	5437741	5437746	5437786	5437792	5437789	5437795	5437752
GS+ 500	500	1200×400×40 (41)	14.05	16.5	15	5437190	5437192	5437787	–	5437790	5437796	5437194
GS+ 600	600	1185×585×40 (41)	17.6	21.15	15	5437742	5437748	5437788	5437794	5437791	5437797	5437754
GS+ 850	850	1185×785×40	21.85	–	10	5437744	5437750	–	–	–	–	–
Accesories: cable suspension system; spacing set; supports; towel rail – see page 11												

- **Recommended installation:** for ceiling min. 2.5 m (GS 300, GS 500, GS 600); for ceiling min. 3 m (GS 850); or on the wall
- 230 V; **Rating** IP 44; **Class** I; **Connection cable:** length of supply cables 1.9 m with plug connection; **Bolts and ceiling fixing frame** are included in the packing.

White

Black

Mirror

Basalt

Platinum gray

Graphite

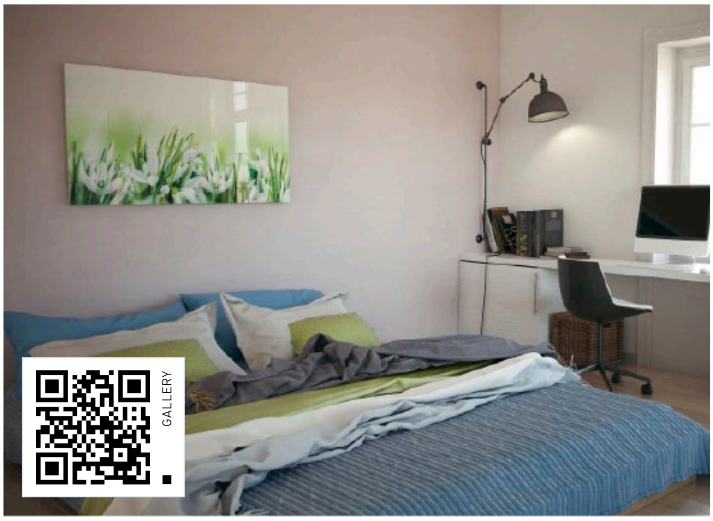
Wine Red

▶ **ECOSUN GS / with printed surfaces** – it is rather an innovation applied to our current ECOSUN GS glass panels.

TYPE		[W]	[V]	Rating	Dimensions * [mm]	Weight netto [kg]	Recommended installation	Qty on pallet	Cat. No.
GS 300 with print	📷	300	230	IP 44	585×585×40	9.7	for ceiling min. 2.5 m, or on the wall	30	5437494
GS 600 with print		600			1185×585×40	17.6		15	5437496
Accesories: cable suspension system; spacing set; supports; towel rail – see page 11									

- **Class** I; **Connection cable:** length of supply cables 1.9 m with plug connection; **Bolts and ceiling fixing frame** are included in the packing.

···➔
See our web Gallery.



ECOSUN GS WITH PRINT

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* Thickness includes mounting fixture, which is an inseparable part of the panel.

NEW

ECOSUN GS WIFI – represent standard ECOSUN GS panels enriched with an integrated WiFi thermostat, which is connected to a wireless RF sensor for temperature measurement. Up to 3 other devices can be connected to the WiFi box via V26 RF receivers, with the WiFi box serving as the main unit. The thermostat is controlled in the Fenix TFT WiFi application, either via the Cloud or in ADHOC mode.

WiFi CERTIFIED

TYPE	[W]	Dimensions * [mm]	Weight netto [kg]		Qty on pallet	Cat. No.						
		COLOR (MIRROR)	COLOR	MIRROR		WHITE	BLACK	BASALT	PLATINUM GRAY	GRAPHITE	WINE RED	MIRROR
						○	●	●	●	●	●	○
GS-WiFi 300	300	585×585×40 (41)	9.7	11.55	30	5437342	5437343	5437344	5437347	5437345	5437346	5437341
GS-WiFi 500	500	1200×400×40 (41)	14.05	16.5	15	5437352	5437353	5437354	–	5437355	5437356	5437351
GS-WiFi 600	600	1185×585×40 (41)	17.6	21.15	15	5437362	5437363	5437364	5437367	5437365	5437366	5437361
GS-WiFi 850	850	1185×785×40	21.85	–	10	5437372	5437373	–	–	–	–	–

Accesorries: cable suspension system; spacing set; supports; towel rail – see page 11

- **Recommended installation:** for ceiling min. 2.5 m (GS 300, GS 500, GS 600); for ceiling min. 3 m (GS 850); or on the wall
- 230 V; **Rating** IP 44; **Class** I; **Connection cable:** length of supply cables 1.9 m with plug connection; **Bolts and ceiling fixing frame** are included in the packing.

NEW

ECOSUN GS WIFI / with printed surfaces – it is rather an innovation applied to our current ECOSUN GS WiFi glass panels.

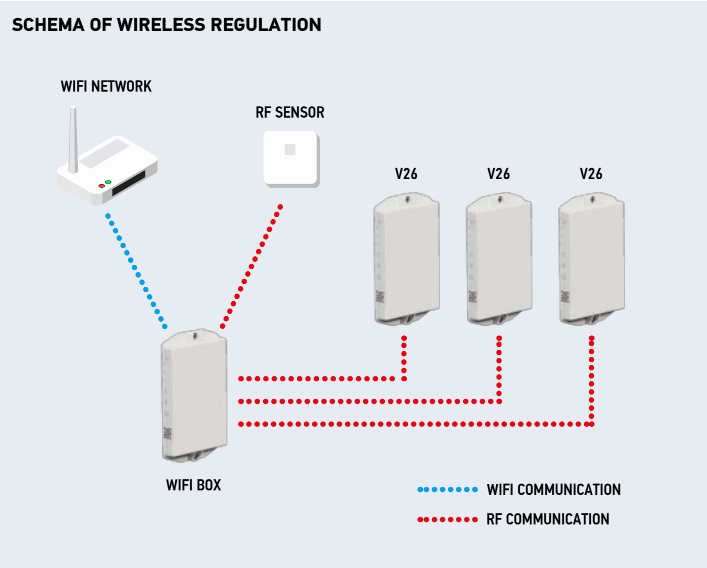
TYPE		[W]	[V]	Rating	Dimensions * [mm]	Weight netto [kg]	Recommended installation	Qty on pallet	Cat. No.
GS-WiFi 300 with print	📷	300	230	IP 44	585×585×40	9.7	for ceiling min. 2.5 m, or on the wall	30	5437376
GS-WiFi 600 with print		600			1185×585×40	17.6		15	5437378

Accesorries: cable suspension system; spacing set; supports; towel rail – see page 11

- **Class** I; **Connection cable:** length of supply cables 1.9 m with plug connection; **Bolts and ceiling fixing frame** are included in the packing.

WIFI BOX

VIDEO: GS WIFI


SCHEMA OF WIRELESS REGULATION

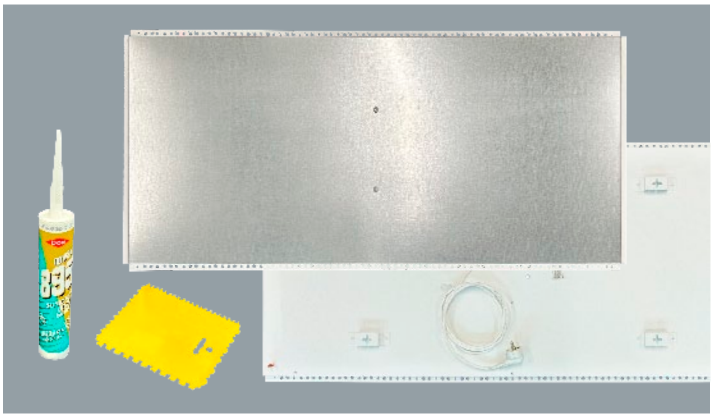
NEW

ECOSUN KIT – Delivery of a complete closed structure with a heating element, equipped with brackets and the power cord terminated with a fork, is offered for the customers requiring their own radiant panel design. All you need to do is to stick a sintered ceramic tile of any shade or pattern to the front wall of this structure using glue. The heating panel can thus be perfectly matched with the design of the whole bathroom. Glue and a comb for spreading the glue are the integral part of the product package.

TYPE	[W]	Dimensions [mm]	Weight netto [kg]	Cat. No.
ECOSUN Kit 300	300	576×572×36	12.1	5437020
ECOSUN Kit 500	500	1187×397×36	14.2	5437024
ECOSUN Kit 600	600	1176×571×36	14.5	5437026
ECOSUN Kit 700	700	1176×571×36	14.5	5437028
ECOSUN Kit 850	850	1180×780×36	16.9	5437029
ECOSUN Kit 1050	1050	1494×694×36	21.3	5437022

Accesorries: towel rail, side cover bars – see page 11

VIDEO: ECOSUN KIT



- 230 V; **Rating** IP 44; **Class** I; **Connection cable:** 1.9 m; Reversible thermal fuse; Installation on C, D substrate.
- **Attention:** the basic heating panel has no regulation, a suitable room thermostat or another superior system has to be added for control.

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* Thickness includes mounting fixture, which is an inseparable part of the panel.

GR – GLASS RADIANT PANELS

GR glass radiant panels **feature an attractive and timeless design.** Due to their aesthetic appearance these panels are primarily intended for heating reception rooms, offices and other rooms. These glass panels consist of a 12 mm toughened glass plate heating element, a thermo fuse, a connection cable. They are designed to be mounted on a wall and connected to a wiring box by the connection cable.

VIDEO: GR ▲

GR/GR+ PANEL

▶ **GR PANELS** – glass panels (thermo fuse). The panels are manufactured in 4 series with different outputs. GR panels are available in five colours: mirror, white, black, red, yellow-green.

TYPE	[W]	Qty on pallet / in crate	Dimensions [mm]	Weight netto [kg]		Cat. No.				
			COLOR (MIRROR)	COLOR	MIRROR	WHITE	YELLOW-GREEN	RED	BLACK	MIRROR
						○	●	●	●	○
GR 300	300	10 / 22	700×500 × 12 (8)	14	10.6	5437602	5437603	–	–	–
GR 500	500	5 / 11	900×600 × 12 (8)	22.8	16.4	5437612	5437613	5437614	5437615	5437611
GR 700	700	5 / 12	1100×600 × 12 (8)	26.9	21.2	5437622	5437623	5437624	–	–
GR 900	900	5 / 8	1200×800 × 12 (8)	37.3	27.7	5437632	5437633	5437634	5437635	5437631
Accesorries: supports; towel rail – see page 11										

⊞ 230 V; **Rating** IP 44; **Class** II; **Connection cable:** 1 m; **Needed clearance:** lower edge 5 cm / top and side edge 15 cm / front side 50 cm

▶ **GR+ PANELS** – the GR+ panel is a standard GR glass panel but it has an integrated Watts wireless receiver. This means that a **Watts V22 wireless thermostat has to be purchased** in order to operate the panel. However, one shared V22 thermostat is sufficient to control up to 4 panels in one room, which is why it should be ordered independently. Wall brackets are included with the product, but **fasteners** (wall anchors, screws) are not, as they need to be chosen according to the type of installation.

TYPE	[W]	Qty on pallet / in crate	Dimensions [mm]	Weight netto [kg]		Cat. No.				
			COLOR (MIRROR)	COLOR	MIRROR	WHITE	YELLOW-GREEN	RED	BLACK	MIRROR
						○	●	●	●	○
GR+ 300	300	10 / 22	700×500 × 12 (8)	15	11	5437707	5437708	–	–	–
GR+ 500	500	5 / 11	900×600 × 12 (8)	23.3	16.8	5437717	5437718	5437719	5437720	5437716
GR+ 700	700	5 / 12	1100×600 × 12 (8)	27.4	21.6	5437727	5437728	5437729	–	–
GR+ 900	900	5 / 8	1200×800 × 12 (8)	39.3	28.3	5437737	5437738	5437739	5437740	5437736
Accesorries: supports; towel rail – see page 11										

⊞ 230 V; **Rating** IP 44; **Class** II; **Connection cable:** 1 m; **Needed clearance:** lower edge 5 cm / top and side edge 15 cm / front side 50 cm

White

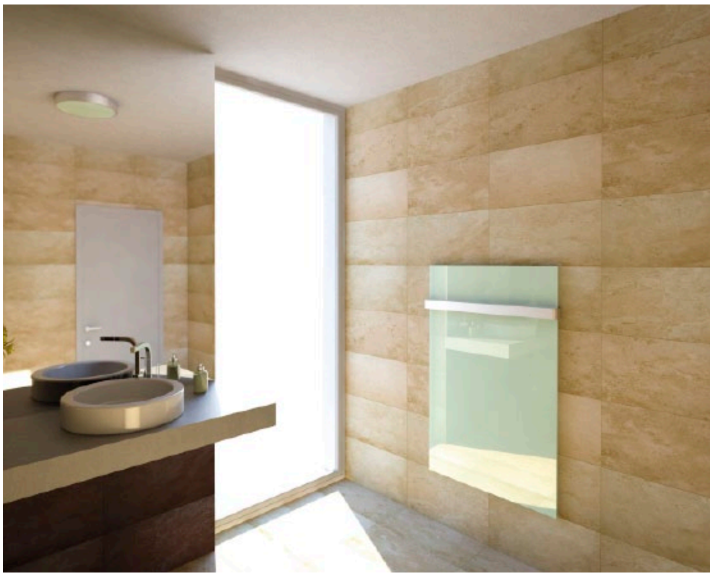
Black

Mirror

Red

Yellow-green

GR/GR+ PANEL + SUPPORTS



GR/GR+ PANEL WITH TOWEL RAIL

ECOSUN CR

Decorative radiant panels from sintered ceramic material will add a rustic mood to your space. Trendy textures **perfectly imitating concrete, beton and natural rocks** suit literally each and every place – houses, hotels, offices, restaurants. Panels can be fitted with optional towel rails, meaning they can become functional accessory in the bathroom. Due to the side bar, any number of rails can be added to the panel, so you can adjust it based on your taste, needs and preferences. For demanding clients we also offer side cover bars to conceal the rear side of the panel. Panels are designed in 4 different colours, 4 sizes and are intended to be placed on the wall vertically or horizontally.

VIDEO: CR WIFI

ECOSUN CR WITH TOWEL RAIL

▶ ECOSUN CR – radiant panels from sintered ceramic material.

TYPE	[W]	[V]	Rating	Dimensions [mm]	Weight netto [kg]	Qty on pallet	Cat. No.			
							BASALT BLACK	CALACATTA	BETON	MIRAGE
CR 300	300	230	IP 44	592×592×40	11.5	10	5430500	5430508	5430516	5430532*
CR 500	500			1192×400×40	16.2	5	5430502	5430510	5430518	5430534*
CR 700	700			1192×592×40	21.9	5	5430504	5430512	5430520	–
CR 1050	1050			1500×700×40	32.5	5	5430506	–	5430522	5430538*
Accesorries: towel rail, side cover bars – see page 11										

⊞ **Class** I; **Connection cable:** 1.9 m; **Needed clearance:** lower edge 5 cm / top and side edge 5 cm / front side 50 cm; **Bolts and ceiling fixing frame** are included in the packing.

▶ **ECOSUN CR+** – the CR+ panel is a standard CR ceramic panel but it has an integrated Watts wireless receiver. This means that a **Watts V22 wireless thermostat has to be purchased** in order to operate the panel. However, one shared V22 thermostat is sufficient to control up to 4 panels in one room, which is why it should be ordered independently. The CR+ panel can also be connected as a SLAVE to CR-WiFi, eliminating the need for an additional thermostat. Wall brackets are included with the product, but **fasteners** (wall anchors, screws) are not, as they need to be chosen according to the type of installation.

TYPE	[W]	[V]	Rating	Dimensions [mm]	Weight netto [kg]	Qty on pallet	Cat. No.			
							BASALT BLACK	CALACATTA	BETON	MIRAGE
CR+ 300	300	230	IP 44	5 92×592×40	11.5	10	5430540	5430548	5430556	5430572*
CR+ 500	500			1192×400×40	16.2	5	5430542	5430550	5430558	5430574*
CR+ 700	700			1192×592×40	21.9	5	5430544	5430552	5430560	–
CR+ 1050	1050			1500×700×40	32.5	5	5430546	–	5430562	5430578*
Accesorries: towel rail, side cover bars – see page 11										

⊞ **Class** I; **Connection cable:** 1.9 m; **Needed clearance:** lower edge 5 cm / top and side edge 5 cm / front side 50 cm; **Bolts and ceiling fixing frame** are included in the packing.

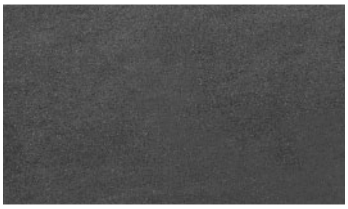
NEW

▶ **ECOSUN CR WIFI** – represent standard ECOSUN CR panels enriched with an integrated WiFi thermostat, which is connected to a wireless RF sensor for temperature measurement. Up to 4 other devices can be connected to the WiFi box via V26 RF receivers, with the WiFi box serving as the main unit. The thermostat is controlled in the Fenix TFT WiFi application, either via the Cloud or in ADHOC mode.

WiFi® CERTIFIED

TYPE	[W]	[V]	Rating	Dimensions [mm]	Weight netto [kg]	Qty on pallet	Cat. No.			
							BASALT BLACK	CALACATTA	BETON	MIRAGE
CR-WiFi 300	300	230	IP 44	5 92×592×40	11.5	10	5437501	5437503	5437502	5437504*
CR-WiFi 500	500			1192×400×40	16.2	5	5437511	5437513	5437512	5437514*
CR-WiFi 700	700			1192×592×40	21.9	5	5437521	5437523	5437522	–
CR-WiFi 1050	1050			1500×700×40	32.5	5	5437531	–	5437532	5437534*
Accesorries: towel rail, side cover bars – see page 11										

⊞ **Class** I; **Connection cable:** 1.9 m; **Needed clearance:** lower edge 5 cm / top and side edge 5 cm / front side 50 cm; **Bolts and ceiling fixing frame** are included in the packing.


Basalt black

Calacatta

Beton

WHILE STOCKS LAST
Mirage

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* while stocks last

ACCESSORIES FOR LOW TEMPERATURE PANELS

▶ **PANEL SIDE COVER BARS** – are used to conceal the attachment of the panel to the wall. Never cover the top and bottom part of the panel! This would limit the flow of air and cause the panel to overheat.

FOR	Cat. No.	FOR	Cat. No.
GS/CR 300	5437884	GS/CR 300 WiFi	5437885
GS/CR 500	5437888	GS/CR 500 WiFi	5437889
GS/CR 600-700	5437886	GS/CR 600-700 WiFi	5437887

▶ **ALUMINIUM FRAME** – is intended for ECOSUN panels and has a purely aesthetic function. The body of an ECOSUN panel is composed of two parts riveted together. Neither the gap formed by the connection of the front and rear parts nor the riveting itself are usually particularly visible in the case of ceiling installation. However, if required the panel can be fitted with this aluminium frame, which covers the join.

FOR	Cat. No.
300 U/U+	5401228
600/700 U/U+	5401229

▶ **STAINLESS STEEL TOWEL RAIL** – these towel rails are designed as an accessory for GR/GS/NATURAL radiant panels. Mostly used as an accessories for bathrooms. After the installation of this rail, the standard panel is transformed into a smart bathroom heater with a rail on which a towel or bath towel can be hung. They are made from a 4×30 mm polished stainless steel sheet. The rail is intended only for panels installed vertically; however, the installation itself is very easy.

FOR	Cat. No.		FOR	Cat. No.	
	SINGLE	DOUBLE		SINGLE	DOUBLE
GR 300	5437810	5437820	GS/CR 500	5437864	–
GR 500 and 700	5437812	5437822	GS/CR 300-600-700	5437866	–
GR 900	5437818	5437824			

▶ **CABLE SUSPENSION SYSTEM** – for low-temperature panels

FOR	Cat. No.
U, U+, K+, IKP, IN, GS	5401223

▶ **SPACING SET** – to install ECOSUN GS on a ceiling made of plasterboard/fiberboard.

FOR	Cat. No.
GS	5401227

▶ **SUPPORTS FOR PANELS** – for applications where panels cannot be hung on a wall (e.g. in the case of glass surfaces), it is possible to use a set of supports for the placement of the panel on the floor. The panel is stable on the supports; however, we recommend that the supports be attached to the floor in the case of permanent installation. The supports are intended for horizontal panel installation. Excessive pressure must not be applied to a panel that is standing on supports – if they are not attached to the floor, the panel may tip over, and if they are attached to the floor, there is a risk of damage to the panel glass (GR, GS) at the points of attachment to the supports.

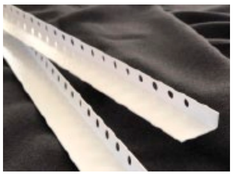
TYPE	Cat. No.
Supports for GR panels Contents of the set: GR panel supports (2 pcs); plastic GR panel bracket covers (2 pcs) Dimensions: diameter of the base 130 mm, height of the support 185/105 mm (the bottom edge of the panel is 50 mm above the floor), spacing of attachment openings in the base 85 mm, surface finish CHROMO metallic powder coating (silver)	8000101
Supports for GS, U+, Basic, K+, IKP, IN panels up to 700 W	5401193

▶ **FLUSH MOUNT FRAME** – enables the installation of ECOSUN U into plasterboard and plaster fibreboard suspended ceilings in such a way that the panels are on the same level as the ceiling. The frame solves not only the visual aspect of the ends of the edges of the suspended ceiling, but also the necessary distance between the panel and the ceiling structure. **Basic colour:** white (RAL 9016)

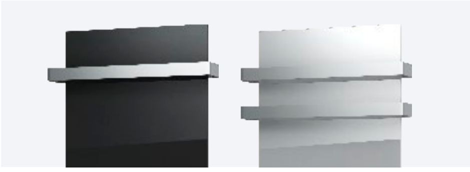
FOR	Cat. No.
300 U/U+/BASIC	5401224
600/700 U/U+/BASIC	5401225
850 U+/BASIC	5401226

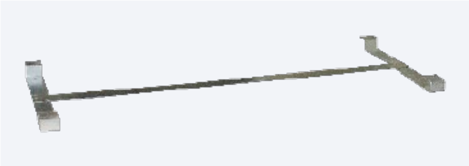
▶ **CEILING FIXING FRAME** – are not included with the product in the case of IKP, IN, IN-2 panels. The relevant ceiling frame must be purchased separately if attachment to the ceiling is desired.

FOR	Cat. No.
700 IN, IN-2	5401190
IKP	5401191


Panel side cover bars

Aluminium frame

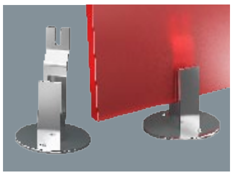

Stainless steel towel rail

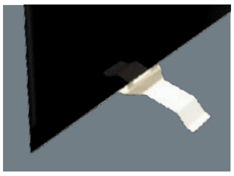

Ceiling fixing frame

Flush mount frame

Spacing set

Cable suspension system


Supports for GR panels


Supports for GS, U+, Basic, K+, IKP, IN

NOTIFICATION

ECOSUN, GR radiant panels are only equipped with a limiting thermostat – suitable regulation is essential for correct and economical operation; see the chapter **THERMOSTATS AND CONTROLS**. In the case of GR glass panels, the limiting thermostat switches off the panels at an average temperature of 90 °C, and therefore the real thermal output of the panels is approximately 10 % lower than the wattage. For this reason and also for the improvement of the dynamics of the whole heating system, we recommend that the installed wattage is increased by 20 % in contrast with the result of the heat loss calculation. GR panels can be supplemented with chromium-coated supports which enable the panel to be placed on the floor – e.g. in proximity to glass surfaces or to create a stylish portable heater.

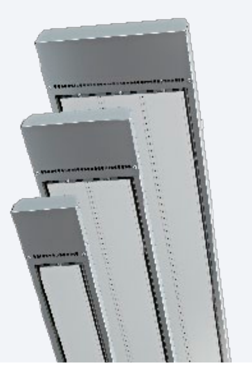
HIGH TEMPERATURE RADIANT PANELS

ECOSUN S+ SHORT

ECOSUN S+

VIDEO: S,TH,CH ▶

▶ **ECOSUN S+ / S+Anticor** – for industrial halls, gyms, halls, workshops, with a rating that corresponds to the given environment. Suitable for drying of buildings. For spaces with higher humidity – agricultural structures, washing facilities, panels are produced in a corrosion-proof version S+Anticor.

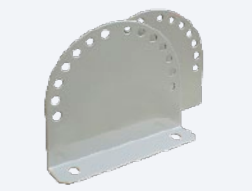


TYPE	[W]	[V]	Weight netto [kg]	Qty on pallet	Recommended clearance	Dimensions [mm]	Cat. No.	
							S+	S+ Anticor
ECOSUN S+ 06 short	600	230	4	68	According to individual conditions, for full area 5–8 m, zonal 3.4–4.5 m	650×250×60	5401537	–
ECOSUN S+ 08 short	850						5401538	–
ECOSUN S+ 09 / Anticor	900		7.8	58		1550×150×60	5401540	5401552
ECOSUN S+ 12 / Anticor	1200						5401542	5401554
ECOSUN S+ 18 / Anticor	1800	230 / 400 2N	12.2	39		1550×250×60	5401544	5401556
ECOSUN S+ 24 / Anticor	2400						5401546	5401558
ECOSUN S+ 30 / Anticor	3000	230 / 400 3N	17	26		1550×350×60	5401548	5401560
ECOSUN S+ 36 / Anticor	3600						5401550	5401562
Corrective varnish for the lamellas of ECOSUN high-temperature panels							2451213	

⊞ **Class** I; **Rating** IP 44; **Basic colour:** S+ (white – RAL 9002) / S+Anticor (RAL 9006).

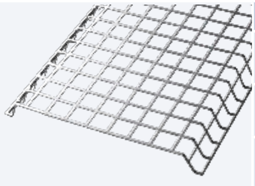
ACCESSORIES FOR HIGH TEMPERATURE PANELS

▶ **TILTABLE BRACKET** – this tiltable bracket enables the installation of ECOSUN S+/Anticor panels at an angle, and thus the aiming of the heat flow at the required area. The bracket can be used for ceiling as well as wall installation; the package contains 1 pair of brackets (two pieces).



TILTABLE BRACKET	Cat. No.
FOR ECOSUN S+	5401785
FOR ECOSUN S+ ANTICOR	5401787

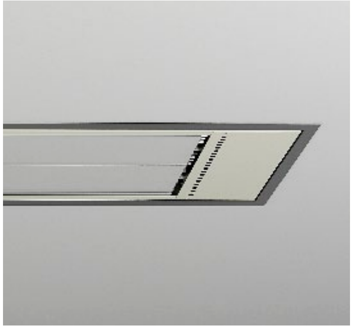
▶ **PROTECTIVE GRILLE** – the protective grille protects the lamellas of ECOSUN S+ high-temperature panels against mechanical damage (for example, by a ball in a gym) and simultaneously prevents objects from coming into direct contact with the hot surface of the heating lamellas.



PROTECTIVE GRILLE	Cat. No.
FOR ECOSUN S+ 09–12	5401790
FOR ECOSUN S+ 18–24	5401792
FOR ECOSUN S+ 30–36	5401794

▶ **FLUSH MOUNT FRAME** – the flush mount frame enables the installation of ECOSUN S+ into plasterboard and plaster fibreboard suspended ceilings in such a way that the heating lamellas are on the same level as the ceiling. The frame solves not only the visual aspect of the ends of the edges of the suspended ceiling, but also the necessary distance between the panel and the ceiling structure.

FLUSH MOUNT FRAME	Cat. No.
FOR ECOSUN S+ 18 / S+ 24 (RAL 9002)	5401802



TERRACE HEATERS

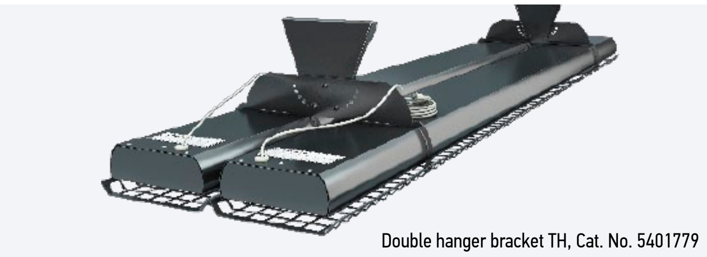
ECOSUN TH (Terrace Heaters) are designed for the zonal heating of winter gardens, enclosed and roofed balconies and terraces, garden tents, churches, etc. – i.e., applications where they are protected against direct contact with the effects of the weather. Tiltable brackets are included with the product.

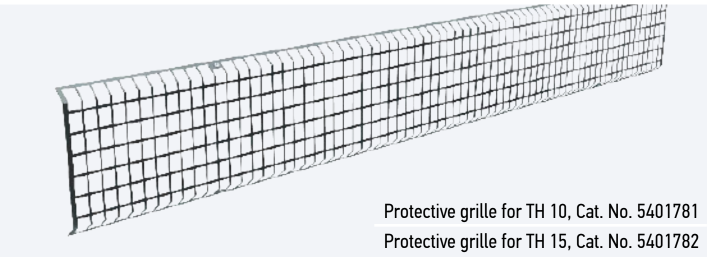
ECOSUN TH 10 / TH 15

TYPE	[W]	[V]	Weight netto [kg]	Qty on pallet	Dimensions [mm]	Cat. No.
ECOSUN TH 10	1000	230	4.9	68	1080×140×45	5401350
ECOSUN TH 15	1500		6.9	68	1580×140×45	5401353
ECOSUN TH 20	2000		5.8	39	1080×240×45	5401366
ECOSUN TH 30	3000		8.3	39	1585×240×50	5401368

ECOSUN TH 20 / TH 30

- **Class** I; **Rating** IP 45; **Colour:** matt black; **Connection cable:** 2 m cold lead with plug
- The min. height at which such panels can be installed is 1.8 m above the floor (the lower edge of the panel); for panels installed on the ceiling there must be a min. gap of 30 cm between the ceiling and the upper edge of the panel.

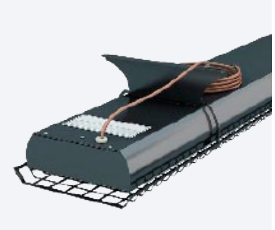

Double hanger bracket TH, Cat. No. 5401779


Protective grille for TH 10, Cat. No. 5401781
Protective grille for TH 15, Cat. No. 5401782

RADIANT HEATERS FOR CHURCH PEWS

ECOSUN CH (Church Heaters) are designed for the heating of church pews with the heater placed below the pew seat. The product features a protective grille which prevents the user from coming into contact with the heating lamellas. The panel cover, protective grille and heating lamellas are matt black, and thus blend in very well with the dark wood of the pews without detracting from the dignity of the surrounding spiritual environment. The panels are fitted with mounting brackets for attaching them to the bottom side of the seat, and with a black two-metre connection cable in a silicone sheath.

TYPE	[W]	[V]	Weight netto [kg]	Qty on pallet	Dimensions [mm]	Cat. No.
ECOSUN CH 02	260	230	3.8	20	730×155×115	5401359
ECOSUN CH 04	400		4.3		1096×155×115	5401360
ECOSUN CH 06	600		6.5		1596×155×115	5401362



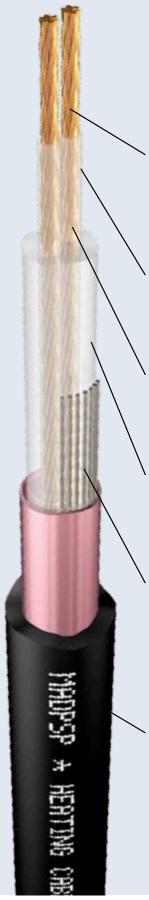
- **Class** I; **Rating** IP 44; **Colour:** matt black (RAL 9005); **Connection cable:** 2 m

ECOSUN CH
VIDEO: S.TH.CH

Presentation

ECOFLOOR electric floor heating systems ensure ideal heat distribution and, by decreasing undesirable air circulation, reduce dust levels. These systems offer great comfort, economic and reliable operation, and long lifetime. They preserve free floor space by eliminating the need for various heating elements, radiators and heat distribution systems. The principal advantage of electric floor heating is easy and separate temperature control in individual rooms. Once installed, it is completely maintenance free.

ECOFLOOR heating systems are available in two basic variants – **heating cable circuits and heating mats.** In fact the two systems do not differ from one another very much. In both cases, the heating system consists of a heating cable, either separate or fixed to a supporting fibreglass cloth (heating mat). This modern floor heating system permits easy and effective regulation.



① ② ③ ④ ⑤ ⑥ Linear input of cable [W/m]

M A D P S P 20 240

Total input of circuit [W]

①	**Resistance (heating) wire**
M	multi-resistance – stranded resistance wire (to be used for higher outputs);
	No letter is used for a non-stranded (simple) resistance wire
②	**Core insulation**
A	FEP (fluoropolymer)
P	XLPE (cross-linked polyethylene)
③	**Number of heating cores**
D	double-core cable;
	No letter is used for a single-core cable
④	**Plastic insulation** (for outdoor applications, higher mechanical ruggedness of cable)
P	XLPE (cross-linked polyethylene);
	No letter is used for a cable without the second plastic insulation
⑤	**Protection screen** (for wet areas)
S	full screen protection (tinned copper wires and aluminium tape)
SL	linear screen protection
	No letter is used for a cable without screen protection
⑥	**Jacket**
P	XLPE (cross-linked polyethylene)
1P	PP-LDPE (mixed polypropylene & low density PE)
V	PVC (polyvinyl chloride)

The FENIX holding company has been specializing in the production of electric heating systems since the year 1990. During that period, we asserted ourselves not only on the Czech market, but also in almost 60 countries worldwide.

The success on these markets is conditioned particularly by the high quality of products, the professional approach to customers and the ability to flexibly respond to their demands. We are prepared to prove the quality of our ECOFLOOR products by providing a **lifetime warranty,** which was selected with care and respect for tradition and the time of FENIX's activity.

The **lifetime warranty** is provided for the life of the floor covering installed with the Ecofloor heating system ('covering' is taken to mean a layer of building material into which a heating element is embedded; alternatively, the heating element is inseparably connected to this layer or material).

The **lifetime warranty** is not transferable to another owner, and can be applied under the following conditions:

- All the conditions for the application of warranty have been met in accordance with the applicable warranty conditions
- The registration for the lifetime warranty has been made no later than 6 months from buying the Ecofloor heating system
- Cables for indoor applications are used in residential buildings
- The heating floor must be controlled by a thermostat with a floor probe
- The maximum linear input power of the heating circuit is 18 W/m, the maximum supply density is 200 W/m²

In the case that the conditions of the **lifetime warranty** are not fulfilled, the extended warranty is valid within the full extent of the warranty conditions offered by Fenix.

Lifetime warranty

Overview of ECOFLOOR heating cables and recommended usage

TYPE	Wattage [W/m]	Number of heating cores	Protective screen	Protection against UV radiation	Thermal endurance of the jacket	230 V	400 V	Supplied as circuit	Supplied as mat	Floor heating: Direct-heating	Floor heating: Semi-storage	Floor heating: Storage	Anti-freeze protection of: Surfaces	Anti-freeze protection of: Roofs	Anti-freeze protection of: Pipes
ASL1P	18	1	●		70 °C	●		●	●	●					
ADSV	7	2	●		70 °C	●		●		●	●				
	10		●			●		●		●	●				
	18		●			●		●		●	●				
ADSV-T	12	2	●		70 °C	●			●	●					
ADSV+	10	2	●	●	80 °C	●		●			●			●	
	18		●	●		●		●			●			●	
ADSA	12	2	●		70 °C	●			●	●					
ADPSV	10	2	●	●	80 °C	●		●							●
	18		●	●		●		●			●		●	●	
	20		●	●		●		●						●	
	30		●	●		●	●	●	●				●	●	
PSV	10	1	●		70 °C	●		●	●	●	●				
	15		●			●		●	●		●				
MAPSV	30	1	●	●	80 °C	●		●	●				●		
MADPSP	40	2	●	●	90 °C 240 °C*	●	●	●	●				●		
PFP	12	2	●	●	70 °C	●		●							●
PDS1P	40	2	●		70 °C	●		●					●		
ELSR-M	10	2	●	●	65 °C	●		●							●
	15		●	●		●		●							●
ELSR-N	20	2	●	●	80 °C	●		●					●	●	
	30		●	●		●		●					●	●	

Overview of ECOFLOOR heating mats and recommended usage

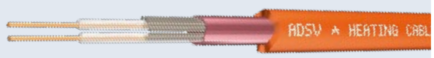
TYPE	Wattage [W/m²]	Number of heating cores	Protective screen	Protection against UV radiation	Thermal endurance of the jacket	230 V	400 V	Floor heating: Direct-heating	Floor heating: Semi-storage	Floor heating: Storage	Heating of outdoor areas	Type of heating cable
CM	150	2	●		70 °C	●		●				ADSA
LDTS	80	2	●		70 °C	●		●				ADSV-T
	100		●			●		●				
	160		●			●		●				
LD	160	1	●		70 °C	●		●				ASL1P
LSDTS	100	2	●		70 °C	●		●				ADSV-T
	160		●			●		●				
MST	300	1	●	●	80 °C	●					●	MAPSV
MDT	400	2	●	●	70 °C 240 °C*	●	●				●	MADPSP
ADPSV	300	2	●	●	80 °C	●					●	ADPSV
AL-MAT	80	2	●		70 °C	●		●				A2
	140		●			●		●				

ASL1P cable
LD heating mats

ASL1P ★ HEATING CABLE ★

🟠

ADSV cable
ADSV heating circuits



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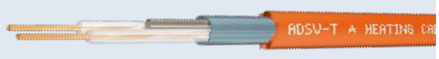
ADSV-T cable
LDTS, LSDTS
heating mats



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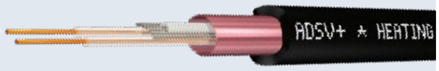
ADSV+ cable
ADSV+ heating circuits



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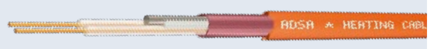
ADSA cable
CM ultrathin mats



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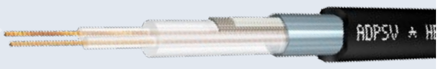
ADPSV cable
ADPSV heating circuits,
ADPSV heating mat



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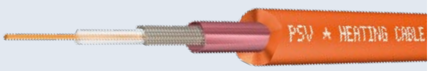
PSV cable
PSV heating circuits



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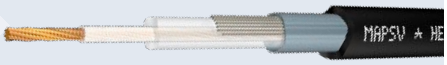
MAPSV cable
MAPSV heating circuits



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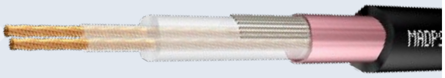
MADPSP cable
MADPSP heating circuits,
MDT heating mats



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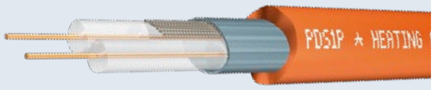
PDS1P cable
for curing concrete



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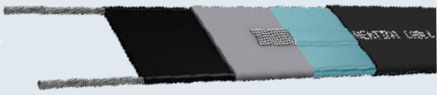
ELSR-M cable
self-regulating cable for
anti-freeze protection and
technological heating
(10 and 15 W/m)

HEATING CABLE

🟣

ELSR-N cable
self-regulating cable for
anti-freeze protection and
technological heating
(20 and 30 W/m EExII)



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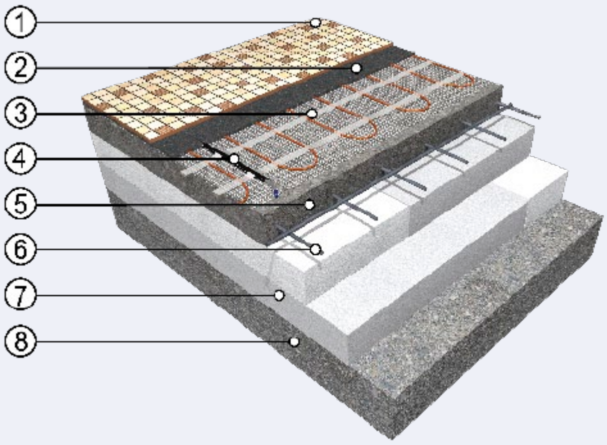
* for a short term (installation under asphalt)

VIDEO ECOFLOOR
▲

Direct heating systems

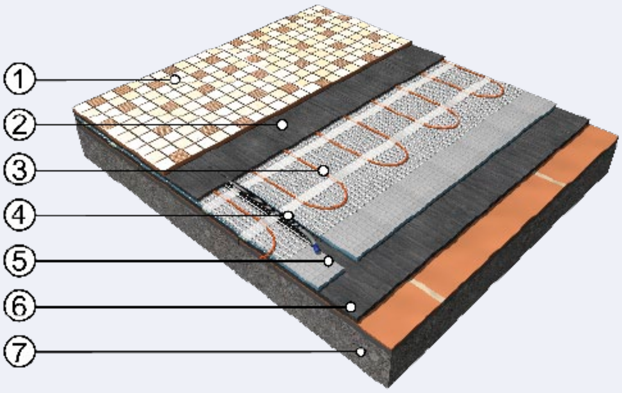
The heating cable circuits or mats are placed directly beneath tiles in a thin layer of permanently flexible cement so the tiled surface heats up relatively quickly (approx. 20 min). Temperature control is sensitive and quick to react. Heating cable circuits or mats are suitable for renovated floors where the final floor height is not a constraint.

▶ **PRODUCTS:** ADSV, ASL1P (heating cables); LDTS, LSDTS, LD, CM, ComfortMat, AL MAT (heating mats)



Direct heating system

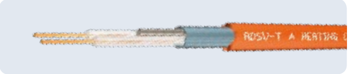
1 wear layer (ceramic floor tiling)
2 flexible bonding cement
3 ECOFLOOR® heating mat
4 floor (limitation) probe in a protective tube (so-called goose neck)
5 load-bearing concrete floating board
6 steel reinforcement (so-called Kari mesh)
7 thermal insulation
8 base (concrete board)



Direct heating system—reconstruction

1 wear layer (ceramic floor tiling)
2 flexible bonding cement
3 heating mat (cable) ECOFLOOR®
4 floor (limitation) probe in a protective tube (so-called goose neck)
5 F-BOARD supplementary thermal insulation
(shortens the warming time) (see page 27)
6 flexible bonding cement
7 original floor (old floor tiling, concrete)

LDTS or LSDTS (self-adhesive) heating mat – twin conductor cable with a full protection screen, width 50 cm, halogen free cold lead 1×3 m. LDTS mats are provided with self-adhesive tape for affixing to the floor. LSDTS mats have a self-adhering mesh on their entire back surfaces. 230 V. Packing in cardboard box.



HALOGEN FREE 50 cm

LDTS / LSDTS 160 W/m²

1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No. LDTS	Cat. No. LSDTS
70	160/0.5	0.5	0.9	5530200	5531005
130	160/0.8	0.8	1.6	5530205	5531010
210	160/1.3	1.3	2.6	5530210	5531015
260	160/1.6	1.6	3.2	5530220	5531020
340	160/2.1	2.1	4.2	5530230	5531025
410	160/2.6	2.6	5.2	5530240	5531030
500	160/3.0	3.0	6.0	5530250	5531035
560	160/3.4	3.4	6.7	5530255	5531040
670	160/4.2	4.2	8.3	5530260	5531045
810	160/5.1	5.1	10.2	5530270	5531050
1000	160/6.1	6.1	12.3	5530280	5531055
1210	160/7.6	7.6	15.1	5530290	5531060
1400	160/8.8	8.8	17.6	5530190	5531080
1800	160/11.0	11.0	22.0	5530192	5531085
2150	160/13.3	13.3	26.6	5530194	5531090
2600	160/16.3	16.3	32.5	5530196	5531095

LDTS 160 W/m²

1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No. LDTS
80	160-0.5	0.5	1.0	5540001
160	160-1	1.0	2.0	5540002
240	160-1.5	1.5	3.0	5540003
320	160-2	2.0	4.0	5540004
400	160-2.5	2.5	5.0	5540005
480	160-3	3.0	6.0	5540006
560	160-3.5	3.5	7.0	5540007
640	160-4	4.0	8.0	5540008
800	160-5	5.0	10.0	5540009
960	160-6	6.0	12.0	5540010
1120	160-7	7.0	14.0	5540012
1280	160-8	8.0	16.0	5540014
1600	160-10	10.0	20.0	5540016
1920	160-12	12.0	24.0	5540018
2400	160-15	15.0	30.0	5540020

LDTS / LSDTS 100 W/m²

1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No. LDTS	Cat. No. LSDTS
60	100/0.6	0.6	1.2	5530401	5531105
105	100/1.0	1.0	2.1	5530403	5531110
180	100/1.8	1.8	3.6	5530405	5531115
220	100/2.2	2.2	4.4	5530410	5531120
290	100/2.9	2.9	5.8	5530415	5531125
410	100/4.1	4.1	8.2	5530420	5531130
460	100/4.7	4.7	9.4	5530425	5531135
560	100/5.6	5.6	11.2	5530430	5531140
820	100/8.2	8.2	16.5	5530440	5531145
1000	100/10.2	10.2	20.3	5530450	5531150
1200	100/11.8	11.8	23.7	5530460	5531155
1800	100/17.9	17.9	35.8	5530470	5531160

LDTS 80 W/m²

1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No. LDTS
60	80/0.8	0.8	1.5	5531502
105	80/1.3	1.3	2.6	5531504
180	80/2.3	2.3	4.5	5531506
220	80/2.8	2.8	5.5	5531508
290	80/3.6	3.6	7.2	5531510
410	80/5.1	5.1	10.2	5531512
460	80/5.8	5.8	11.5	5531514
560	80/7.0	7.0	14.0	5531516
820	80/10.3	10.3	20.5	5531518
1000	80/12.5	12.5	25.0	5531520
1200	80/15.0	15.0	30.0	5531522
1800	80/22.5	22.5	45.0	5531524

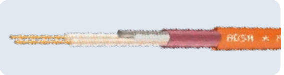
LD heating mat – single conductor cable with a full protection screen, halogen free cold lead 2×5 m, 230 V. Width 30 cm. Packed in PE foil.

HALOGEN FREE 30 cm PE

LD 160 W/m²

1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No.
100	160/0.6	0.6	2.0	5530005
150	160/0.9	0.9	3.0	5530007
180	160/1.1	1.1	3.6	5530010
300	160/1.8	1.8	6.1	5530020
360	160/2.3	2.3	7.6	5530030
500	160/3.0	3.0	10.0	5530040

Ultra thin CM mat – a very thin two conductor cable with a protective screen – suitable for damp areas (bathrooms, laundry rooms) as well as for standard rooms – ideal for placement into adhesive sealing cement directly under floor tiling; ∅ of cable 2.7–3.4 mm, halogen free cold lead – 1×3 m. 230 V. Width 50 cm.



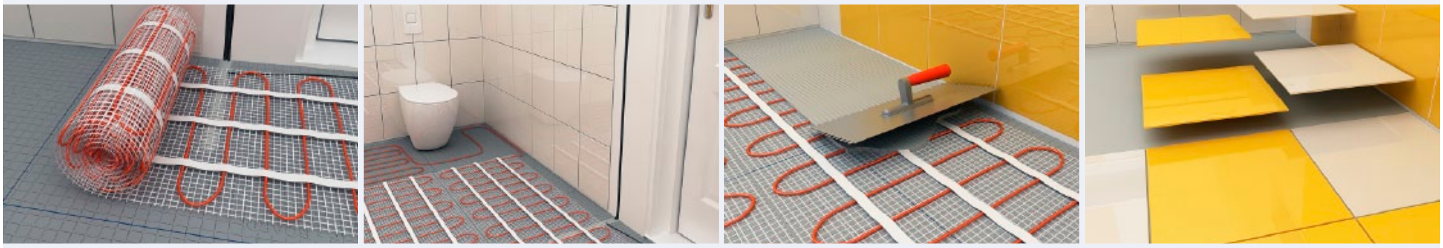
HALOGEN FREE 50 cm PE

CM 150 W/m²

1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No.	1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No.
150	CM150/1	1.0	2.0	5540103	750	CM150/5	5.0	10.0	5540115
225	CM150/1.5	1.5	3.0	5540105	900	CM 150/6	6.0	12.0	5540118
300	CM150/2	2.0	4.0	5540107	1050	CM 150/7	7.0	14.0	5540120
375	CM150/2.5	2.5	5.0	5540109	1200	CM 150/8	8.0	16.0	5540122
450	CM150/3	3.0	6.0	5540111	1350	CM 150/9	9.0	18.0	5540124
525	CM150/3.5	3.5	7.0	5540112	1500	CM 150/10	10.0	20.0	5540126
600	CM150/4	4.0	8.0	5540113	1800	CM 150/12	12.0	24.0	5540128
675	CM 150/4.5	4.5	9.0	5540114	2250	CM 150/15	15.0	30.0	5540130

ECOFLOOR HEATING MAT INSTALLATION

1) Unroll the heating mat according to the layout drawing.
2) If you need to leave a space under fixed furniture, cut out the necessary part of the cloth and span the space with the cable (see fig. 2).
3) Level the layer of flexible cement with a smooth trowel.
4) Lay tiling on small areas (up to 4 m^2) immediately, and on larger areas after 24 hours.



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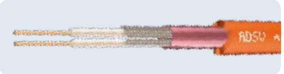
1) Output [W]; 2) Surface [m^2]; 3) Length [m]

ECOFLOOR HEATING CABLE CIRCUITS

▶ **ADSV heating cable** – a twin conductor cable with a full protection screen suitable for wet areas. For direct floor heating or floor renovation (installation under tiles). Cable diameter 3.4–4.2 mm. 230 V. Halogen free cold lead 1×3 m.



HALOGEN FREE

Cables on drums

TYPE [Ω/m]	Cat. No.
122.5	2001510
38.72	2001515
14.020	2001520
8.960	2001525
5.232	2001530
3.584	2001535
2.568	2001540
2.050	2001545
1.382	2001550
0.926	2001555
0.638	2001560
0.424	2001565
0.310	2001570
0.196	2001575
0.136	2001580

ADSV 7 W/m

1) [W]	TYPE	3) [m]	Cat. No.
55	7055	7.9	2232046
100	7100	13.7	2232047
165	7165	22.9	2232048
205	7205	28.8	2232049
265	7265	38.2	2232050
320	7320	46.2	2232051
380	7380	54.2	2232052
430	7430	60	2232053
520	7520	73.7	2232054
630	7630	90.3	2232055
760	7760	108.8	2232056
940	7940	134	2232057
1100	71100	155.1	2232058
1380	71380	195.6	2232059
1650	71650	235.7	2232060

ADSV 10 W/m

1) [W]	TYPE	3) [m]	Cat. No.
65	10065	6.6	2232100
120	10120	11.4	2232105
200	10200	18.9	2232110
250	10250	23.6	2232115
320	10320	31.6	2232120
400	10400	36.9	2232125
450	10450	45.9	2232130
520	10520	49.6	2232135
600	10600	63.9	2232140
750	10750	75.8	2232145
950	10950	87.0	2232150
1100	101100	114.5	2232155
1300	101300	131.3	2232160
1700	101700	158.5	2232165
2000	102000	194.5	2232170

ADSV 18 W/m

1) [W]	TYPE	3) [m]	Cat. No.
160	18160	8.50	2243120
260	18260	14.50	2243125
320	18320	18.50	2243130
420	18420	24.00	2243135
520	18520	28.40	2243140
600	18600	34.4	2243145
680	18680	37.9	2243150
830	18830	46.1	2243155
1000	181000	57.5	2243160
1200	181200	68.9	2243165
1500	181500	83.2	2243170
1700	181700	100.4	2243175
2200	182200	122.7	2243180
2600	182600	149.6	2243185

▶ **ASL1P heating cable** – a single-conductor cable with a full protection screen suitable for wet areas. For direct floor heating (installation under tiles). Halogen free cold lead 2×5 m. Cable diameter 3–3.4 mm. 230 V. Packed in PE foil.

HALOGEN FREE

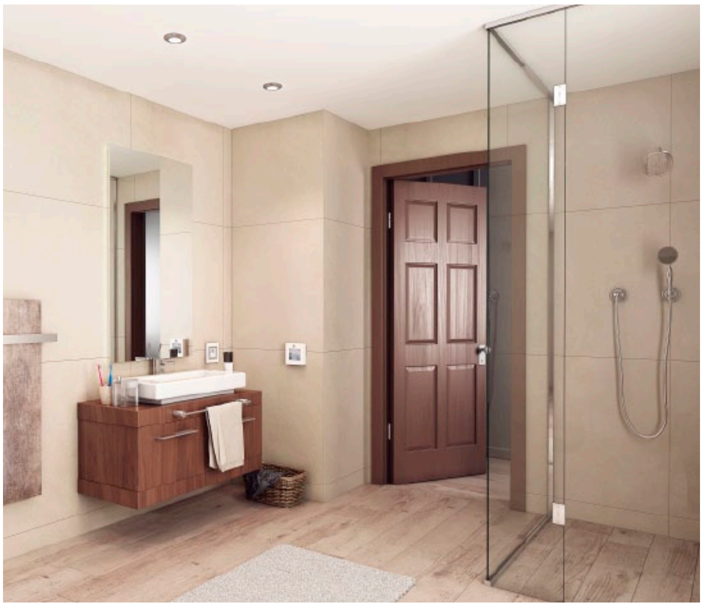
PE

Cables on drums

TYPE [Ω/m]	Cat. No.
61.25	2005178
27.13	2005179
19.36	2005180
7.010	2005181
4.480	2005182
2.616	2005183
1.284	2005185
0.857	2005187
0.691	2005188
0.463	2005190
0.212	2005192
0.155	2005193
0.098	2005194
0.068	2005195

ASL1P 18 W/m

1) [W]	TYPE	3) [m]	Cat. No.
210	18210	12	2201060
350	18350	20	2201062
450	18450	25	2201064
570	18570	33	2201066
820	18820	46	2201068
1000	181000	57	2201070
1100	181100	64	2201072
1400	181400	77	2201074
2000	182000	115	2201076
2400	182400	133	2201078
3000	183000	166	2201080
3500	183500	204	2201082



ECOFLOOR
ECOFLOOR
ECOFLOOR

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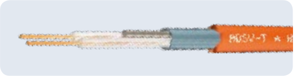
1) Output [W]; 3) Length [m]

KITS FOR DO-IT-YOURSELF INSTALLATION

DIRECT HEATING SYSTEMS

Kits for do-it-yourself installation have been designed for those users who do not want a complete electrical heating system but a comfortable, warm floor in a specific area (e.g. bathroom or kitchen). The kits include everything needed to install the floor heating system and are very reasonably priced.

▶ **ComfortMat** – kit for DIY includes: LDTS heating mat; TFT digital touch screen thermostat; protective tube for floor sensor; copper end piece; installation manual. Width of the heating mat is 50 cm. Halogen free cold lead. 230 V.



HALOGEN FREE

50 cm

ECOFLOOR®
ComfortMat

ComfortMat 160 W/m^2

1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No.	1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No.
70	12070-165	0.5	0.9	5590094	560	12560-165	3.4	6.7	5590122
130	12130-165	0.8	1.6	5590097	670	12670-165	4.2	8.3	5590125
210	12210-165	1.3	2.6	5590100	810	12810-165	5.1	10.2	5590130
260	12260-165	1.6	3.2	5590105	1000	121000-165	6.1	12.3	5590135
340	12340-165	2.1	4.2	5590110	1210	121210-165	7.6	15.1	5590140
410	12410-165	2.6	5.2	5590115	1400	121400-165	8.8	17.6	5590145
500	12500-165	3.0	6.1	5590120					

It is recommended that you install F-BOARD insulated tile backer board before laying ComfortMat. This will ensure quicker warm up times and reduce running costs (see page 27).

VIDEO ECOFLOOR ▶

AL MAT

DIRECT HEATING SYSTEMS

AL MAT heating mats are intended for use under laminate and wooden floating floors installed in so-called moist areas – in bathrooms, for example. They are a variant of ECOFILM heating foils designed for applications where ECOFILM foils cannot be used.

▶ **AL MAT** – is of the two-core type, with one 3 m long halogen free connecting cable; the thickness of the mat is only 1.7 mm. 230 V.

HALOGEN FREE

50 cm

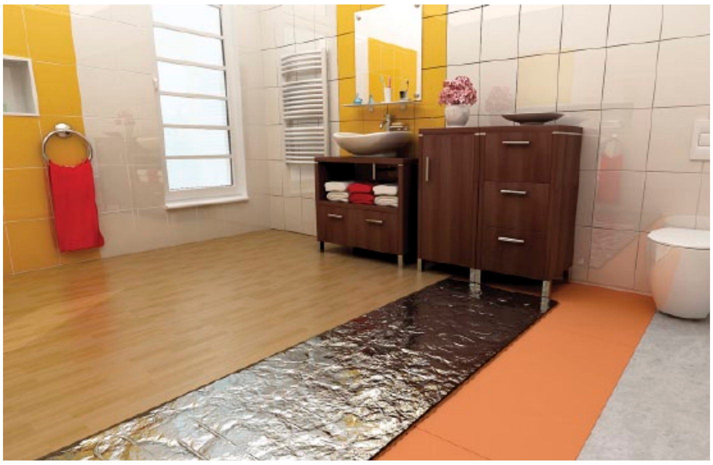
PE

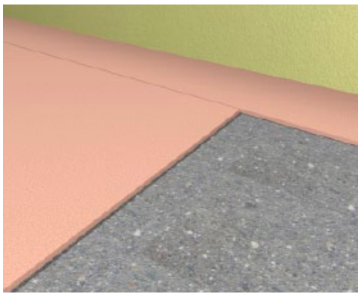
AL MAT 140 W/m^2

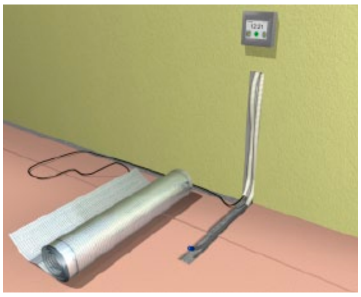
1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No.
140	AL MAT 140/1	1	2	5543000
210	AL MAT 140/1,5	1.5	3	5543002
280	AL MAT 140/2	2	4	5543004
420	AL MAT 140/3	3	6	5543006
560	AL MAT 140/4	4	8	5543008
700	AL MAT 140/5	5	10	5543009
840	AL MAT 140/6	6	12	5543010
980	AL MAT 140/7	7	14	5543011
1120	AL MAT 140/8	8	16	5543012
1260	AL MAT 140/9	9	18	5543013
1400	AL MAT 140/10	10	20	5543014

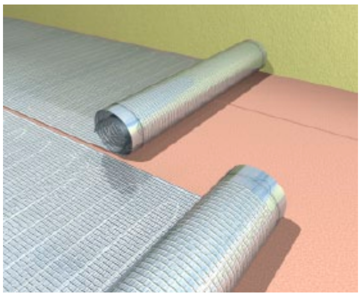
AL MAT 80 W/m^2

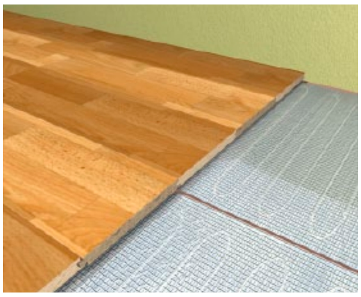
1) [W]	TYPE	2) [m^2]	3) [m]	Cat. No.
100	AL MAT 80/1,25	1.25	2.5	5543200
160	AL MAT 80/2	2	4	5543202
240	AL MAT 80/3	3	6	5543204
320	AL MAT 80/4	4	8	5543205
400	AL MAT 80/5	5	10	5543206
480	AL MAT 80/6	6	12	5543207
560	AL MAT 80/7	7	14	5543211
640	AL MAT 80/8	8	16	5543208
720	AL MAT 80/9	9	18	5543209
800	AL MAT 80/10	10	20	5543210
960	AL MAT 80/12	12	24	5543212











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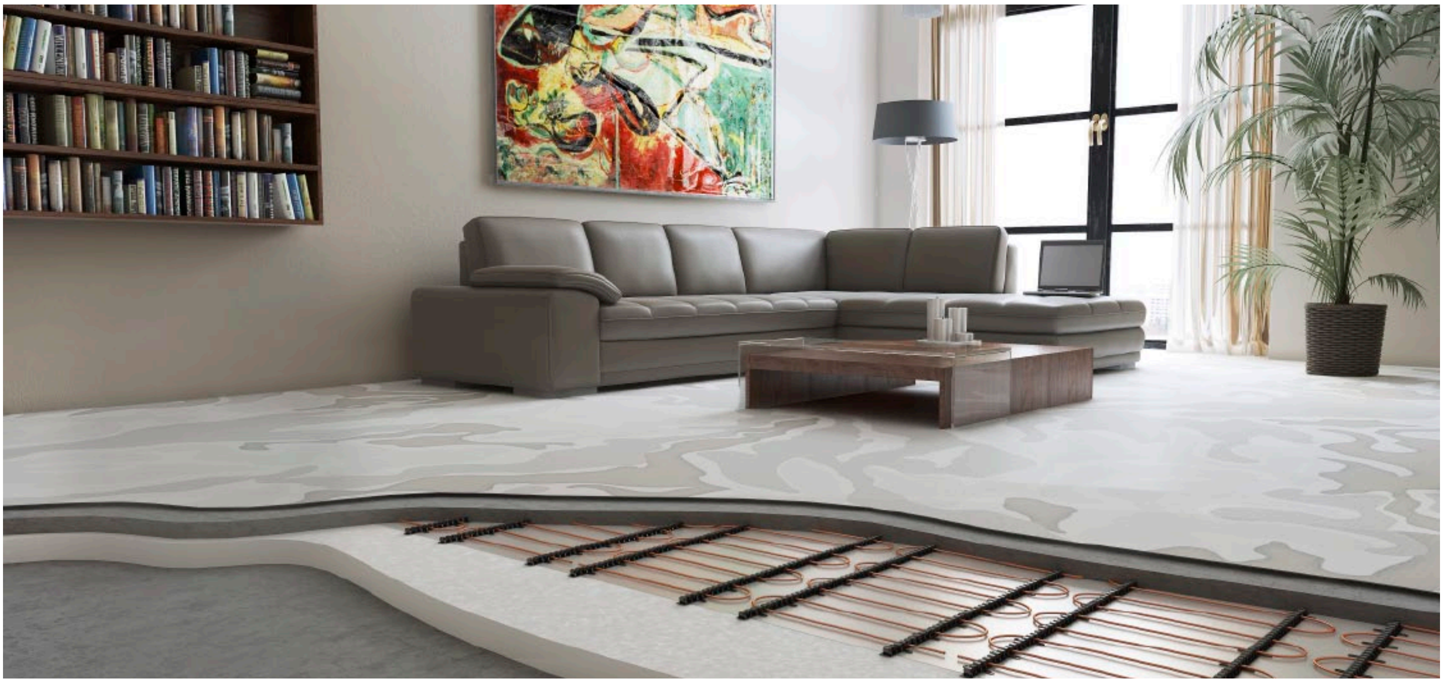
1) Output [W]; 2) Surface [m^2]; 3) Length [m]

SEMI-STORAGE AND STORAGE HEATING



Semi-storage heating

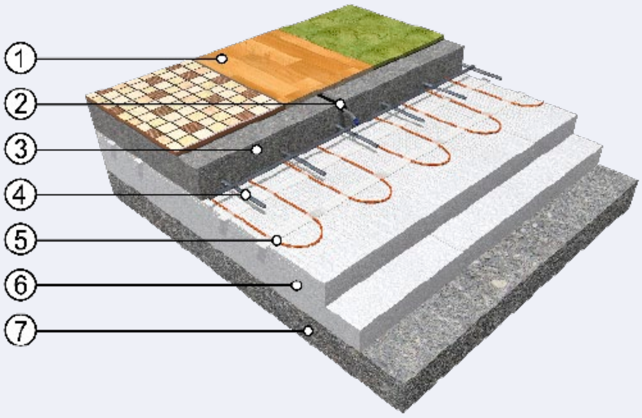
Heating cables or mats in semi-storage systems are placed in a layer of concrete 4–5 cm thick. The mat's recommended output wattage is 160 W/m². Heat is accumulated for 16 hours a day at a time when electricity costs are lowest. The accumulated heat is radiated from the floor surface not only during the process, but also for a further 8 hours. One efficient solution is to divide the total desired heating system 70/30 between the floor heating and another source, such as a convection heater or an ECOSUN radiant panel.

▶ **PRODUCTS:** ADSV+, ADPSV, PSV (heating cables)

Storage heating

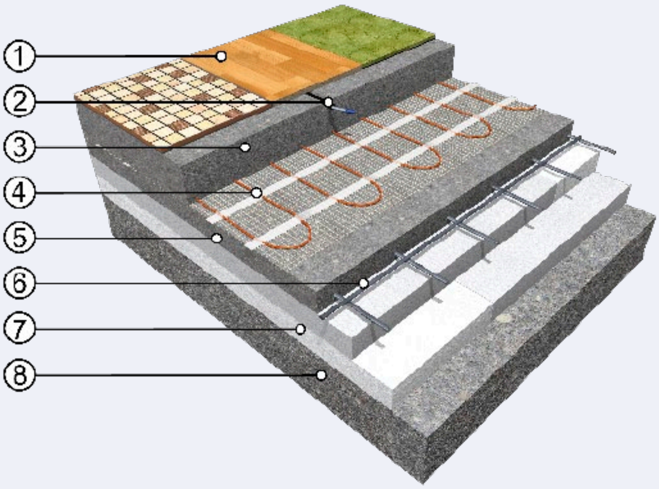
Storage floor heating is a system that takes advantage of cheaper electricity tariffs – usually at night. During this time, heat is accumulated into the mass of the floor using ECOFLOOR electrical heating cables or mats. Throughout the rest of the day, the heat is gradually released from the floor to the room. In storage systems, heating mats or cables are placed in a layer of concrete 10 to 14 cm thick. The accumulated—stored—heat is then released during the day into the area to be heated. We recommend an output wattage of 250 to 300 W/m² for ECOFLOOR mats used in this type of system. Eight hours of low-tariff electricity should be used to accumulate the heat.

▶ **PRODUCTS:** ADSV+, ADPSV, PSV (heating cables)



Semi-storage system

1 wear layer (floor tiling, carpet, PVC, laminate)
2 floor (limitation) probe in a protective tube (so-called goose neck)
3 load-bearing concrete floating board
4 steel reinforcement (so-called Kari mesh)
5 ECOFLOOR® heating mat (cable)
6 thermal insulation
7 base (concrete board)



Storage heating

1 wear layer (floor tiles, carpet, PVC, laminate)
2 floor (limitation) probe in a protective tube (so-called goose neck)
3 concrete storage layer
4 ECOFLOOR® heating mat (cable)
5 concrete storage layer
6 steel reinforcement (so-called Kari mesh)
7 thermal insulation
8 base (concrete board)

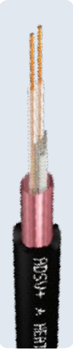
ADSV+ heating cable – a two-conductor cable with a full protection screen. The sheathing of the cable is resistant against UV radiation and is intended for floor heating and the removal of snow and ice from roofs and eaves troughs. 1×3 m cold lead. ∅ 5.0 mm. 230 V.

ADSV+ 10 W/m

[1] [W]	TYPE	[3] [m]	Cat. No.
120	10120	11.4	2253000
200	10200	18.9	2253005
250	10250	23.6	2253010
320	10320	31.6	2253015
400	10400	36.9	2253020
450	10450	45.9	2253025
520	10520	49.6	2253030
600	10600	63.9	2253035
750	10750	75.8	2253040
950	10950	87.0	2253045
1100	101100	114.5	2253050
1300	101300	131.3	2253055
1700	101700	158.5	2253060
2000	102000	194.5	2253065

ADSV+ 18 W/m

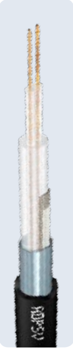
[1] [W]	TYPE	[3] [m]	Cat. No.
160	18160	8.5	2253100
260	18260	14.5	2253105
320	18320	18.5	2253110
420	18420	24.0	2253115
520	18520	28.4	2253120
600	18600	34.4	2253125
680	18680	37.9	2253130
830	18830	46.1	2253135
1000	181000	57.5	2253140
1200	181200	68.9	2253145
1500	181500	83.2	2253150
1700	181700	100.4	2253155
2200	182200	122.7	2253160
2600	182600	149.6	2253165



ADPSV heating cable – a twin conductor cable with a full protection screen suitable for semi-storage and storage floor heating in living areas. Class M2. 1×5 m cold lead. ∅ 5.3–5.9 mm. 230 V.

ADPSV 18 W/m

[1] [W]	TYPE	[3] [m]	Cat. No.
160	18160	8.5	2249960
260	18260	14.5	2249963
320	18320	18.5	2249966
420	18420	24.0	2249969
520	18520	28.4	2249972
600	18600	34.4	2249975
740	18740	41.8	2249976
830	18830	46.1	2249978
1000	181000	57.5	2249981
1200	181200	68.9	2249984
1500	181500	83.2	2249987
1700	181700	100.4	2249990
2200	182200	122.7	2249992
2600	182600	149.6	2249993



PSV heating cable – a single-conductor cable with a full protection screen for storage and semi-storage heating. Cold lead 2×5 m. 230 V. Cable diameter 4.5–4.8 mm.

Cables on drums

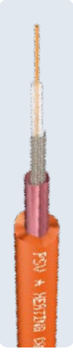
TYPE [Ω/m]	Cat. No.
19.36	2001210
7.01	2001215
4.48	2001220
2.616	2001225
1.792	2001230
1.284	2001235
1.025	2001240
0.857	2001245
0.691	2001250
0.54	2001255
0.463	2001260
0.319	2001265
0.212	2001270
0.155	2001275
0.098	2001280
0.068	2001285

PSV 10 W/m

[1] [W]	TYPE	[3] [m]	Cat. No.
170	10170	16.1	2320020
280	10280	28.0	2320025
350	10350	34.0	2320030
450	10450	46.0	2320035
550	10550	53.7	2320040
640	10640	64.4	2320045
720	10720	71.7	2320050
800	10800	79.1	2320055
870	10870	88.0	2320060
960	10960	100.0	2320065
1100	101100	106.8	2320070
1280	101280	129.6	2320075
1600	101600	157.9	2320080
1900	101900	189.6	2320085
2500	102500	234.7	2320090
3000	103000	277.8	2320095

PSV 15 W/m

[1] [W]	TYPE	[3] [m]	Cat. No.
200	15200	13.7	2320110
340	15340	22.2	2320115
420	15420	28.1	2320120
550	15550	36.7	2320125
660	15660	44.7	2320130
800	15800	52.3	2320135
880	15880	58.6	2320140
960	15960	64.1	2320145
1070	151070	71.5	2320150
1210	151210	81.0	2320155
1300	151300	84.1	2320160
1580	151580	104.6	2320165
1900	151900	128.6	2320170
2200	152200	150.3	2320175
2800	152800	189.4	2320180
3400	153400	227.5	2320185



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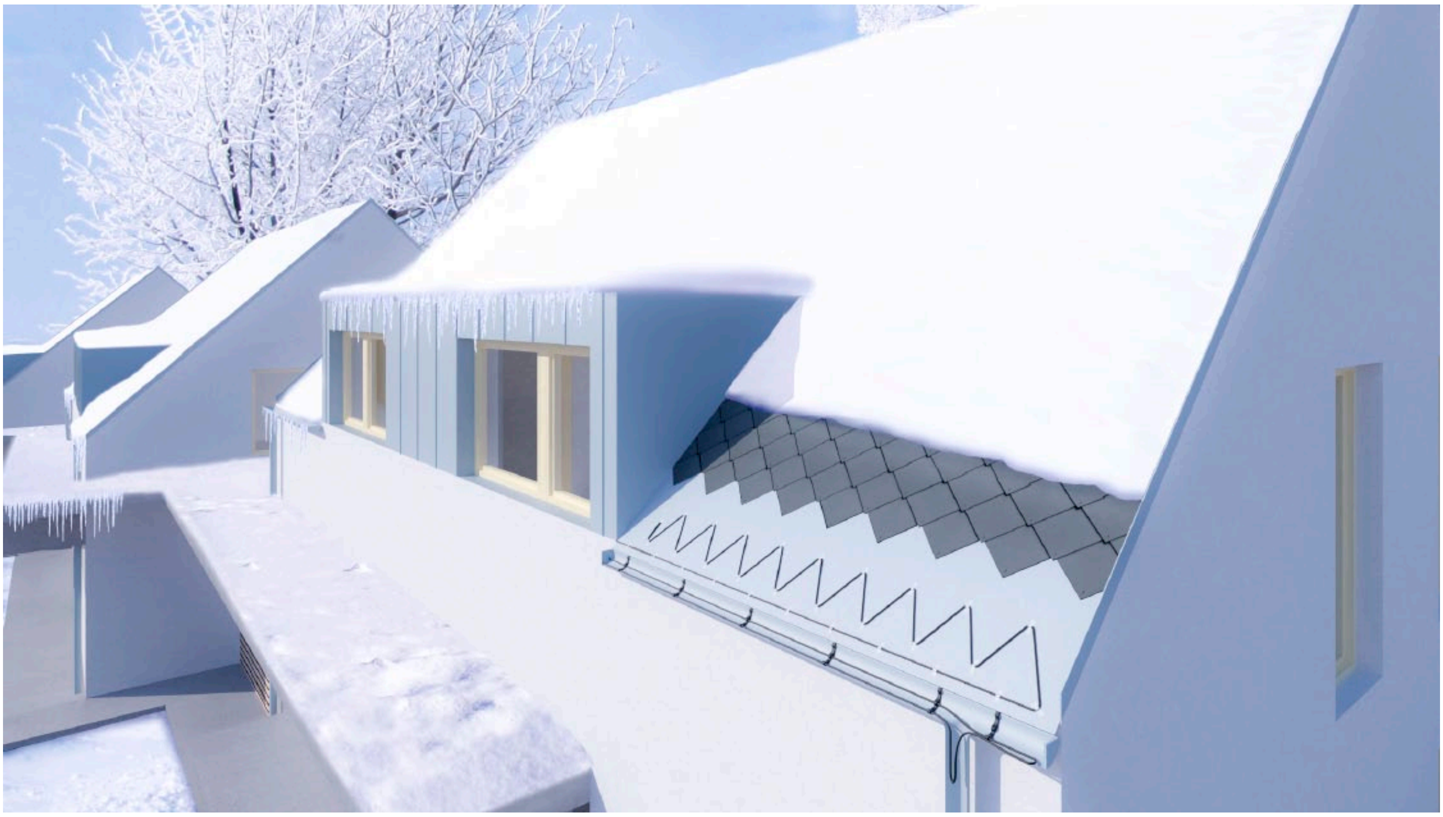
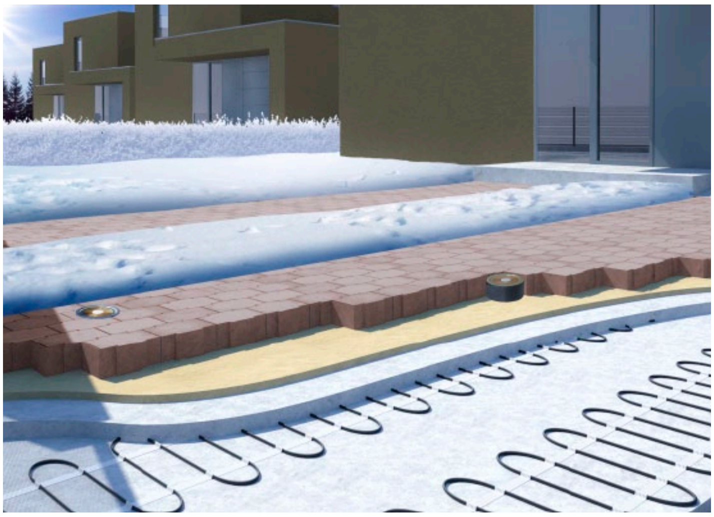
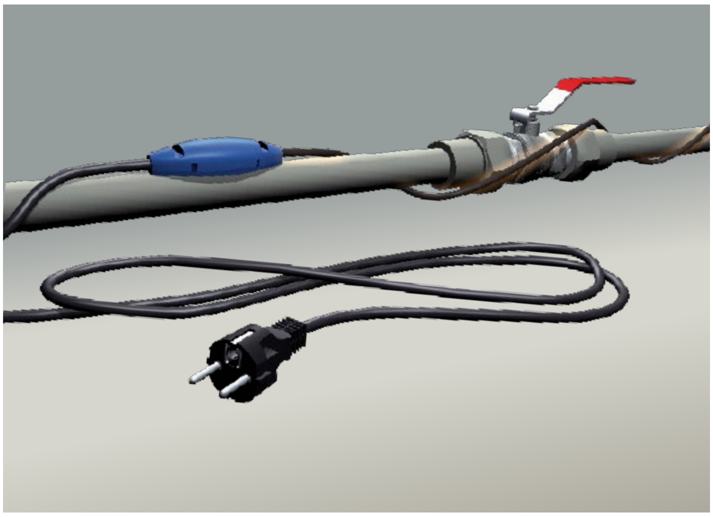
[1] Output [W]; [2] Surface [m²]; [3] Length [m]







Ice and snow melting

Installing electric heating cables in outdoor areas, together with a thermostat, prevents both ice formation and snow accumulation. Once installed, the system works entirely automatically and is only operational when it is snowing or if ice is forming on roads and walkways.

De-icing gutters and eaves troughs

In all parts of Europe other than in the south, winter brings a heavy load to many buildings as ice builds up in the gutters and eaves troughs. Installing an ECOFLOOR electric heating cable (with a protective screen) into gutters and eaves troughs is a good solution for such problems. The cables are installed using special plastic clips placed inside gutters and eaves troughs. We recommend a linear wattage of 20 W/m for the de-icing cables.

Frost protection of pipes

Many homeowners and other users of piping have many troubles in the winter due to freezing pipes. This especially applies to water pipes, but other liquids used in industrial processes can also freeze or solidify. During long spells of below-freezing temperatures, even very well-insulated piping can freeze. Supplementary heating is a reliable preventive solution.

MAPSV heating cable – a single-conductor cable with a full protection screen and protection against UV radiation. Suitable for heating outdoor surfaces. Cold lead 2×5 m. ∅ 5.9–6.4 mm. Packed in PE foil.

30 W/m for ice and snow melting, removing ice and snow from roofs and gutters.
A control system with an air temperature and moisture sensor must be used to prevent cables from switching on in temperatures of more than +5 °C. →

TYPE	Suitability	Max. loading
Floor heating in living areas	Yes	30 W/m
Outdoor surface heating	Yes	30 W/m
Removing ice and snow from roofs and gutters	Yes	30 W/m

Cables on drums	
TYPE [Ω/m]	Cat. No.
9.00	2000850
6.50	2000852
3.20	2000854
1.35	2000856
1.00	2000858
0.60	2000860
0.36	2000862
0.25	2000864
0.183	2000866
0.155	2000868
0.098	2000870
0.068	2000872
0.04	2000874

MAPSV 30 W/m – 230 V			
1) [W]	TYPE	3) [m]	Cat. No.
420	30420	14.0	2322600
500	30500	16.3	2322602
700	30700	23.6	2322604
1100	301100	35.6	2322606
1250	301250	42.3	2322608
1600	301600	55.1	2322610
2100	302100	70.0	2322612
2500	302500	84.6	2322614
2950	302950	98.0	2322616
3200	303200	106.7	2322618
4000	304000	134.9	2322620
4800	304800	162.1	2322622
6300	306300	209.9	2322624

MADPSP heating cable / MDT heating mat – a two-conductor cable with a full protection screen and protection against UV radiation. Suitable for heating outdoor surfaces. Class M2. Cold lead 1×5 m. ∅ 6.3–9 mm. MDT heating mat: width 0.75 m. Packed in PE foil.

40 W/m for ice and snow melting.
A control system with an air temperature and moisture sensor must be used to prevent cables from switching on in temperatures of more than +5 °C. →

TYPE	Suitability	Max. loading
Outdoor surface heating	Yes	40 W/m

Cables on drums	
TYPE [Ω/m]	Cat. No.
18.00	2000700
6.40	2000705
2.70	2000710
2.00	2000715
1.20	2000720
0.72	2000725
0.60	2000730
0.36	2000735
0.25	2000737
0.18	2000740
0.08	2000745
0.04	2000750

MADPSP 40 W/m – 230 V			
1) [W]	TYPE	3) [m]	Cat. No.
340	40340	8.5	2323505
570	40570	14.5	2323510
880	40880	22	2323515
1030	401030	26	2323520
1320	401320	33	2323525
1700	401700	43	2323530
1880	401880	47	2323535
2450	402450	60	2323540
2900	402900	73	2323545
3400	403400	85	2323550
5200	405200	127	2323555
7350	407350	180	2323560

MADPSP 40 W/m – 400 V			
1) [W]	TYPE	3) [m]	Cat. No.
600	40600	15	2323605
1000	401000	25	2323610
1520	401520	39	2323615
1800	401800	45	2323620
2300	402300	58	2323625
2970	402970	75	2323630
3300	403300	81	2323635
4250	404250	105	2323640
5100	405100	126	2323645
5900	405900	148	2323650
9000	409000	222	2323655

MDT mat 400 W/m² – 230 V				
1) [W]	TYPE	2) [m²]	3) [m]	Cat. No.
340	23MDT400/0,9	0.9	1.1	5510005
570	23MDT400/1,4	1.4	1.9	5510010
880	23MDT400/2,3	2.2	2.9	5510015
1030	23MDT400/2,6	2.6	3.4	5510020
1320	23MDT400/3,3	3.3	4.4	5510025
1700	23MDT400/4,3	4.3	5.7	5510030
1880	23MDT400/4,7	4.7	6.3	5510035
2450	23MDT400/6,1	6.1	8.2	5510040
2900	23MDT400/7,3	7.3	9.7	5510045
3400	23MDT400/8,5	8.5	11.3	5510050
5200	23MDT400/13	13.0	17.3	5510055
7350	23MDT400/18,4	18.4	24.5	5510060

MDT mat 400 W/m² – 400 V				
1) [W]	TYPE	2) [m²]	3) [m]	Cat. No.
600	40MDT400/1,5	1.5	2.0	5510105
1000	40MDT400/2,5	2.5	3.3	5510110
1520	40MDT400/3,8	3.8	5.1	5510115
1800	40MDT400/4,5	4.5	6.0	5510120
2300	40MDT400/5,8	5.8	7.7	5510125
2970	40MDT400/7,4	7.4	9.9	5510130
3300	40MDT400/8,3	8.3	11.0	5510135
4250	40MDT400/10,6	10.6	14.2	5510140
5100	40MDT400/12,8	12.8	17.0	5510145
5900	40MDT400/14,8	14.8	19.7	5510150
9000	40MDT400/22,5	22.5	30.0	5510155

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1) Output [W]; 2) Surface [m²]; 3) Length [m]

▶ **ADPSV heating cable / mat** – a twin conductor, full protection screened cable with protection against UV radiation. This multipurpose cable is suitable for indoor and outdoor applications. Class M2. 1×5 m cold lead. ∅ 5.0–5.9 mm. ADPSV heating mat: width 0.5 m. Packed in PE foil.

TYPE	Suitability	Max. loading
Outdoor surface heating	Yes	30 W/m
Frost protection of pipes	Yes	10 W/m
Pipe heating	Yes	10 W/m
Removing ice and snow from roofs and gutters	Yes	30 W/m

Cables on drums

TYPE [Ω/m]	Cat. No.
38.72	2000501
14.02	2000506
8.96	2000511
5.232	2000516
3.58	2000521
2.568	2000526
1.714	2000536
1.382	2000541
0.926	2000551
0.638	2000556
0.424	2000561
0.31	2000566
0.196	2000571
0.136	2000576

ADPSV 10 W/m – 230 V

[1] [W]	TYPE	[3] [m]	Cat. No.
120	10120	11.4	2256010
200	10200	18.9	2256015
250	10250	23.6	2256020
320	10320	31.6	2256025
400	10400	36.9	2256030
450	10450	45.9	2256035
550	10550	56.1	2256040
600	10600	63.9	2256045
750	10750	75.8	2256050
950	10950	87.0	2256055
1100	101100	114.5	2256060
1300	101300	131.3	2256065
1700	101700	158.5	2256070
2000	102000	194.5	2256075

ADPSV 20 W/m – 230 V

[1] [W]	TYPE	[3] [m]	Cat. No.
160	20160	8.3	2252800
270	20270	14.0	2252805
340	20340	17.2	2252810
450	20450	22.5	2252815
540	20540	27.4	2252820
640	20640	32.1	2252825
780	20780	39.3	2252830
870	20870	43.8	2252835
1070	201070	53.5	2252840
1290	201290	64.4	2252845
1580	201580	79.0	2252850
1850	201850	92.4	2252855
2300	202300	117.3	2252865
2750	202750	141.4	2252870

ADPSV 30 W/m – 230 V

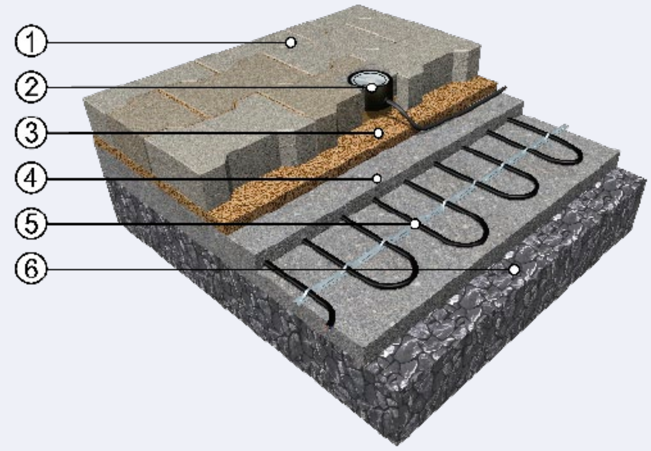
[1] [W]	TYPE	[3] [m]	Cat. No.
195	30195	7	2253505
340	30340	11	2253510
420	30420	14	2253515
560	30560	18	2253520
670	30670	22	2253525
800	30800	26	2253530
970	30970	32	2253535
1060	301060	36	2253540
1300	301300	44	2253545
1600	301600	52	2253550
1940	301940	65	2253555
2250	302250	76	2253560
2800	302800	96	2253565
3400	303400	114	2253570

ADPSV 30 W/m – 400 V

[1] [W]	TYPE	[3] [m]	Cat. No.
350	30350	12	2253605
580	30580	20	2253610
730	30730	24	2253615
950	30950	32	2253620
1150	301150	39	2253625
1360	301360	46	2253630
1670	301670	56	2253635
1850	301850	63	2253640
2250	302250	76	2253645
2720	302720	92	2253650
3350	303350	114	2253655
3900	303900	132	2253660
5000	305000	163	2253665
6000	306000	196	2253670

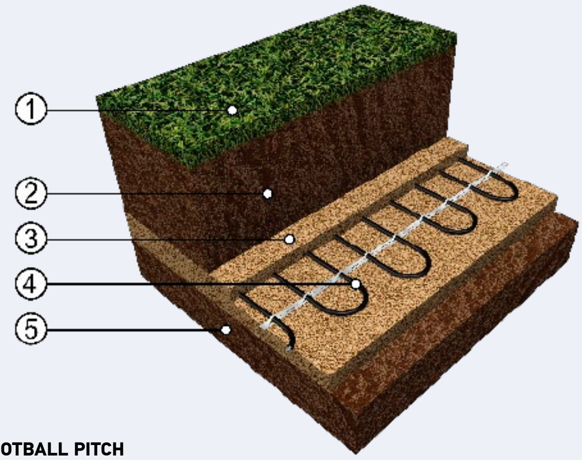
ADPSV mat 300 W/m² – 230 V

[1] [W]	TYPE	[2] [m²]	[3] [m]	Cat. No.
300	23ADPSV 300/1-0,5	1.0	2.0	5510505
450	23ADPSV 300/1,5-0,5	1.5	3.0	5510510
600	23ADPSV 300/2-0,5	2.0	4.0	5510515
750	23ADPSV 300/2,5-0,5	2.5	5.0	5510520
900	23ADPSV 300/3-0,5	3.0	6.0	5510525
1050	23ADPSV 300/3,5-0,5	3.5	7.0	5510530
1200	23ADPSV 300/4-0,5	4.0	8.0	5510535
1500	23ADPSV 300/5-0,5	5.0	10.0	5510540
1800	23ADPSV 300/6-0,5	6.0	12.0	5510545
2100	23ADPSV 300/7-0,5	7.0	14.0	5510550
2700	23ADPSV 300/9-0,5	9.0	18.0	5510555
3000	23ADPSV 300/10-0,5	10.0	20.0	5510560



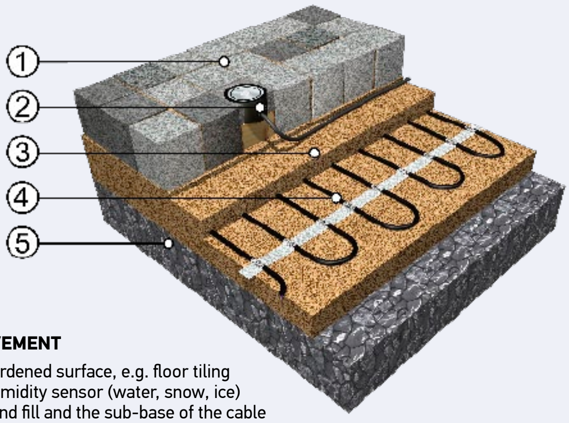
DRIVEWAY

1 hardened surface, e.g. interlocking pavement
2 humidity sensor (water, snow, ice)
3 sand bed of the interlocking pavement
4 concrete board (protects the heating cable from vehicle load)
5 heating cable/heating mat ECOFLOOR®
6 firm gravel base (macadam)



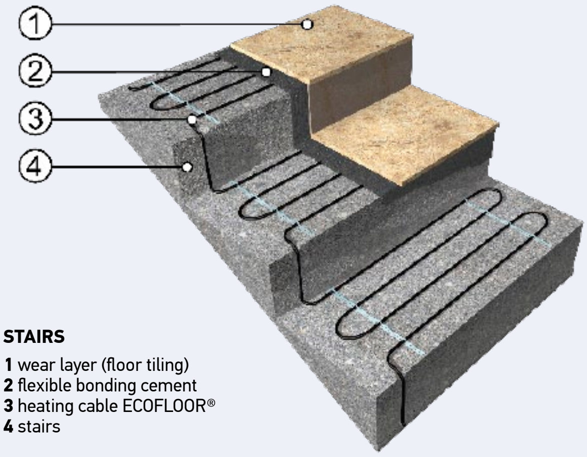
FOOTBALL PITCH

1 grass
2 soil layer, approx. 30 cm thick
3 sand bedding, approx. 7 cm (compacted) and approx. 3 cm thick fill
4 heating cable ECOFLOOR®
5 Levelled solid base (existing soil)



PAVEMENT

1 hardened surface, e.g. floor tiling
2 humidity sensor (water, snow, ice)
3 sand fill and the sub-base of the cable
4 heating cable/heating mat ECOFLOOR®
5 firm gravel base (macadam)



STAIRS

1 wear layer (floor tiling)
2 flexible bonding cement
3 heating cable ECOFLOOR®
4 stairs

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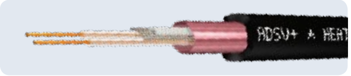
[1] Output [W]; [2] Surface [m²]; [3] Length [m]

▶ **MST heating mat** – a single-conductor cable with a full protection screen and protection against UV radiation. Suitable for heating outdoor surfaces. ∅ 5.0–5.5 mm. For easy installation MST heating mats are provided with a 1×5 m cold lead and another 1×5 m cold lead + the length of the mat. Width 0.5 m. 230 V. Packed in PE foil.

MST mat 300 W/m² – 230 V

[1] [W]	TYPE	[2] [m²]	[3] [m]	Cat. No.
3600	23MST 300/12-0.5	12.0	24.0	5501145
4500	23MST 300/15-0.5	15.0	30.0	5501150
6000	23MST 300/20-0.5	20.0	40.0	5501155

▶ **ADSV+ heating cable** – a two-conductor cable with a full protection screen. The sheathing of the cable is resistant against UV radiation and is intended for floor heating and the removal of snow and ice from roofs and eaves troughs. 1×3 m cold lead. ∅ 5.0 mm. 230 V.



TYPE	Suitability	Max. loading
Floor heating in living areas	Yes	20 W/m
Outdoor surface heating	No	–
Frost protection of pipes	Yes	10 W/m
Pipe heating	Yes	10 W/m
Removing ice and snow from roofs and gutters	Yes	20 W/m

ADSV+ 10 W/m – 230 V

[1] [W]	TYPE	[3] [m]	Cat. No.
120	10120	11.4	2253000
200	10200	18.9	2253005
250	10250	23.6	2253010
320	10320	31.6	2253015
400	10400	36.9	2253020
450	10450	45.9	2253025
520	10520	49.6	2253030
600	10600	63.9	2253035
750	10750	75.8	2253040
950	10950	87.0	2253045
1100	101100	114.5	2253050
1300	101300	131.3	2253055
1700	101700	158.5	2253060
2000	102000	194.5	2253065

ADSV+ 18 W/m – 230 V

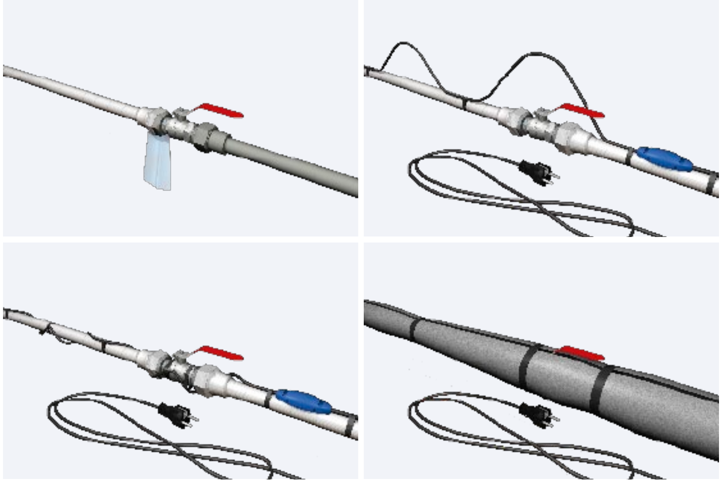
[1] [W]	TYPE	[3] [m]	Cat. No.
160	18160	8.5	2253100
260	18260	14.5	2253105
320	18320	18.5	2253110
420	18420	24.0	2253115
520	18520	28.4	2253120
600	18600	34.4	2253125
680	18680	37.9	2253130
830	18830	46.1	2253135
1000	181000	57.5	2253140
1200	181200	68.9	2253145
1500	181500	83.2	2253150
1700	181700	100.4	2253155
2200	182200	122.7	2253160
2600	182600	149.6	2253165

▶ **PFP – automatic heating cable** with a thermostat, electrical socket connection, the thermostat switches on at +3 °C, 1.5 m connection cable with plug, IP 66 coverage. 230 V. 12–490 W – packing in cardboard box, 620–1260 W – packing in PE foil.

PFP

[1] [W]	TYPE	[3] [m]		Cat. No.
12	PFP 1m/12W	1	cardboard box	2330150
25	PFP 2m/25W	2		2330152
36	PFP 3m/36W	3		2330154
48	PFP 4m/48W	4		2330156
72	PFP 6m/72W	6		2330158
136	PFP 10m/136W	10		2330160
152	PFP 14m/152W	14		2330162
281	PFP 21m/281W	21		2330164
337	PFP 30m/337W	30		2330166
490	PFP 42m/490W	42		2330168
620	PFP 50m/620W	50	PE foil	2330169
660	PFP 58m/660W	58		2330170
810	PFP 70m/810W	70		2330171
1030	PFP 80m/1030W	80		2330172
1260	PFP 100m/1260W	100		2330173

VIDEO PFP



PFP HEATING CABLE
PFP HEIZKABEL/ PFP TOPNÝ KABEL/
PFP CABLE CHAUFFANT AVEC THERMOSTAT

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[1] Output [W]; [2] Surface [m²]; [3] Length [m]

S-MAT (SNOWMAT)

Heated rubber mat is intended mainly for entry cleaning zones in shops and shopping centres but can be used anywhere where in winter periods the protection is required.

ADVANTAGES: effortless maintenance of the required areas from snow and black ice, simple installation and handling, Commercial loading – may also be loaded with lighter carts with rubber wheels.

Technical parameters: 5 m supply lead with plug; mat IP 65, plug IP 54; 230 V / 50 Hz.

[1] [W]	TYPE	HEATING AREA		TOTAL		THICKNESS [mm]	WEIGHT NETTO [kg]	Cat. No.
		WIDTH [m]	LENGTH [m]	WIDTH [m]	LENGTH [m]			
S-MAT 390 W/m^2								
460	SM 1.5/460	0.82	1.44	1	1.55	8	15	5504505
SM-W 390 W/m^2								
485	SM-W 1.5/485	0.82	1.44	1	1.55	9.5	16.7	5504507

D-MAT (DE-ICING MAT)

Intended for outdoor use as anti-freeze protection in industrial applications and in the construction industry – for example, for the warming of the earth in excavation pits or of stored friable materials, the warming of cables on reels, maintenance of warmth in parts of machines or in tools, etc. The sheet is also suitable for use in extreme winter conditions.

Technical parameters: IP 56 rating; heated area 1.2×2.85 m (3.4 m^2); total sheet dimensions 1.5×3.05 m; 5 m supply lead ends in a SCHUKO plug. 230 V / 50 Hz; 9.6 kg.

www.fenix.sk

[1] [W]	TYPE	HEATING AREA		TOTAL		THICKNESS [mm]	WEIGHT NETTO [kg]	Cat. No.
		WIDTH [m]	LENGTH [m]	WIDTH [m]	LENGTH [m]			
D-MAT 280 W/m^2								
950	DM 3.4/950	1.2	2.85	1.5	3.05	4	9.6	5505000

W-MAT (WORKMAT)

We are now introducing a smaller version of the product – the heated rubber mat W-Mat. As its name suggests, heated mats are intended for use in protecting workers against cold emanating from floors – most often in industrial workplaces, where the character of activities taking place involves employees spending long periods in small and limited areas.

Technical parameters: IP 65 rating; 230 V / 50 Hz; Protection class I.; dimensions 1×0.6 m; 6.6 kg.

[1] [W]	TYPE	HEATING AREA		TOTAL		THICKNESS [mm]	WEIGHT NETTO [kg]	Cat. No.
		WIDTH [m]	LENGTH [m]	WIDTH [m]	LENGTH [m]			
W-MAT 200 W/m^2								
68	WM 0.6/68	0.4	0.85	0.6	1	8	5.65	5504405

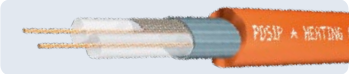
---

[1] Output [W]

CONCRETE CURING CABLE CIRCUITS

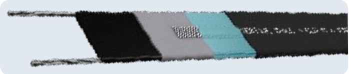
Heating cables used to speed up the curing of concrete in the winter period. They are intended for short-term use, and are employed once only; after the curing process has ended, the cables are disconnected and they remain in the concrete block. A twin conductor screened cable PDS1P with a 1×2 m cold lead with plug connection. 230 V. Packed in PE foil.

1) [W]	TYPE	Length [m]	Cat. No.	1) [W]	TYPE	Length [m]	Cat. No.
PDS1P 40 W/m							
130	40130	3.3	2325000	1500	401500	38.0	2325020
380	40380	10.0	2325005	2200	402200	55.0	2325025
735	40735	20.0	2325008	3200	403200	85.0	2325028
1400	401400	35.0	2325018				



SELF-REGULATING CABLES

The cable is formed by two copper conductors between which there is a semi-conductive heating core. When the ambient temperature rises, the resistance of the heating core increases and its output thus decreases. The opposite is true when the temperature drops – the output of the cable increases. The cables can thus touch and cross one another or pass through environments with different temperatures without there being a danger of overheating or burning.



MARKING	Output [W/m] 10 °C	Temperature tolerance [°C]	Limitation for installation		Max. length at the switch. temperature 0 °C and installed circuit braker [m]			Cat. No.
			Min. temp.	Min. radius				
ELSR-M – Frost protection of pipe					**10 A**	**16 A**	**20 A**	
ELSR-M – 10 BO	10	65	−30°C	25 mm	115.5	115.5	115.5	2330310
ELSR-M – 15 BO	15	65	−30°C	25 mm	83	97.5	97.5	2330315
ELSR-N – Frost protection of trays, gutters, roofs, technological heating					**16 A**	**20 A**	**25 A**	
ELSR-N – 20 BO	20	80	−10°C	25 mm	92	115	119	2330320
ELSR-N – 30 BO	30	80	−10°C	25 mm	71	89	105	2330330
KIT Nr. 4	For connection and termination of self-limiting cables							5030124
Cold lead for self-regulating cables								
SK 1.5	Limitation: 12 A / 20 m							2000790
SK 2.5	Limitation: 20 A / 20 m							2000795

Industrial applications:

- Analyzer lines – prevent condensation
- Cooling water lines – anti-freeze protection
- Potable water lines – anti-freeze protection
- Caustic soda – prevents crystallization under 30 °C
- Oils and fats – maintain pumpable viscosity
- Heating oil – prevents wax dispersion
- Vessel – anti-freeze and condensation protection

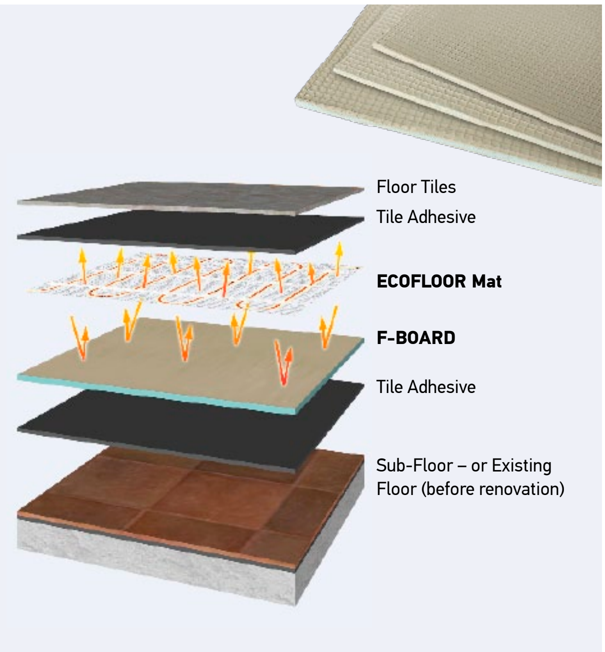
F-BOARD FLOOR INSULATION

F-BOARDS prevent heat losses to the subfloor structure. Recommended for floor reconstructions.

TYPE	Dimensions [mm]	Thickness [mm]	Area [m²]	Bulk density [kg/m³]	Thermal Conductivity [W/mK]	Weight netto [kg/board]	Packaging		Packets on the pallet	Cat. No.
							Boards in packet	[m²]		
F-BOARD FLOOR INSULATION										
F-BOARD 6	1200×600×6	6	0.72	36	0.035	1.8	10	7.2	20	5442026
F-BOARD 10	1200×600×10	10				2.0			15	5442027
F-BOARD 6	1200×600×6	6		35	0.033	2.35	6	4.32	70	5442020
F-BOARD 10	1200×600×10	10				2.37			50	5442021

- **Material:** Extruded Polystyrene core with Polymer cement outer skin;
- **Compresive strenght:** ≥ 300 kPa; **Water absorption:** *immersion* ≤ 1.5 % vol, *capillary* Nil;

Co-efficient of Linear Expansion: 0.07 mm/mK; **Flammability:** B1



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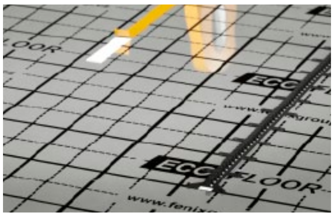
1) Output [W]; 2) Surface [m²]; 3) Length [m]

ECOFLOOR ACCESSORIES

PRODUCT / Description	Q. [1]	Cat. No.
ECOFLOOR ACCESSORIES		
NEW **RASTER FOIL** – The separation foil avoids penetration of water and moisture from the fresh screed into the thermal insulation in the floor structure in case of "wet process" constructions. At the same time, the printed grid greatly facilitates laying of the ECOFLOOR® heating cables. Polyethylene foil thickness of 0.105 mm (100 g/m²), electrically non-conductive; grid size: 50×50 mm; max. temp. resistance of +80 °C, recommended min. temp. for installation +15 °C, storage temp. from −20 °C up to +40 °C. The foil is not stabilized against UV radiation. Width 1 m; length 50 m.		6651032
T-STRIP; material: plastic; strip length 0.5 m; fixation of heating cables with a diameter of 3.5–9 mm. Axial distance of grips 1 cm, total strip height 10 mm, option of connecting the strips.	1 package = 20 pcs	2350009
PLASTIC CABLE CLIP, 50 pcs, blue. For the manual installation of heating cables/mats. Cannot be used with the installation tool.	1 package = 50 pcs	1200000
PLASTIC FIXATION CLIP, 1 package = 600 pcs	1 package	1200003
INSTALLATION TOOL for the comfortable installation of plastic fixation clips (Cat. No. 1200003)	1 unit	1200010
GRUFAST – spacing of grips: 3.5 cm. Universal fixing tape for the fixation of heating cables. Consumption: approx. 1 pc/ 4 m². 1 unit = 10 m, NOT suitable for outdoor enviroments	1 unit	4200013
CABLE FIX AL 25 – universal fixation strip for heating cables, suitable also for outdoor use – e .g. for roof gutters – thanks to the materials used (aluminium). DIMENSIONS: thickness 0.5 mm; width 21 mm; length 10 m; axial spacing of the grips 25 mm	1 unit	4200016
SELF-ADHESIVE ALUMINIUM TAPE – width 50 mm, length 50 m. Designed for the fixation of heating cables to pipes (temperature resistance 150 °C).	1	2832515


Raster foil

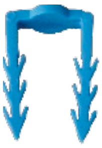
T-strip

Plastic cable clips installation tool

Plastic fixation clip

Grufast

Plastic cable clip



Cable Fix

Aluminium tape

Gutter clip

Chain

Gutter clip 150

Downpipe cable clip

C-shaped copper

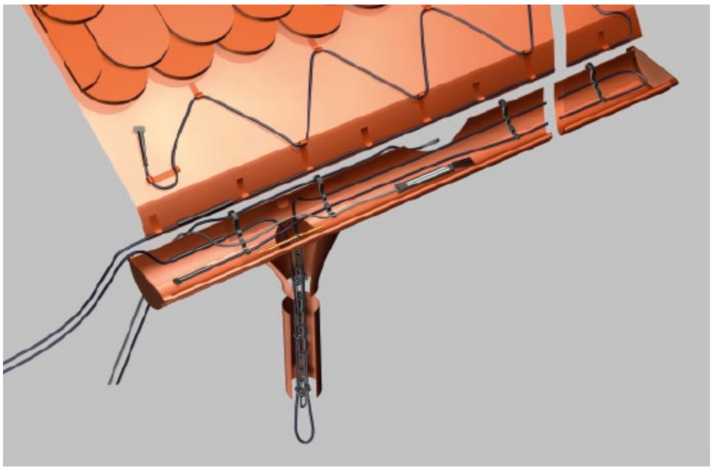
Copper end piece

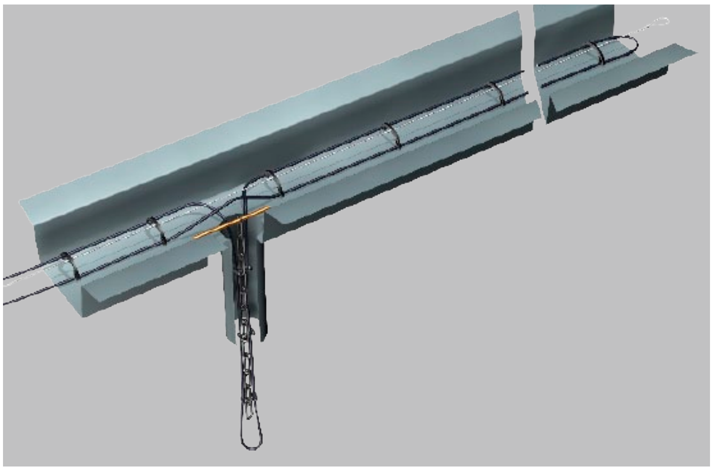
SYFOK-P

Spacing grip

PRODUCT / Description		Q. [1]	Cat. No.
GUTTER CLIP 100; Intended for standard 100 mm semicircular gutters – install approx. 4 pcs/1 m (spacing 25 cm). 1 package = 25 pcs		1 package	2350000
GUTTER CLIP 150; Material: frost-resistant plastic, suitable for self-regulating cable. 1 package = 25 pcs		1 package	2350007
DOWNPIPE CABLE CLIP; For the attachment of a cable on a chain in the downspout – install approx. 4 pcs/1 m (spacing 25 cm). 1 package = 25 pcs		1 package	2350003
CHAIN, 1 package = 10 m. Material: frost-resistant plastic.		1 package	2350004
COPPER END PIECE – intended as an end piece for a flexible tube ("gooseneck"): outer diameter 11.4 mm / inner diameter 8.5mm – used to prevent sealant (anhydrite, concrete) from entering the gooseneck containing the floor probe and to improve the transfer of heat to the thermistor of the probe = more precise measurement of floor temperatures		1 unit	2350021
SYFOK-P – fixation cables for nonstandard eaves, gutters and valleys. Material: frost-resistant plastic.		P/20 (20 m)	2350012
		P/10 (10 m)	2350013
SPACING GRIP; material: frost-resistant plastic, package contains 25 pcs. Maintains the spacing (approx 4.5 cm) of cables running in parallel.		1 package	2350014
ROOF GRIP C, 25 pcs per pack. For the attachment of cables in roof valleys, atypical eaves, flat roofs – attachment via soldering/ riveting, glueing using 3M 46-11F acrylic tape.	CU	1 package	2350005
	TiZn	1 package	2350006

PRODUCT / Description	Q. [1]	Cat. No.
REPAIR KIT		
KIT NO. 1 – for PV cable repair	1	5030121
KIT NO. 2 – for ADSV, ASL1P, PSV, CM Mat LD and LDTS cable repair	1	5030122
KIT NO. 3 – for MADPSP, MAPSV, MST, MDT and ADPSV cable and mat repair	1	5030123
KIT NO. 4 – for connection and termination of self-limiting cables	1	5030124
KIT NO. 5 – for MADPSP installed under asphalt	1	5030125
KIT NO. 6 – termination of PC/PC-S cables with linear wattage	1	5030126





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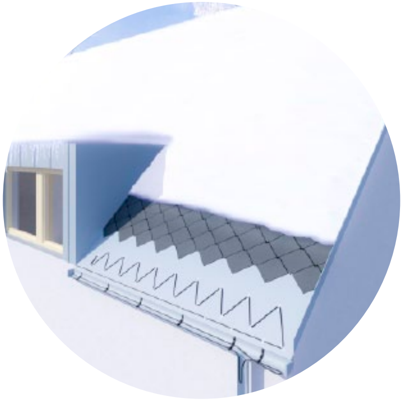
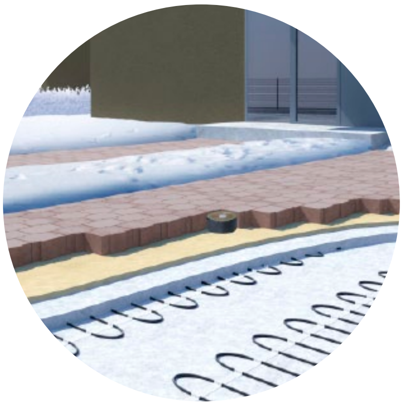
[1] Quantity supplied

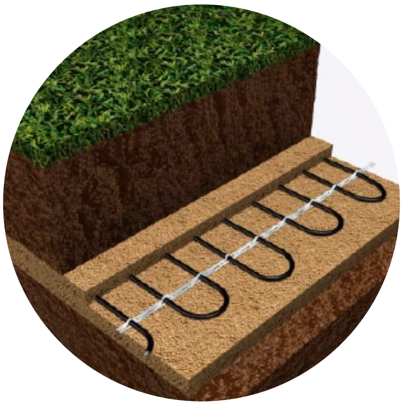
UNDERFLOOR HEATING

(living room, kitchen, bathroom, …)

Where ECOFLOOR heating cable can be used?







OUTDOOR APPLICATIONS

(de-icing gutters and eaves troughs; ice and snow melting – stairs, pavement, driveway; frost protection of pipes, …)

SPECIAL APPLICATIONS

(football pitch and greenhouse heating, concrete curing, …)

ECOFILM®

Presentation

ECOFILM heating films use state of the art technology and are primarily used for heating large surfaces. These heating systems are composed of laminated polyester films with a graphite coating, supply leads, and accessories. Ultra thin profile, long life span. We offer ECOFILM films in 3 versions: underfloor heating films (“F”), ceiling films (“C”) and mirror heating films.

Underfloor heating films

Intended for use as floor heating for dry structures – directly beneath a floating, wooden floors. 10-year warranty.

▶ **PRODUCTS:** ECOFILM F, ECOFILM SET

Ceiling heating films

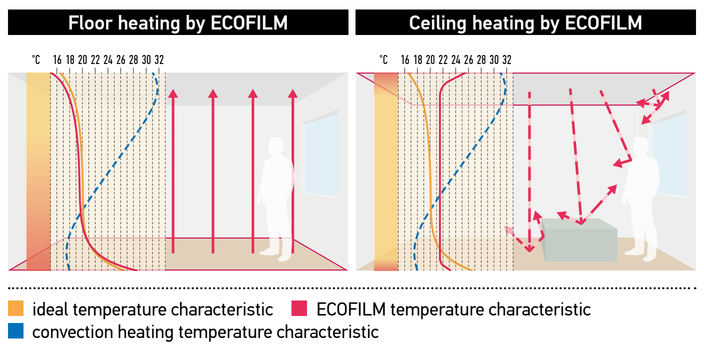
Provide an ideal ceiling heating system with balanced heat distribution throughout the room. Radiant heating system. 10-year warranty.

▶ **PRODUCTS:** ECOFILM C

Mirror heating films

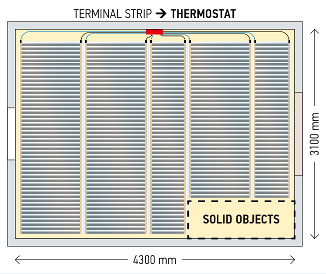
ECOFILM MHF perfectly prevents mirror fogging.

▶ **PRODUCTS:** ECOFILM MHF

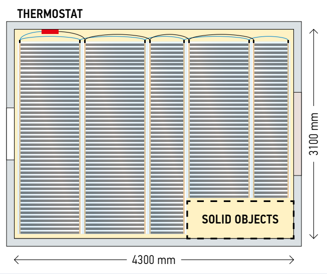

Floor heating by ECOFILM
Ceiling heating by ECOFILM
°C 16 18 20 22 24 26 28 30 32
°C 16 18 20 22 24 26 28 30 32
ideal temperature characteristic
ECOFILM temperature characteristic
convection heating temperature characteristic

ECOFILM F / ECOFILM SET

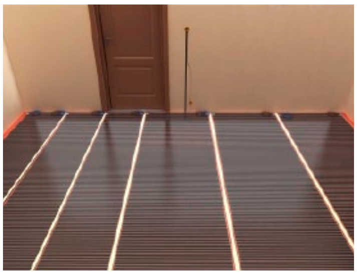
- The F film is intended for use as floor heating for dry structures – directly beneath a floating, wooden floors.
- Due to its ultra thin profile (max 0.4 mm thick) the original construction height of the floating floor is hardly affected.
- This silent, unobtrusive and dry-laid underfoot heating system is highly reliable and has a long life span.
- We provide a 10-year warranty for ECOFILM heating films; however, their operational life can be longer (30–50 years).
- The product has been tested according to European standards.

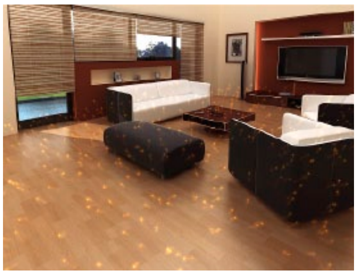

TERMINAL STRIP → THERMOSTAT
3100 mm
SOLID OBJECTS
4300 mm

ECOFILM SET


THERMOSTAT
3100 mm
SOLID OBJECTS
4300 mm

ECOFILM F





▶ VIDEO ECOFILM SET

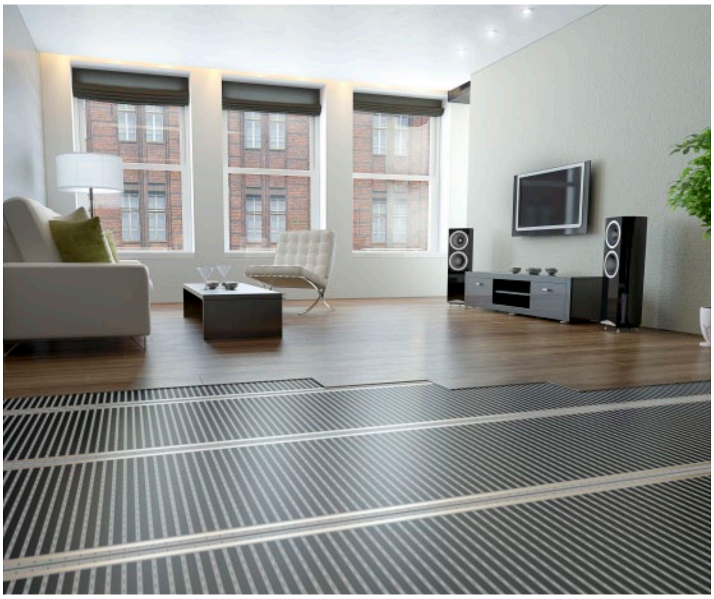
ECOFILM SET

UNDERFLOOR HEATING KIT

The do-it-yourself kit for underfloor heating may be installed easily and quickly by following the relevant instructions. No professional installation company required. The final electrical connection must be carried out by a qualified electrician. As the ECOFILM SET comes complete for installation, no accessories are needed. We recommend 60 W/m² for a floating wooden floor and 80 W/m² for a floating laminated floor.

The ECOFILM SET includes:

- ECOFILM F608/57 (F606/57, 1008) electrical heating film delivered in rolls of various lengths according to the customer's requirements and layout plan. The heating film is supplied with insulated cut edges and cold leads.
- An additional pair of insulation discs for insulating the copper electrodes of the heating film in the event that there is a requirement to shorten the length of the heating film.
- Installation manual.
- The film is fitted with two SK AV1.5 cold leads 3 mm in diameter and 5 m long.



TYPE	Output [W/m²]	Width* [mm]	Lenght [m]	Total output [W]	Cat. No.
ES 60-0,6x 1,5m	60	600 (570)	1.5	51	6652495
ES 60-0,6x 2m			2	68	6652500
ES 60-0,6x 2,5m			2.5	86	6652503
ES 60-0,6x 3m			3	103	6652505
ES 60-0,6x 4m			4	137	6652510
ES 60-0,6x 5m			5	171	6652515
ES 60-0,6x 6m			6	205	6652520
ES 60-0,6x 8m			8	274	6652525
ES 60-0,6x 10m			10	342	6652530
ES 80-0,6x 1,5m	80	600 (570)	1.5	69	6652538
ES 80-0,6x 2m			2	92	6652540
ES 80-0,6x 2,5m			2.5	115	6652543
ES 80-0,6x 3m			3	138	6652545
ES 80-0,6x 4m			4	184	6652550
ES 80-0,6x 5m			5	230	6652555
ES 80-0,6x 6m			6	276	6652560
ES 80-0,6x 8m			8	368	6652565
ES 80-0,6x 10m			10	460	6652570
ES 80-1,0x 1,5m	80	1000 (970)	1.5	117	6652708
ES 80-1,0x 2m			2	156	6652710
ES 80-1,0x 2,5m			2.5	195	6652713
ES 80-1,0x 3m			3	234	6652715
ES 80-1,0x 4m			4	312	6652720
ES 80-1,0x 5m			5	390	6652725
ES 80-1,0x 6m			6	468	6652730
ES 80-1,0x 8m			8	624	6652735
ES 80-1,0x 10m			10	780	6652740

⊞ 230 V/50 Hz; * Width Total (Active) [mm]

ECOFILM F

UNDERFLOOR HEATING FILM

Flexible ECOFILM heating film is the ideal solution for economical electric underfloor heating for laminated and wooden floating floors. ECOFILM heating foils are intended for use as floor heating for dry structures. The product is ultrathin, yet robust, and is a dry-laid system that is easy to install.

Easy, precise and fast installation:

- The heating film is produced in rolls 600 mm wide (570 mm heating surface, two 25 mm non-heating edges) and 1 000 mm wide (970 mm heating surface, two 15 mm non-heating edges).
- Thanks to its special material composition, the heating film may be cut every 10 mm to obtain exactly the required length of strips. The strips are laid side-by-side across the entire heating surface and are interconnected in parallel using cables with connectors.
- ECOFILM F heating components must neither overlap nor cross one another.
- This method of laying the film saves time and especially reduces labor costs. Installers will appreciate that the floating or wooden floor may be laid immediately after the heating film is installed and connected.

TYPE	Width* [mm]	Output [W/m²]	Output [W/m]	Cat. No.
ECOFILM F 608/57	600 (570)	80	44	6652306
ECOFILM F 606/57		60	33	6652305
ECOFILM F 604/57		40	22	6652304
ECOFILM F 1008	1000 (970)	80	78	6652310
ECOFILM F 1006		60	58	6652309
ECOFILM F 1004		40	39	6652308

⊞ 230 V/50 Hz; * Width Total (Active) [mm]
⊞ delivered as a roll; accessories required for installation must be ordered separately

GENTLE AND SAFE HEATING FOR YOUR COMFORT

Heating film makes an ideal floor heating system for laminated or wooden floating floors. The technical parameters of the heating film ensure that the materials' temperature resistance values are observed. Health and safety standards are also maintained as the maximum floor surface temperature is thermostatically limited to 27 °C. Traditional heaters, which utilise a liquid to transfer the heat, operate at (for example) significantly higher temperatures and result in a greater fluctuation in air humidity, and undesirable effects on wooden and laminated floors. It is hardly surprising that this sophisticated system has been used to safely and comfortably heat in excess of 2.5 million m² of floors throughout Europe and has been warmly endorsed by such leading floor manufacturers as PERGO, SCANDIFLOOR, ALLOC, KÄHRS and JUNCKERS.

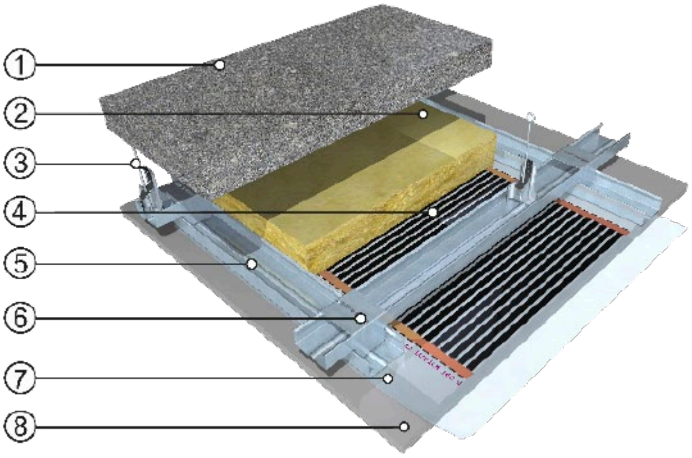
ECOFILM C

CEILING HEATING FILM

ECOFILM C heating films provide an ideal ceiling heating system with balanced heat distribution throughout the room (without temperature gradients). Control of the ECOFILM C's temperature is achieved by the use of an electronic thermostat which controls the room temperature. As it is a radiant heating system, the same comfort level as achieved by convection heating may be obtained at lower temperatures. Generally, reducing the temperature by 1 °C lowers total heating costs by 6 %.

HALOGEN FREE

10 years guarantee



Sectional view of ceiling structure

1 supporting ceiling structure
2 thermal insulation
3 four-point spring (spring, wire) hangers
4 ECOFILM ceiling heating foil
5 mounting CD profiles in cross bond
6 supporting CD profiles
7 PE foil cover, 0.25 mm thick
8 plasterboard suspended ceiling (floating)

VIDEO ECOFILM C ▲

TYPE	Width* [mm]	Output [W/m²]	Output [W/m]	Cat. No.
ECOFILM C 420 (MK3)	400 (300)	200	60	6652103
ECOFILM C 414		140	42	6652202
ECOFILM C 520 (MK3)	500 (400)	200	80	6652211
ECOFILM C 514		140	56	6652220
ECOFILM C 510		100	40	6652225

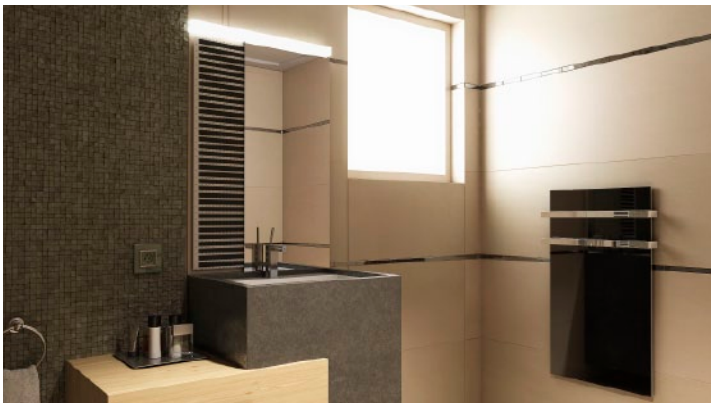
- 230 V/50 Hz; * Width Total (Active) [mm]
- delivered as a roll; accessories required for installation must be ordered separately

ECOFILM MHF

MIRROR FOGGING PREVENTION

Mirror Heating Film perfectly prevents mirror fogging. The ECOFILM MHF film operates at low temperatures and prevents overheating or damage to the mirror. Installation is simple and fast. The MHF film has an adhesive layer (with release backing) that easily sticks to the rear of a mirror. The mirror heater can be wired into the electric circuit of a lighting fixture so that it is activated whenever the light is switched on. Due to its low input, the heating film's operating costs are negligible. ECOFILM MHF heating film requires no maintenance.

HALOGEN FREE



VIDEO ECOFILM MHF

TYPE	[W]	Dimensions [mm]	Cat. No.
MHF 12	12.5	274×252	6651850
MHF 25	25	274×574	6651860
MHF 50	50	524×519	6651870
MHF 100	100	524×1004	6651880

⊞ 230 V/50 Hz; IP 44; class II; 1 m cold lead

ECOFILM ACCESSORIES

	Product / Description		Amount supplied	Cat. No.
	Crimp connector for Ecofilm C and F		1 unit	6651001
	Crimp cover for Ecofilm C		1 unit	6651002
HALOGEN FREE	**Cold lead 1.5** for Ecofilm C	● BLACK	1 m	6651005
		● BLUE		6651004
	Cold lead AV 1.5 for Ecofilm F (halogen free)	● BROWN	1 m	6651040
		● BLUE		6651060
	Cold lead AV 2.5 for Ecofilm F (halogen free)	● BROWN	1 m	6651070
		● BLUE		6651080
	Crimp tool		1 unit	6651003
	Insulating tape for sealing cut edges of heating film 38 mm width / 33 m length		1 roll	6651028
	MASTIC VM connector insulation for Ecofilm F; 38 mm width (1 connector requires 0.1 m; 6 m in packing)		1 m	6651013
	WAGO connector (terminal strip) for Ecofilm set. The number of wago connectors depends on the number of sets: up to 4 sets 2 pcs, 5–7 sets 4 pcs, 8–10 sets 6 pcs, 11–13 sets 8 pcs		1 unit	6651009

▶ **HEAT-PAK** – for the placement of ECOFILM F, ECOFILM SET heating foil under a carpet or PVC. This underlay with good thermal conductivity enables the installation of floor heating directly under a carpet or PVC when it isn't possible to place the heating cable into screed (for example, in the case of additional installation or reconstruction work). Completely dry installation; raises the floor by only 10 mm. The packaging contains 8 boards (4×3 mm thick base boards and 4×4 mm thick covering boards); each of them is coated in a thin layer of adhesive. Laid in two layers, the boards are glued to each other (staggering of joints is necessary – in this way, the joints don't show through on the floor covering). A rigid, 7 mm thick compact construction is created onto which PVC or carpet can be laid (freely or glued). Sold only as whole packages.

TYPE	1) [mm]	2) [kg/m^3]	3) [W/mK]	4) [kg/cm^2]	Dimensions [m]	5) [m^2]	Cat. No.
HEAT-PAK 7	7 (3+4)	770	0.15	> 40	boards 0.6×1.2	2.88	5442024

⊞ 1) Thickness; 2) Density; 3) Thermal conductivity coefficient; 4) Strength in flexure; 5) Package

▶ **STARLON / FLOOR INSULATION** under wood/laminate floor with ECOFILM F, ECOFILM SET heating foil

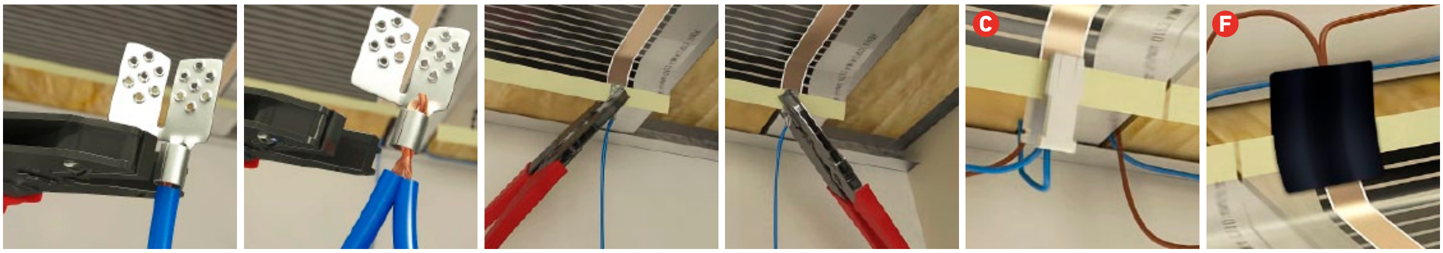
TYPE	1) [mm]	2) [kg/m^3]	3) [W/mK]	4) [kg/cm^2]	Dimensions [m]	5) [m^2]	Cat. No.
STARLON 3	3	40	0.0315	0.52	boards 0.5×1.0	5.0	5442032
STARLON 6	6	33	0.0298	0.67			5442034

⊞ 1) Thickness; 2) Density; 3) Thermal conductivity coefficient; 4) Strength in flexure; 5) Package

⊞ **WARNING:** before choosing insulation make sure that it is possible for the chosen covering to be laid on an XPS base with a thickness >3 mm.

▶ **PE FOIL**

TYPE	Thickness [mm]	Dimensions [m]	Package [m^2]	Cat. No.
PE foil 200 µm	0.20	1.2×10	12.0	w



Installation: Crimp connector and cold lead

C ECOFILM C – installation of connector cover; F ECOFILM F – connnection in parellel with Mastic

ULTRATHERM®

heating for vivariums and terrariums

Presentation

The ULTRATHERM registered trademark originates from DEMISTA LTD., a Scottish company. The products which have been manufactured under this name in accordance with demanding European standards for more than 20 years rank among the most widely used vivarium heaters in the world. **Thanks to the principle of infrared radiation, they create conditions which are very close to the natural environment of the animals kept.** DEMISTA has been part of the FENIX holding group since 2008 and our range of standard heating systems has thus been extended to include this specific range of goods.

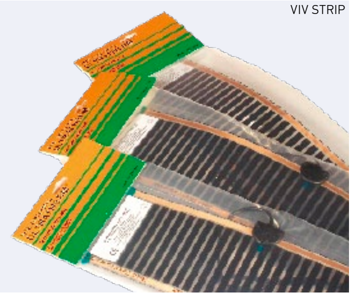
ULTRATHERM™

ULTRATHERM HEATING FILMS AND STRIPS

HEATING FILMS AND STRIPS

ULTRATHERM heating films and strips are also suitable as a 24 hour source of warmth, and they can be used under the bottom or outer walls of terrariums/vivariums.

Usually only part of the surface of the tank is covered so that the animal kept there can find a place where the temperature is ideal. The foils have a surface temperature of approx. 30–40 °C (depending on the ambient temperature) and differ from one another mainly in their length/width ratio (VIV STRIP / VIV MAT).


VIV STRIP

VIV MAT

HAPPY HAMSTER

▶ **VIV STRIP / heating strips** – due to their size, Viv Strip heating strips are suitable mainly for the warming of selected areas within a vivarium or terrarium housing specific types of reptile.

▶ **VIV MAT / heating films** – are larger than Viv Strip strips and so are used when it is necessary to heat the majority of the area of a vivarium or terrarium.

▶ **HAPPY HAMSTER / heating films** – due to its dimensions this heating film is suitable for breeders of various types of rodent. Although rodents are not primarily heat-loving animals, in the winter season they enter a certain form of winter hibernation and Happy Hamster heating film is ideal to help them get through this period in comfort.

TYPE	[W]	Dimensions [mm]	Cat. No.
Ultratherm Viv Strip 11	11	150×410	8510051
Ultratherm Viv Strip 15	15	150×572	8510053
Ultratherm Viv Strip 23	23	150×868	8510055
Ultratherm Viv Strip 32	32	150×1188	8510057
Ultratherm Viv Mat 7	7	274×142	8510001
Ultratherm Viv Mat 15	15	274×276	8510003
Ultratherm Viv Mat 22	22	274×410	8510005
Ultratherm Viv Mat 30	30	274×572	8510007
Ultratherm Viv Mat 39	39	274×732	8510009
Ultratherm Viv Mat 46	46	274×868	8510011
Ultratherm Viv Mat 64	64	274×1188	8510013
Ultratherm Happy Hamster	8	178×280	8510071

+ 230 V / 50 Hz; **Rating** IP X4; **Class** II; **Cold lead:** 2 m

NOTIFICATION

ATTENTION – if the heating device is operated without supervision, the temperature has to be limited using a suitable thermostat with a probe placed in the centre of the heated surface! The temperature must not exceed that required by the individual species of animal kept in the tank, and 60 °C is the absolute maximum. If the foils are placed under the tank, it is important to ensure sufficient heat transfer takes place – be careful about e.g. the height and composition of the substrate at the bottom.

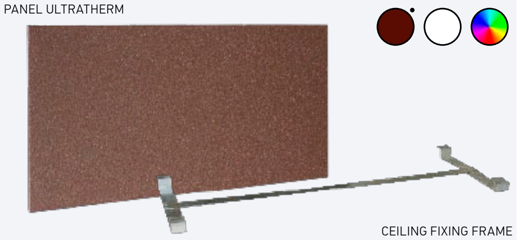
ULTRATHERM RADIANT PANELS

RADIANT PANELS

ULTRATHERM panels utilize the principle of infrared radiation and are primarily designed for the localized heating and warming of spaces used for animal rearing, large terrariums and dog pens.

The radiated heat does not warm the air but only the solid objects which it hits – i.e. the equipment of the vivarium, as well as the animals living there. This way of heating is very similar to that of normal solar radiation and therefore is the most similar to that found the natural environment where the kept animals normally live.

▶ **ULTRATHERM / radiant heating panels** – equipped with a thermal fuse which protects the panel from overheating. It is possible to install them in a vertical position; for horizontal installation it is necessary to order ceiling fixing frames. The standard colour is brown; white versions can be ordered and other colours are possible for an additional fee.



TYPE	[W]	Dimensions [mm]	Weight netto [kg]	Qty on pallet	Cat. No.
Panel ULTRATHERM 100 h	100	500×320×30	2.1	60	8515010
Panel ULTRATHERM 200 h	200	750×320×30	3.1	45	8515015
Panel ULTRATHERM 270 h	270	1000×320×30	3.9	30	8515020
Panel ULTRATHERM 330 h	330	1250×320×30	5.4	30	8515025
Panel ULTRATHERM 400 h	400	1500×320×30	6.4	30	8515030
Accesorries: ceiling fixing frame					

CEILING FIXING FRAME

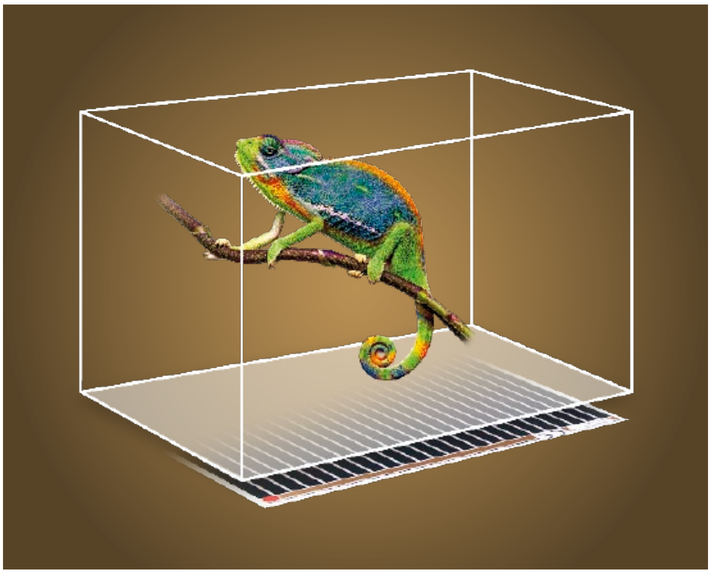
FOR	Cat. No.
100 h	5401230
200 h	5401231
270 h	5401233
330 h	5401232
400 h	5401234

- 230 V; IP 44; **Class** I.; **Basic colour:** brown (RAL 8016); Other colours are available to order for an additional fee; **Connection cable:** 0.75 m for 100–270 W, 1.2 m for 330–400 W
- **Recommended installation:** vertical or horizontal position. The apertures used for hanging the ULTRATHERM panel are on the rear side of the panel. For the installation of a panel in a horizontal position it is necessary to order a ceiling fixing frame.

ULTRATHERM REGULATION

▶ **PLUG IN THERMOSTAT HT600** – programmable thermostat is equipped with an internal room temperature (air) sensor and features the option of connecting a cable probe (a 2 m long cable sensor with an IP66 rating is included with the product). Please note that the thermostat always reads only one temperature (via an internal sensor or a cable probe). Two temperatures can be set in the thermostat (comfort/attenuation) and it switches between them according to the selected programme. The programme can contain up to 23 temperature changes (every whole hour) and up to 7 programmes can be created (for the individual days of the week). The thermostat is intended for switching the following appliances on and off: radiant panels, ladder radiators, and heating films and ULTRATHERM panels for animal keepers.

Description	Cat. No.
Switching contact: 230 V / 16 A / 3600 W; optional sound signal when the set temperature interval is exceeded; programme backup in EEPROM memory (6 months); controlled temperature range: 0–60 °C, accuracy: ±0.5 °C; cooling function.	8520005



Presentation

In convection heating, a heating body is used to warm the air which then distributes – transfers – heat as it flows over the surfaces of the objects to be heated. Most electrical convector heaters that our firm distributes come with a precise electronic thermostat as standard, with a contact variation of +0.5 °C.

Direct-heating convection heaters

Simple, undemanding heaters which have zero maintenance requirements and are easy to install. Exceptional operating parameters can be attained thanks to the use of precise electronic thermostats. FENIX ECOFLEX convection heaters are among the few such units that can be controlled via a pilot wire.

▶ **PRODUCTS:** ATLANTIC F120-D, IVIGO PRO, CH 2000 B TURBO

Radiant convection heaters

These products combine within themselves the advantages of two different systems – infrared radiant heating (radiant heat, more economical operation, even distribution of temperatures, pleasant microclimate) and convection heating (excellent dynamics, advantageous price/performance ratio). Radiant convection heaters can also eliminate, to a large degree, the so-called “cold floor” effect thanks to the radiation of heat and are therefore suitable mainly for flats, schools and offices.

▶ **PRODUCTS:** SOLIUS Digital

SOLIUS Digital

ATLANTIC F120-D

▶ **SOLIUS Digital** – radiant convector with a digital thermostat. This product is only suitable for well insulated rooms or occasional use – mainly for the heating of apartments and homes, doctor's surgeries, offices, schools, etc.

TYPE	[W]	Dimensions [mm]	Weight netto [kg]	Qty on pallet	Cat. No.
SOLIUS Digital 07	750	496×510×145	5.5	24	5435126
SOLIUS Digital 10	1000	570×510×145	6.3	20	5435127
SOLIUS Digital 15	1500	718×510×145	7.9	15	5435128
SOLIUS Digital 20	2000	792×510×145	8.7	11	5435129

- **Needed clearance:** bottom edge 12 cm / side edge 25 cm / top edge 50 cm / front side 50 cm; Option of installation on a type C or D combustible base
- 230 V/50 Hz; **Rating** IP 24; **Class** II.; **Colour:** white casing (RAL 9016)

NEW

▶ **ATLANTIC F120-D** – convector with programmable thermostat (accuracy 0.1 °C) with four operating modes: COMFORT, ECO, PROG and TIMER. Other functions: temperature calibration ±3 °C, control lock, open window detection.

TYPE	[W]	Dimensions [mm]	Weight netto [kg]	Qty on pallet	Cat. No.
ATLANTIC F120-D 05	500	391×461×114	3.1	26	5412184
ATLANTIC F120-D 07	700	391×461×114	3.1	26	5412185
ATLANTIC F120-D 10	1000	465×461×114	3.7	24	5412186
ATLANTIC F120-D 15	1500	613×461×114	4.6	18	5412188
ATLANTIC F120-D 20	2000	761×461×114	5.5	13	5412190
ATLANTIC F120-D 25	2500	910×461×114	6.4	12	5412192

- 230 V/50 Hz; **Rating** IP 24; **Class** II.; **Colour:** white (RAL 9016) with white grid; **Needed clearance:** bottom edge 12 cm / top edge 12 cm / front side 15 cm

NEW

▶ **ATLANTIC F120-D WIFI VERSION** – Wi-Fi connectivity and remote pilloting, energy saving to its electronic regulation and weekly programming, mobile compability, open window detection etc.

TYPE	[W]	Dimensions [mm]	Weight netto [kg]	Qty on pallet	Cat. No.
ATLANTIC F120-D 05 WIFI	500	391×461×114	3.1	26	5412193
ATLANTIC F120-D 10 WIFI	1000	465×461×114	3.7	24	5412195
ATLANTIC F120-D 15 WIFI	1500	613×461×114	4.6	18	5412197
ATLANTIC F120-D 20 WIFI	2000	761×461×114	5.5	13	5412198
ATLANTIC F120-D 25 WIFI	2500	910×461×114	6.4	12	5412199

- 230 V/50 Hz; **Rating** IP 24; **Class** II.; **Colour:** white (RAL 9016) with white grid; **Needed clearance:** bottom edge 12 cm / top edge 12 cm / front side 15 cm

▶ **CH 2000 B TURBO** – portable convector with electromechanical thermostat. This product is only suitable for occasional use.

TYPE	[W]	Dimensions [mm]	Weight netto [kg]	Qty on pallet	Cat. No.
CH 2000 B TURBO	750/ 1250/ 2000	580×375×110	4.8	20	5410010

- 230 V/50 Hz; **Rating** IP 20; **Class** I.; **Colour:** white; **Needed clearance:** bottom edge 5 cm / top edge 10 cm / front side 5 cm
- Obligatory information according to EU Regulation 1188/2015: This product is only suitable for well insulated spaces or occasional use.

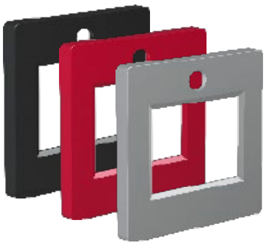
THERMOSTATS AND CONTROLS

TYPE	Description		Cat. No.
DIGITAL PROGRAMMING THERMOSTATS			
FENIX TFT WIFI	Integrated Wi-Fi module for connection to a home network, remote control via a cloud server (iOS / Android application), colour touch screen. User-selectable temperature scanning – room only, floor only, or both values, PWM regulation or fixed temperature difference. Week programme – 4 preset programmes, 3 user programmes (up to 10 temperature changes per day), holiday mode, manual control, anti-freeze protection and complete shutdown available. Display lock, operating hour counter, open window function, sensor calibration option. 3 m floor probe included with the product. For attachment to a KU 68 wiring box.	White	4200143
		Black	4200142
FENIX TFT VIDEO FENIX TFT ▲	Digital touch screen thermostat; option of selecting the background colour. Operating modes 'floor only', 'room only', 'floor+room'; option of measurement with the help of two external (floor) probes, PWM (PID) regulation or fixed temperature difference. 4 preset and 3 user programmes (10 temperature changes in 15 minute steps, with the shortest time period being 1 hour). Modes: according to the programme, manual mode, holiday, party, non-freezing temperature, switched off. 16 A switching contact; range of temperature settings 5–35 °C in 0.5 °C steps; option of setting the min. and max. floor temperature; calibration of sensors. A floor probe 3 m is included with the thermostat. IP 21 rating.		4200152
FENIX TFT-2 VIDEO FENIX TFT-2 ▲	Colour touch screen (optional background colour); the outer white cover is composed of two exchangeable parts (frame/cover) which enable the colour of the thermostat to be changed. Reads the temperature of the room, the floor or both values simultaneously; "intelligent start" function. Weekly programmes – 4 predefined, 3 user-determined (up to 10 temperature changes per day). Other modes: holiday, manual control, antifreeze protection, complete shutdown. Counting of operating hours, "open window" function, occupancy sensor. 16A switching contact; IP 21 rating; 3m floor probe included with the product. Placement on KU 68, programme backup using a high capacitance capacitor.		4200156
	Coloured front cover for the TFT2 thermostat	Silver	4200157
		Black	4200158
		Red	4200159
	Coloured body frame for the TFT2 thermostat	Silver	4200160
		Black	4200161
		Red	4200162
T-SENSE OLED (BLUETOOTH)	Mobile application ecoControl (available for Android and iOS) can be connected to thermostat T-Sense using Bluetooth. Thermostat does not need this application for standard operation, it is intended for modification of parameters pre-set at the production (temperature value ECO, lighting intensity LED, calibration of temperature sensors) and/or setting and starting of the thermostat in advanced mode (weekly program).16 A / 2.5 kW; 230 V / 50 Hz; IP 21; 5…35 °C		4200119
ANALOG THERMOSTATS			
EBERLE RTR-E 3521	Bimetal thermostat with thermal feedback and high precision. Possibility of surface mounting or directly on the installation box, with fixing holes also on a DIN rail. Well arranged terminal block allows easy connection. The thermostat reads only room temperature and cannot be connected to a cable probe, so it is not suitable for floor heating. 16 A, 230 V AC 50/60 Hz, IP 30, 5–30 °C, colour RAL 9010.		4066018
EBERLE RTR-E 6124	10 A, with temperature setback 5 K, accuracy 0.5 K, 5–30 °C, IP 30.		4066020
FENIX-THERM 105	Analogue electronical thermostat with operation modes "floor only", "room only", "floor+room". 16 A, IP 21, 230 V, heat differential of 0.3 °C, switch, 10–45 °C floor and ambient air. Can handle an overvoltage of 2,500 VAC.		4200122

FENIX TFT WIFI

FENIX TFT

FENIX TFT-2


Front cover TFT-2

Body frame TFT-2

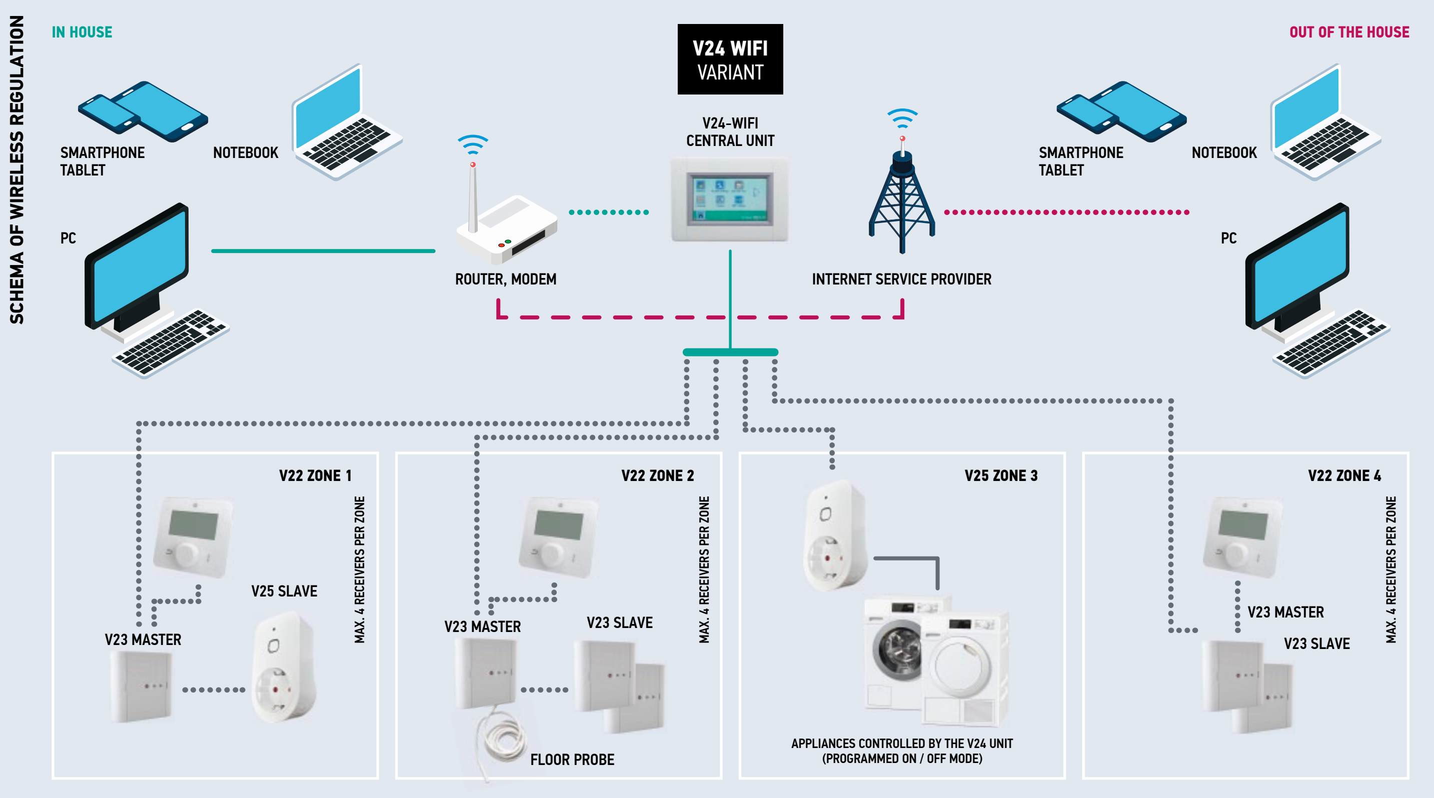
EBERLE RTR-E 3521

EBERLE RTR-E 6124

FENIX-Therm 105

T-SENSE OLED

TYPE	Description	Cat. No.
WIRELESS REGULATION WATTS		
NEW **V22**	Wireless room thermostat with 1-week programming, ideal for controlling electric heating (floor/ceiling heating, radiant panels, convection heaters). It works with up to 4 V23/25 receivers (one can include a floor probe). Features: Comfort, ECO, Stop, Anti-freeze, Holiday modes, 1-week schedule (30-min intervals), wall-mounted or stand-alone (2× AAA batteries), 10-year EEPROM backup, 868 MHz bidirectional communication, and temperature display (internal or cable sensor, not simultaneously; cable probe not included). Compatible with the V24 central regulation system for room temperature monitoring and temporary adjustments.	4500411
V23	Wireless receiver with optional floor probe connection – normally controlled by the V22 thermostat, it switches the connected heating on/off and can also optionally read the floor temperature using a floor probe (not included). It passes on floor temperature information to the V22 thermostat. Parameters: placement on a KU 68 wiring box, 16 A switching contact, 230V/50Hz, IP21 rating, terminals for floor probe connection, LED indicates operational status. When connected to the central regulation system it is controlled directly by the V24 control unit, which conveys floor temperature information (if a floor probe is connected). The cable probe is not included.	4500413
V24 CENTRAL UNIT	The V24 control unit is a superstructural element of Watts wireless regulation (V22 thermostats, 23/25 receivers). It enables central control of a heating system – i.e. the programming and control of heating throughout a whole building from one location – and is intended for all types of electric direct-heating systems (floor as well as ceiling heating, radiant panels, convection heaters, ladder radiators, etc.) The unit is fitted with a touch screen with a simple graphic interface which enables easy and intuitive control. The power supply is drawn from a 230V/50Hz mains voltage connection (placed in a wiring box); however, the V24 unit communicates with other parts of the regulation system wirelessly. One of the advantages is the modular system; a V24 central control unit can be added to a wireless system some time after that system was installed, or, vice versa – other regulation units (V 22/23/25) can be added to a system where a V24 unit has already been installed. The V24 central unit can control up to 24 rooms/zones, and an individual programme mode can be created for each zone. A Watts V27 GSM module can also be connected to the V24 unit, enabling basic control of the heating system via short text messages.	4500408
V24-WIFI CENTRAL UNIT	The V24-WiFi central unit enables the wireless central control of heating systems like the V24. The functions and intuitive, simple controls have remained, while a large display provides comfort and an easy overview of individual parameters and information about temperatures, the current status and individual zones (rooms). It's possible for users to upgrade the unit's software with the help of a Micro SD card. The central unit's Wi-Fi connection simplifies and extends the options for the remote monitoring and control of your heating system via an internet browser or mobile application (Android, iOS). The unit can be powered via a 230 V / 50 Hz power supply (placed in the junction box) or via a USB cable (optional).	4500409
NEW **V25**	V25 Wireless plug-in receiver. The V25 is typically controlled by the V22 thermostat, switching plug-fitted appliances (e.g., heating ladders, portable heaters) ON/OFF. It does not measure temperature or connect to external sensors. Key features: 16 A contact, 230V/50Hz, IP20, LED status indicator. When integrated into the central regulation system, it's controlled by the V24 unit. Without a room sensor (like the V22), it operates in ON/OFF mode. The V25 is compatible only with Fenix Trading s.r.o. appliances and those with Schuko or Uni-Schuko plugs.	4500417
GSM MODULE V27	The Watts V27 module enables basic control of a whole Watts central regulation system via connection to a V24 central unit. It is possible to find out current temperatures, implement temporary changes in temperature (valid until the next programme change) or change the mode of a zone completely (Auto/Manual/Non-freezing) in a selected zone (or in all of them at once) via short text messages. It is also possible to start or prematurely end the Holiday mode. Also, the V24 control unit can send information in the opposite direction about the status of individual zones or about possible error reports. The GSM module has a slot for a SIM card (not included with the product), and it can be attached to the V24 unit either via a cable or wirelessly, which allows its placement in areas with a good signal from the GSM network. The V27 module itself is powered via a network adapter. WARNING: the module can only be connected to a Watts V24 unit.	4500422 *
FLOOR PROBE	This floor probe is designed to read floor temperatures; however, it can also be used to read air temperatures. Parameters: length 3 m, cable diameter 4 mm (thermistor ∅ 6 mm), PVC sheath, resistance 10 kΩ at 25°C, suitable for Watts V23 receivers or Watts V22, Fenix TFT or Watts 760/860 thermostats.	4200129
WS-1 REGULATION SET	The WS-1 regulation set is intended for the wireless control of electric heating – floor, ceiling, radiant panels, convectors and ladder radiators. It is particularly suitable for supplementary heating installations – it isn't necessary to connect the thermostat to the receiver using wires. The set contains 1 V22 room thermostat with a 1-week program and 1 V23 wall-mounted receiver (see the individual elements for their technical description). The set can be extended to include three further Watts V23/V25 receivers (other switched heaters) and they can be linked via the wireless central regulation system to the V24 control unit (modular system). The cable probe is not included.	4500419



* while stocks last

TYPE	Description	Cat. No.

INDUSTRIAL ROOM THERMOSTAT – analog wall-mounted thermostats with increased protection (IP 54)

EBERLE AZT - A 524510	Built-in space sensor and exterior scale. Ambient air sensor 5–35 °C, 10 A, accuracy 1–5 K.	4066010
EBERLE AZT - A 524410	Built-in space sensor and exterior scale. Ambient air sensor –15–15 °C, 10 A, accuracy 1–5 K.	4066005
EBERLE AZT - I - 524510	Built-in space sensor and interior scale. Ambient air sensor 5–35 °C, 10 A, accuracy 1–5 K.	4066012
EBERLE AZT - I - 524410	Built-in space sensor and interior scale. Ambient air sensor –15–15 °C, 10 A, accuracy 1–5 K.	4066007

INDUSTRIAL THERMOSTATS WITH SEPARATE SENSOR

EBERLE UTR/60	16 A, exterior/interior control, temperature range 0–60 °C, 230 V, 1 switch, IP 65.	4066037
	EBERLE sensors combinable with UTR thermostats	
	F 891 000 – 4 m cable sensor; PVC sheath; IP 67; range –25...70 °C	4066137
	F 892 002 – 1.5 m cable surface-mounted sensor; silicon sheath; IP 67; range –40...120 °C	4066138
	F 893 002 – 1.5 m air temperature cable sensor; silicon sheath; IP 30; range –40...100 °C	4066139
	F 897 001 – outdoor air temperature sensor; IP 65; range –40...80 °C	4066140
EB-THERM 800	Digital thermostat with an LCD display for mounting on a DIN rail (2 modules) – 1×16 A switching contact, option of connecting a second temperature sensor (room or floor), operating hours counter, programmable (1-week programme), ventilation function (open window), settable hysteresis, option of connecting an alarm for when set temperatures are exceeded. Universal use – heating control in standard rooms (including floor heating), cooling control, use in industrial or outdoor applications, differential thermostat function. Contents of packaging: EB 800 thermostat, E 85 816 71 cable sensor (3 m; range –15°C to +75°C); installation manual.	4200170
	LT probe for EB-Therm 800 – LT (low temperature) cable sensor for the EB-Therm 800 thermostat for the reading of temperatures within the range of –15°C to 75°C (PVC sheath, length 3 m – can be extended to up to 50 m using a 2×1.5 conductor). Please note – the LT probe is standardly supplied with the EB-Therm 800 thermostat.	4200171
	HT probe for EB-Therm 800 – HT (high temperature) cable sensor for the EB-Therm 800 thermostat for the reading of temperatures within the range of 60°C to 170°C (silicone sheath, length 3 m – can be extended to max. 50m using a 2×1.5 conductor)	4200172
	Room sensor for EB-Therm 800 – Room sensor for the EB-Therm 800 thermostat for the reading of air temperature. The sensor is connected to the thermostat using a 2×1.5 conductor – max. 50 m. The thermistor inside the sensor is placed in a designated area which is covered by a sealed cover – the sensor rating is IP54. The cover can be removed – the sensor will react to temperature changes faster and more accurately but the rating will be decreased to IP20.	4200173

REGULATORS TO CONTROL ATTENUATION AND TIME PROGRAMMABLE SWITCHES

DELTADORE DRIVER 620	Two-zone attenuation regulator for appliances with pilot wires. This attenuation regulator is intended for use with appliances with pilot wires (convection heaters) or with analogue thermostats featuring an attenuation function. With the aid of the pilot wire it sends a signal to switch between comfort and attenuation temperature. The comfort temperature is the value set on the heater (analogue thermostat), while the attenuation temperature is around 3.5°C lower (the size of the drop is permanently set in the heater/thermostat by the manufacturer and ranges between approx. 3.5°C and 5°C). The DRIVER 620 enables a building to be divided into two zones, each of which can have its own separate 1-week or 1-day programme. Technical parameters: dimensions 104×80×35 mm; power supply 230 V; programme backup 2 hours; rating IP 30; insulation class II; placement on KU 68; output 2×0.1 A/230 V	4100020

REGULATORS FOR REDUCTION OF MAIN CIRCUIT BREAKER VALUE

BMR HJ 103 RX	Three-phase current load balancer, disconnection of all three phases at one time (one control channel), three-stage, mounted on DIN rail (6 modules).	4200033
BMR HJ 306 RX	Three-phase current load balancer, single phase disconnection (3 control channels), two-stage, mounted on DIN rail (6 modules).	4200034

EBERLE AZT - A

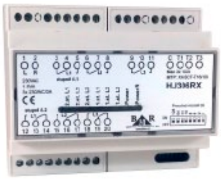
EBERLE AZT - I

EBERLE UTR/60

EB-THERM 800

DELTADORE
DRIVER 620

BMR HJ 103 RX


BMR HJ 306 RX

CONTROLLERS FOR GUTTERING AND OUTSIDE SURFACE HEATING

TYPE	Description	Cat. No.
EBERLE EM 524 89 (ONE-ZONE)	Regulator for the heating of eaves troughs, downpipes and outdoor surfaces – pavements and drives. In contrast with a manual or thermostatic controller it enables the achievement of operating cost savings of up to 80 %. Functions: setting of temperature and humidity, operating hours counter, alarm output, delayed switching off, current temperature indicator. Placement on a DIN strip (8 modules), CZ menu. The presence of humidity (water, snow or ice) and the outdoor temperature are monitored with the help of external sensors which need to be ordered separately – for eaves troughs or free areas, depending on the application. IP 20.	4600015
EBERLE EM 524 90 (TWO-ZONE)	A two-zone regulator for the heating of eaves troughs, downpipes and outdoor surfaces. The parameters and functions are the same as for the EM 524 89. However, the regulator enables independent monitoring and control of two applications simultaneously. Basically, these are two EM 524 89 regulators in one. Both zones require the connection of their own set of sensors – for eaves troughs or free areas, depending on the application – and these need to be ordered separately. IP 20.	4600016
SET OF EBERLE SENSORS FOR EAVES TROUGHS	Humidity (ESD 524 003) and temperature (TFD 524 004) sensor for EM 524 89 and EM 524 90 regulators for controlling the heating of eaves troughs and downpipes. IP 65.	4600051
SET OF EBERLE GROUND SENSORS	Humidity (ESF 524 001) and temperature (TFF 524 002) sensor for EM 524 89 and EM 524 90 regulators for controlling the heating of outdoor surfaces. IP 65.	4600050
EBERLE DTR-E 3102	Differential thermostat, 230 V, 1 × switching off / 1 × switching contact 16 A, 20–35 °C, IP 65 (can be placed e.g. on the facade). While being operated it requires careful monitoring to attain economical operation.	4066038
EB-THERM 800	For details see above – Industrial thermostats with separate sensor	4200170
ETO2-4550	The regulator allows independent control of two circuits of frost protection. Thanks to that heating of pavement and roof gutter/pipes or frost protection of northern and southern parts of the roof can be controlled concurrently by one regulator. The regulator allows even two-grade control of performance or control of hot water systems of frost protection. Both circuits must have its own humidity sensors (ETOR-55 for roof and ETOG-55 for ground applications), temperature sensor ETF-744/99 (it is shared for both zones) must be connected in roof gutter protection, humidity-temperature sensor ETOG-55 senses temperature for ground applications, or, as well as in roof protection, shared temperature sensor ETF-744/99 can be used. Temperature sensor is placed into the "coldest" point of application (northern side of the building or non-sunward point). Sensors are not a part of the regulator, they are ordered according to the type of application. Regulator ETO2-4550 is placed into the switchboard onto DIN rail (9 modules). 230 V; IP 20; 2×16 A	4200020
ETR2-1550	Single-zone regulator of frost protection of pavements and entrances or roof gutters and pipes. Relevant humidity sensor (ETOR-55 for roof or ETOG-55 for ground applications) needs to be used according to the type of application, temperature sensor ETF-744/99 must be connected in roof applications, humidity-temperature sensor ETOG-55 senses temperature for ground applications or temperature sensor ETF-744/99, as well as in roof protection, can be used. Temperature sensor is placed into the "coldest" point of application (northern side of the building or non-sunward place). Sensors are not a part of the regulator, they are ordered according to the type of application. 230 V; IP 20; 16 A	4200022
ETOG-55 GROUND SENSOR	Humidity-temperature sensor ETOG-55 senses humidity (water, snow, ice) and temperature for regulators ETO2-4550 and ETR2-1550. The sensor is always placed into heated area, among heating cable loops, if possible, to the lowest point where water runs down. 24 V; IP 68	4200026
ETOR-55 GUTTER SENSOR	Sensor ETOR-55 is intended for sensing of humidity (water, snow, ice) for regulators ETO2-4550 and ETR2-1550. In the place of application it is usually placed into the lowest point of roof gutter/drains, between heating conductors. 24 V; IP 68	4200028
ETF-744/99 TEMPERATURE SENSOR	Wall sensor ETF-744/99 is intended for sensing of air temperature for regulators ETO2-4550 and ETR2-1550. The sensor is intended directly for outdoor environment, with installation into places where free circulation of air is ensured. It is usually placed onto facade in the "coldest" point of application (northern side). IP 54; –20...70 °C; 12 kΩ; 25 °C	4200030

EBERLE EM 524 89

EBERLE EM 524 90

SET OF EBERLE SENSORS FOR EAVES TROUGHS

SET OF EBERLE GROUND SENSORS

EB-THERM 800

ETO2-4550

ETR2-1550

ETOG-55
GROUND SENSOR

ETOR-55
GUTTER SENSOR

ETF-744/99
TEMPERATURE
SENSOR

SUPPLEMENTARY PRODUCTS

HAND DRYERS – electrical contactless hand dryers intended for fixed installation onto wall. The **ZY-203A** type is equipped with one-speed centrifugal fan, therefore it is suitable into less exposed places (office buildings, schools). **JET HAND DRYER 300**, a high-performance jet hand dryer, is intended for exposed places (shopping centres, petrol stations, cinemas, theatres, etc.).

TYPE	Jet Hand Dryer 300 (plastic)	ZY - 203 A (plastic)
[W]	1880	1800
Switching sensor	–	14–18 cm
Air temperature	–	50–70°C
Dimensions [mm]	296×566×164	240×240×240
Weight netto [kg]	6.5	2.7
Rating	IP X4	IP 21
Cat. No.	5440012	5440010

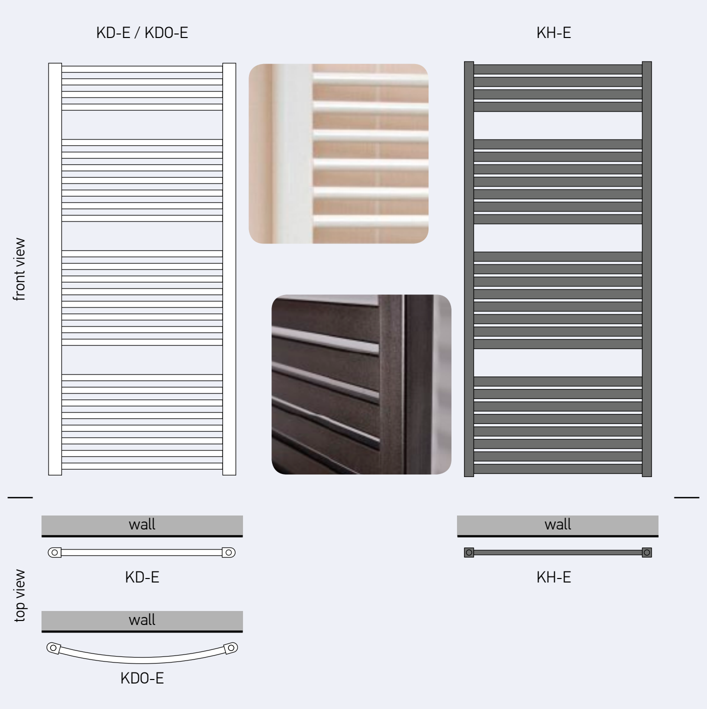
- 230 V/50 Hz; **Colour:** white

Jet Hand Dryer 300
ZY - 203 A
FENIX

TUBULAR HEATING ELEMENTS – with an electric heating insert. Intended primarily for bathrooms – suitable for drying bath towels, hand towels, etc. Filled with non-freezing mixture, 1 m coiled connection cable (extends to 3.5 m) with plug. Mounting brackets are included with the product. The heating element is without a thermostat.

TYPE		[W]	Width [mm]	Height [mm]	Depth [mm]	Weight netto [kg]	Cat. No.
KD-E (flat)	KD-E 450/960	300	450	960	90	10.5	5441402
	KD-E 600/960	400	600	960	90	13.0	5441404
	KD-E 450/1320	400	450	1320	90	14.9	5441406
	KD-E 600/1320	600	600	1320	90	17.3	5441408
	KD-E 750/1680	900	750	1680	90	26.4	5441410
KDO-E (rounded)	KDO-E 450/960	300	450	960	120	11.5	5441412
	KDO-E 600/960	400	600	960	120	13.8	5441414
	KDO-E 450/1320	400	450	1320	120	15.8	5441416
	KDO-E 600/1320	600	600	1320	120	18.3	5441418
	KDO-E 750/1680	900	750	1680	120	27.7	5441420
KH-E	KH-E 450/970	300	450	970	60	10.6	5441432
	KH-E 600/970	400	600	970	60	12.9	5441434
	KH-E 450/1330	400	450	1330	60	13.8	5441436
	KH-E 600/1330	600	600	1330	60	17.2	5441438

- 230 V/50 Hz; **Rating** IP 65;
  Colour: KD-E / KDO-E > white (RAL 9016), **KH-E** > dark anthracite grey

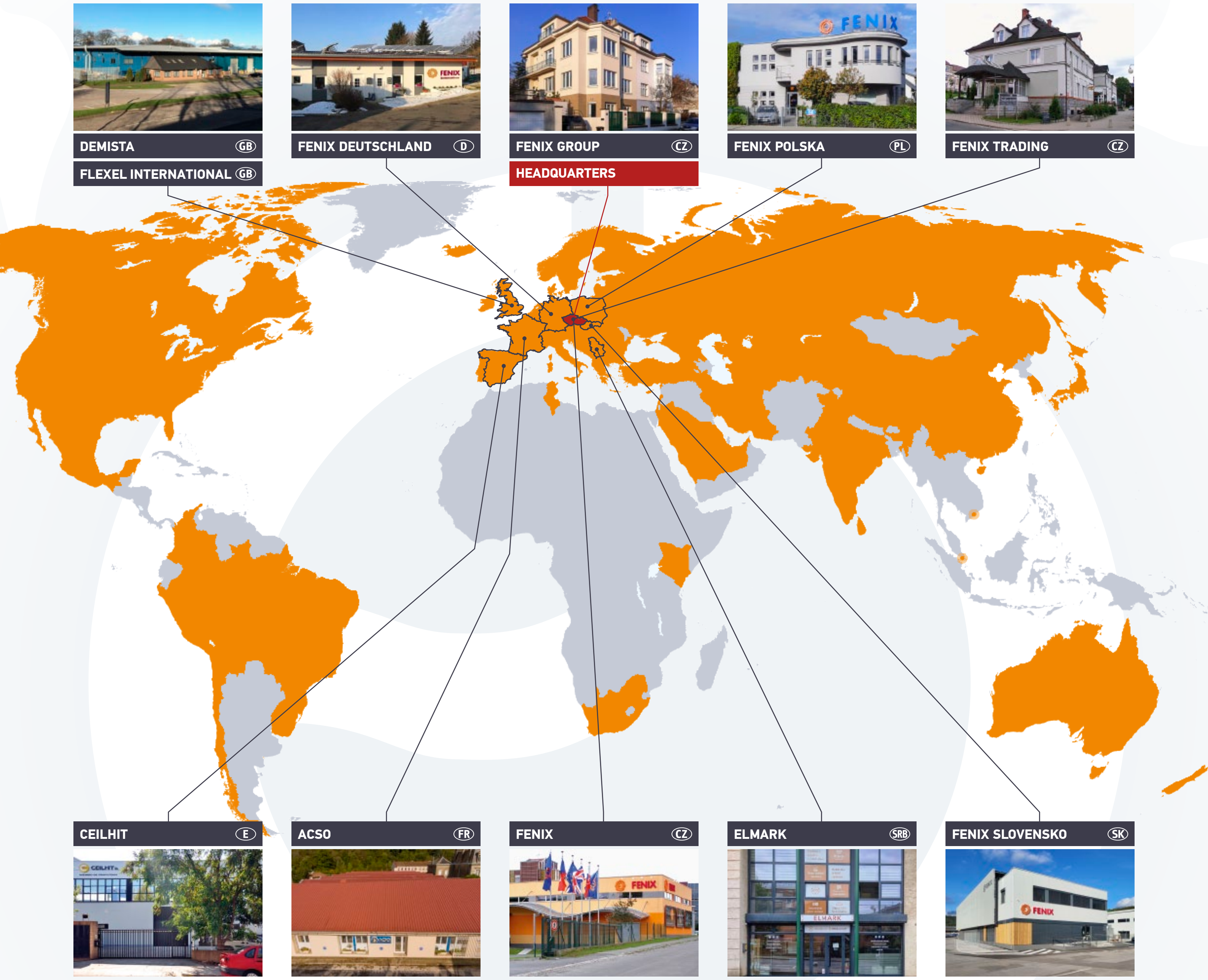


FENIX FILAMENTS FOR 3D PRINTING – the idea of producing filaments (printing strings) for 3D printers has existed for a long time. The production uses high quality American-made granulate that is designed specifically for 3D filaments, is odourless, bubble-free, has high diameter accuracy and is compatible with most 3D printers.

Fenix PLA filament 1,75					
Colour	**Cat. No.**	**Colour**	**Cat. No.**	**Colour**	**Cat. No.**
white	8001000	fluorescent yellow	8001005	dark grey	8001010
black	8001001	nature	8001006	pink pastel	8001011
aluminium	8001002	red	8001007	mystic green	8001012
copper	8001003	blue metal	8001008		
fluorescent orange	8001004	green military	8001009		

- **Weight netto:** 1 kg; **Winding lenght:** 340 m; **String diameter:** 1.75 mm;
  Recommended temperature: 210–225 °C (nozzle) / 60 °C (heated bed);
  Wound on paper spool ∅ 200 mm, width 65 mm, inner hole ∅ 56 mm
- **WARNING:** fluorescent colours are not UV stable!

FENIX HOLDING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EXPORT MARKETS

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- Cyprus
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- Iceland
- India
- Iran
- Ireland
- Italy
- Japan
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- Kenya
- Kingdom of Jordan
- Kingdom of Saudi Arabia
- Kyrgyz Republic
- Latvia
- Lebanon
- Lithuania
- Macedonia
- Malta
- Mexico
- Montenegro
- Netherlands
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- People's Republic of China
- Peru
- **Poland**
- Portugal
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- **Republic of Serbia**
- Republic of South Africa
- Republic of Tajikistan
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- Republic of Uzbekistan
- Romania
- Russia
- Singapore
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- Slovenia
- South Korea
- **Spain**
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- Turkmenistan
- Ukraine
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- **United Kingdom**
- Uruguay
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Advanced Energy Storage

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ACSO

SPAIN – 2010
CEILHIT

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