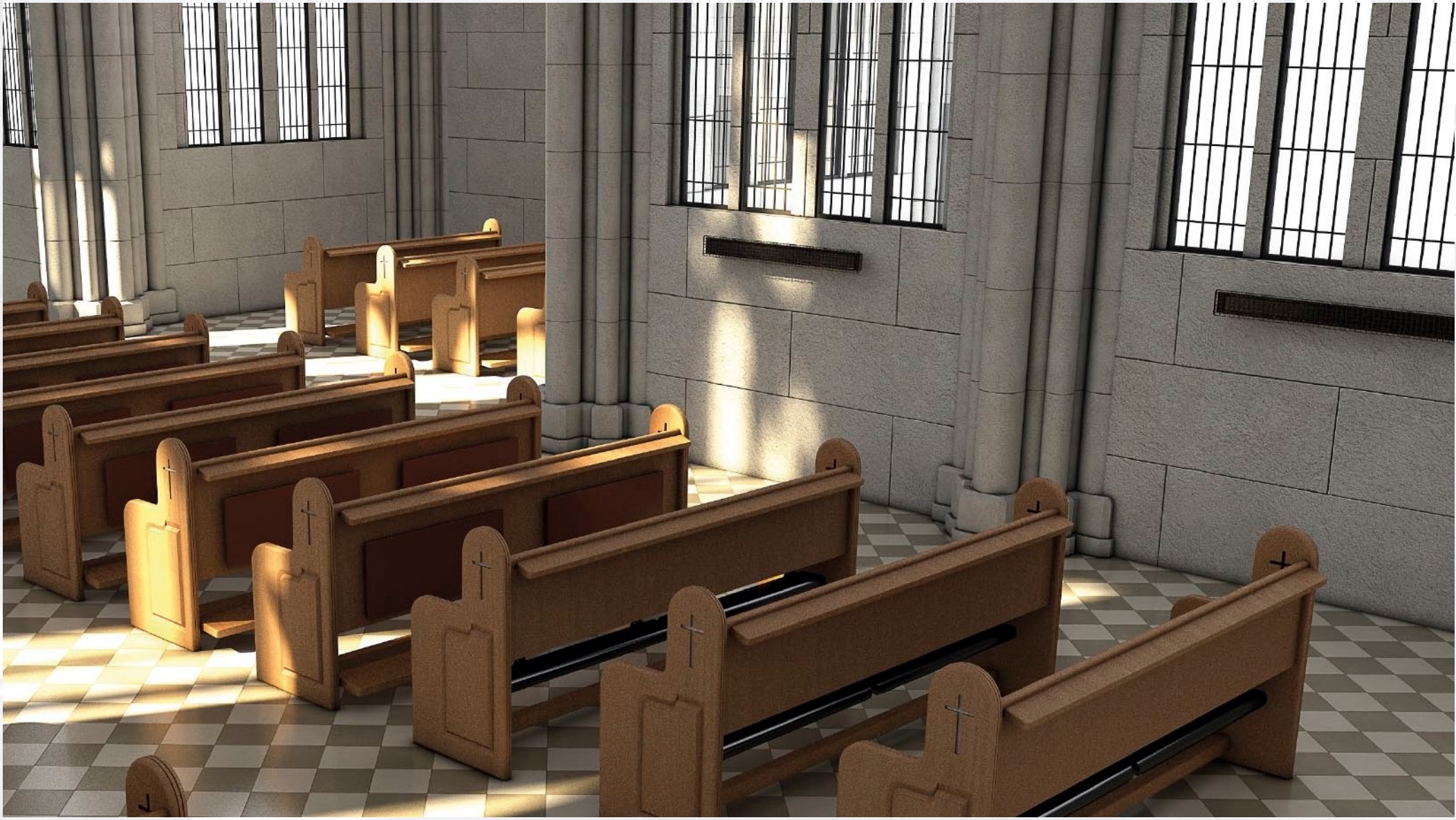
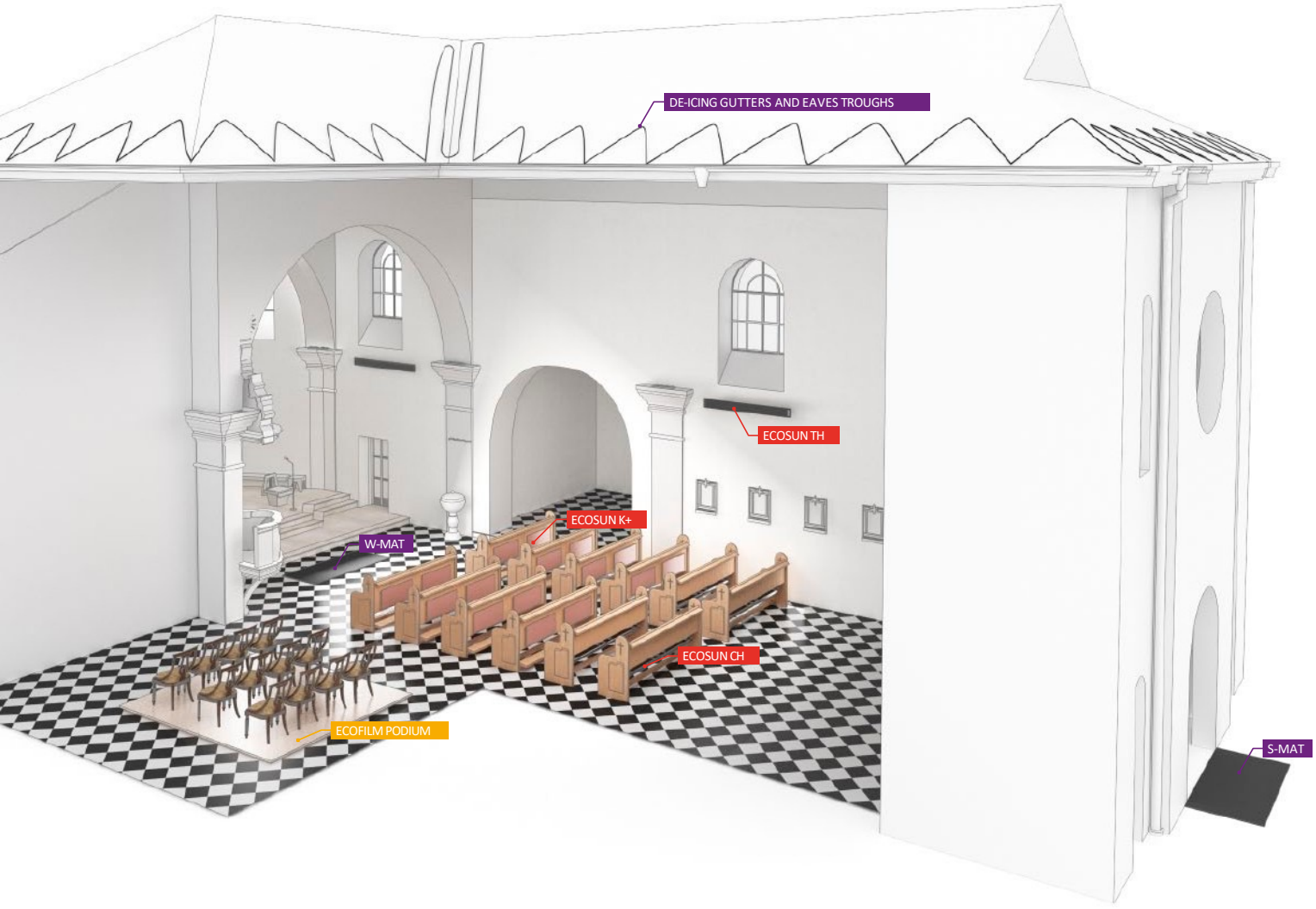


CAMİLER ve KÜLTÜREL YERLER İÇİN ELEKTRİKLİ ISITMA

FENIX



CAMİLER ve KÜLTÜREL YERLER İÇİN ELEKTRİKLİ ISITMA

eCOFiLM PODiUM

Modular heated platform

Application

Worships, concerts, events, ...

PResenTATIOn

Churches and historical buildings have quite unique heating requirements. heating should work intermittently, be relatively invisible and installed without affecting the main structure and be simple and economical to operate. however the main priority – be of use to the congregation, even when the laws of physics say warm air rises up to the ceiling.

Infrared heating solves these problems. ECOFILM heating film when used in the heated modular podiums, is ideal for occasional worship, concerts and events in the churches. as with all infrared heaters they work by heating mostly objects, rather than the air, so people quickly feel warm without wasting energy pre-heating large volumes ofair.

APPLIcATIOn

ECOFILM heating films are manufactured using carbon film technology and are primar- ily used for large surface heating. Heated modular podiums, incorporating these films, can be simply placed on the floor under the chairs before the event. Different surface finishes allow the most discreet integration into the church environment and the radi- ant heating element will ensure the thermal comfort of the visitors. When the floor is heated radiant heat gently warms objects in the room (people, furniture, walls) as the air is heated by natural convection. This system is ideal for places of worship, where it removes the feeling of cold feet coming from the ground and creates a warm and com- fortable atmosphere where the congregation are seated. This generatessignificant cost savings, as the heating is turned on only when the building is occupied and due to the fast reaction there is no need for a lengthy pre-warming period and associated energy wastage.

The recommended surface power dissipation is 200 W/m² and each podium should be fitted with a floor sensor to provide the ideal surface temperature and avoid potential overheating as a result of abnormal thermal blocking. As the length of the heating film can be easily adjusted, it is possible to produce heating podiums of any size required. Being a modular system, additional units can be added to cover the required heated area and designed to be portable the system can be quickly removed after the event and stored away until needed. The last, but not the least – it is portable and can be easily taken away after the event ends.


MAin ADVAnTAGeS
energy efficient
safe and easy to operate
space saving with minimal height
modular and portable
ECOFILM PODIUM

eCOSUn K+

Radiant heating panel

Application

Places of worship, seating pews, offices, ...

PResenTATIOn

another option for providing heat when and where it is needed are ECOSUN K+ radiant panels. Simply attached to the back of the bench seat/pews, they provide local radi- ant heat gently warming people seated. as these infrared heaters produce shortwave radiant heat, which directly warms the visitors and objects, little or no heat is lost to the surrounding and no energy is wasted heating large volumes of air. ECOSUN K+ low-temperature panels do not emit any light, while providing a gentle and comfortable feeling of warmth.

APPLIcATIOn

ECOSUN K+ panels are designed to be mounted on the back of the church benches and to be used intermittenly, only when the building is occupied. Immediate effect and no need for long pre-heating make them one of the most energy efficient heating solutions for churches on the market compared to other radiant heaters. The heating panels have a long life span and after installation require no maintenance. The minimum safety distance between the panels and any object must be at least 10 cm.

ECOSUN K+ *radiant heating panels*

TYPE	[W]	[V]	Weight netto [kg]	Dimensions [mm]	Cat. No. BROWN	Cat. No. WHITE
ECOSUN 100 K+	100	230	2.1	500×320×30	5401200	5401202
ECOSUN 200 K+	200		3.1	750×320×30	5401205	5401207
ECOSUN 270 K+	270		3.9	1000×320×30	5401210	5401212
ECOSUN 330 K+	330		5.4	1250×320×30	5401215	5401217
ECOSUN 400 K+	400		6.4	1500×320×30	5401220	5401222

class I.; **Basic colour:** brown (0245) thermocrystal surface, white (RAL 9016) gravelly snow surface;
connection cable: 0.75 m for 100–270 K+, 1.2 m for 330–400K+

MAin ADVAnTAGeS

- simple installation
- local radiant heat for seating pews
- fast reaction time
- no maintenance needed

VIDEO: ECOSUN K+

eCOSUn CH

Radiant heating panel

Application

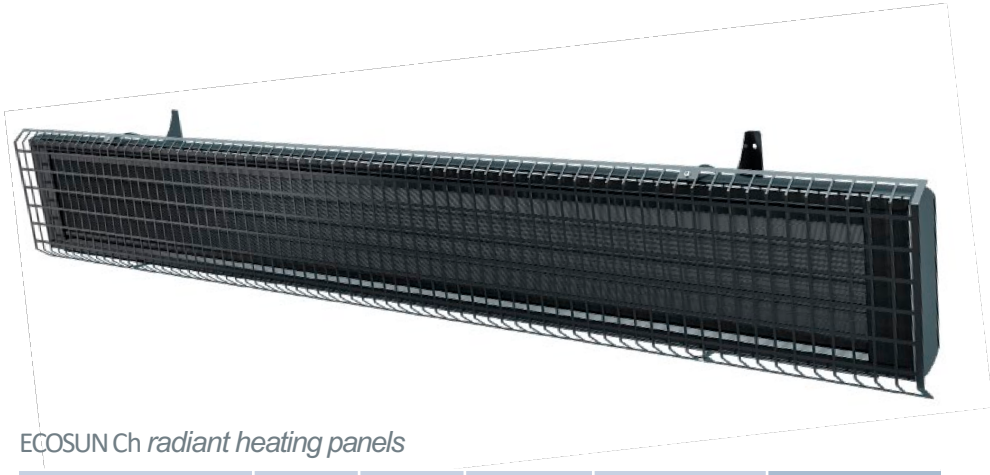
places of worship, seating pews, ...

PResenTATIOn

ECOSUN Ch radiant panel has been specially designed to be installed on the underside of the pew benches, radiating heat towards the floor. Heat flow is then partially reflected, reaching all the objects around the heater, and partially absorbed. This radiant energy is converted to heat as it raises the temperature of the objects, which then transfer heat to the cooler air by convection.

APPLIcATIOn

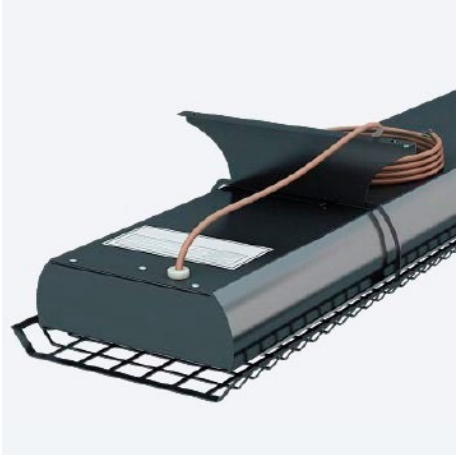
The panel is painted matt black and aesthetically blends in very well with the dark shades of wood from which pews are usually made. Installed under the pew benches, these panels are almost completely invisible to the visitors while seated. The panels are supplied as standard with protective grilles, which fully protect against direct contact with the heating lamellae. panels have integral mounting brackets to enable simple and quick installation and are supplied with a black two-metre connection silicone sheathed supply cable. Due to the fast and direct heating effect, these panels only need to be switched on approximately 15 minutes before the church service begins.

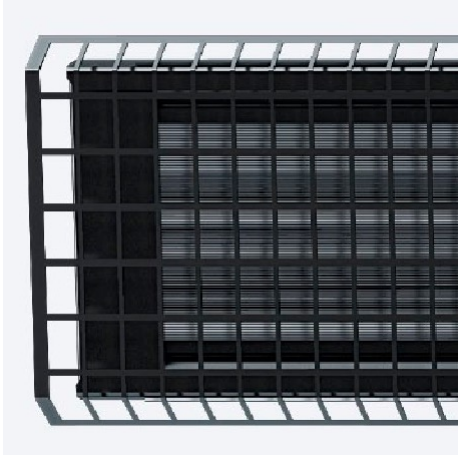


ECOSUN Ch *radiant heating panels*

TYPe	[W]	[V]	Weight netto [kg]	Dimensions [mm]	Cat. no.
ECOSUN CH 02	260	230	3.8	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; **connection cable:** 2 m





MAin ADVAnTAGeS

- localised direct heating
- even heat distribution
- maintenance free
- safe – protected by the grille

VIDEO: S, Th, Ch

eCOSUn S+ / TH

Infra-red heating panels

Application

Churches, castles, occasional heating, ...

PResenTATIOn

These types of heaters are installed directly on the wall and are therefore ideal for heating churches or halls with large open spaces and high ceilings. panels can be controlled remotely, which avoids having to switch on heaters individually. Operating costs are significantly reduced by avoiding pre-heating. Due to the higher power (min. 600 W – max. 3600 W) fewer panels are needed as they can be spaced further apart from each other making them ideal for churches with large seating areas. The lower heat output of Ch/K+ compared to Th/S+ panels would result in a greater number of panels being installed for an effective heating solution in these areas. Installing higher power panels directly on the wall will heat many more people due to larger heated area.

ECOSUN Th *infra-red heating panels*

TYPe	[W]	[V]	Weight netto [kg]	Dimension s [mm]	Cat. no.
ECOSUN TH 1000	1000	230	4.2	1080×140×45	5401350
ECOSUN TH 1500	1500		6.5	1580×140×45	5401353

- **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.

APPLIcATIOn

S+ and TH panels are used and installed in the same way, the only difference is the size and power of the panels. S+ short panels are available in 600 and 850 W, Th panels 1000–1500 W and S+ panels 900–3600 W. The choice of panel will depend on the heating requirement, ceiling height and the size of the area to be heated.

ECOSUN S+ / S+ short *infra-red heating panels*

TYPe	[W]	[V]	Weight netto [kg]	Dimension s [mm]	Cat. no.
ECOSUN S+ 06short	600	230	4	650×250×60	5401537
ECOSUN S+ 08short	850				5401538
ECOSUN S+ 09	900		7.8	1550×150×60	5401540
ECOSUN S+ 12	1200				5401542
ECOSUN S+ 18	1800	230 / 400 2N	12.2	1550×250×60	5401544
ECOSUN S+ 24	2400				5401546
ECOSUN S+ 30	3000	230 / 400 3N	17	1550×350×60	5401548
ECOSUN S+ 36	3600				5401550

- **class** I; **Rating** IP 44; **Basic colour:** white – RAL 9002

MAin ADVAnTAGeS

- made for mounting at a greater height, stay inconspicuous tovisitiors
- no damage to the building structure
- safe – panels are either installed out of the reach of people or covered with a protective grille
- large heated area

VIDEO: S,Th,Ch

UnDeRFLOOR HeATInG

Heating cables and mats

Application

Churches, castles, large surface installations, primary or local heating, ...

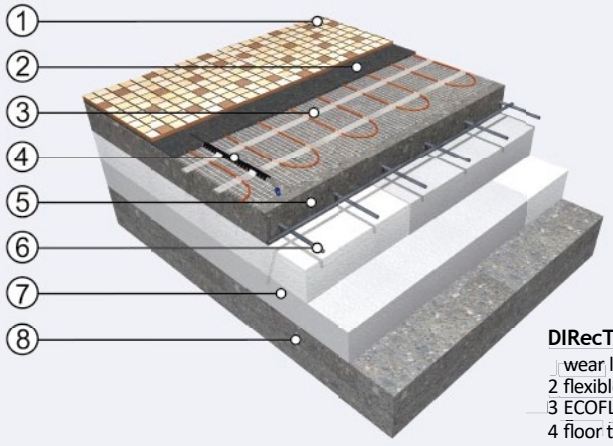
PResenTATIOn

Underfloor electric heating can be installed directly under floor tiling, in a thin layer of flexible tile adhesive during the renovation. It is simple to install and very economical to run when combined with a suitable temperature controller. These systems can be used either to provide primary or secondary comfort underfloor heating in the church.
When installed the system is completely invisible, requires no maintenance and is a popular solution for heating renovated cultural buildings.

Due to the high level of control flexibility, large surface heating efficiency and no need for long pre-heating time, these systems can significantly reduce energy costs, compared to other heating systems.

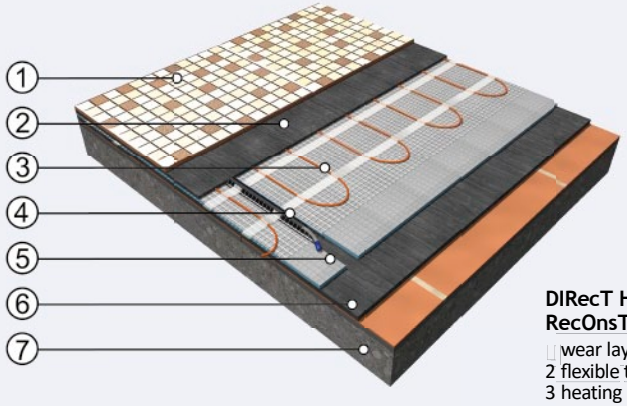
APPLIcATIOn

Installed power should be selected depending on the heat requirement for the building and typically we would recommend 150–200 W/m² for large areas. a suitable thermo-stat must be used to provide fast acting temperature control and to avoid overheating.



DIRecT HeATInG sYsTeM

1 wear layer (ceramic floor tiling)
2 flexible tile adhesive
3 ECOFLOOR® heating mat
4 floor temperature sensor in a protective tube
5 load-bearing concrete floating board
6 steel reinforcement mesh
7 thermal insulation
8 concrete base



DIRecT HeATInG sYsTeM RecOnsTRUcTIOn

1 wear layer (ceramic floor tiling)
2 flexible tile adhesive
3 heating mat (cable) ECOFLOOR®
4 floor temperature sensor in a protective tube
5 F-BOARD supplementary insulation(reduces warming time)
6 flexible tile adhesive
7 original floor (old floor tiling, concrete)

MAin ADVAnTAGeS

- high flexibility
- maintenance free
- large surface heating – most homogenous temperature field
- reliable operation & long lifetime

iCe AnD SnOW MeLTinG

Outdoor installations

Application

Entrance areas, driveways, stairs, ...

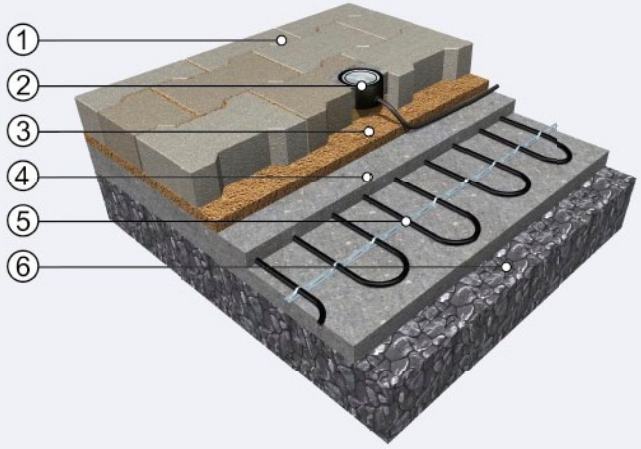
PResenTATIOn

It is possible to protect any area used for passage with the help of heating cables – pavements, paths, drive-up ramps, staircases etc. Special heating cables are used for these applications – robust cable construction with stranded resistance wires and a power dissipation of 20–30W/m. The heating can be provided by a heating circuit as well as a heating mat.

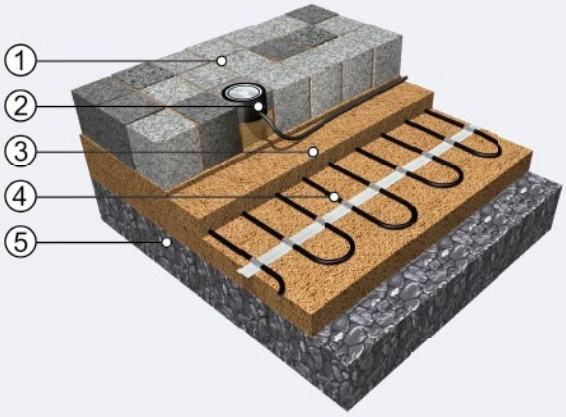
APPLIcATIOn

Installing electric heating in outdoor areas prevents both ice formation and snow accumulation. The system operates automatically only when it is snowing or ice is forming on roads and walkways using the special thermostat and associated snow and ice sensors. heating cables/mats installed in entrance areas and roofs prevent injuries to members of the congregation caused by slipping on ice or icicles falling from the roof.

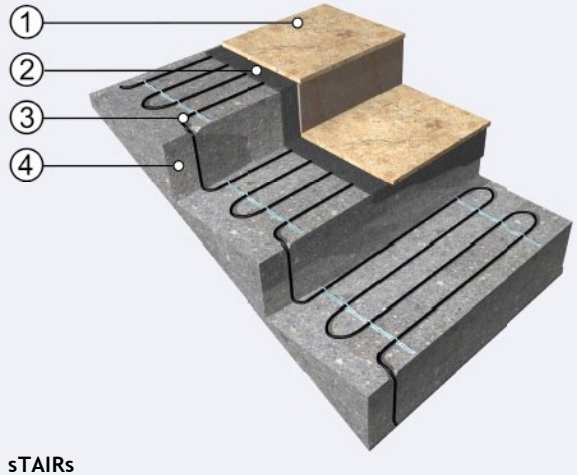
suitable for heating outdoor surfaces:
MapSV cable, adpSV cable, MST heating mat, adpSV heating mat



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



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 tile adhesive
3 heating cable ECOFLOOR®
4 stairs


MAin ADVAnTAGeS
no ice/snow accumulation
injury prevention
eliminates manual snow removal
aesthetic (invisible) solution
HEATING MAT / HEATING CABLE

DE-ICING GUTTERS AnD eAVeS TROUGHS

Outdoor installations

Application

gutters and eaves troughs, pipes, ...

DE-ICING GUTTERS AND EAVES TROUGHS

Winter brings additional dangers for churches and cultural heritage buildings – ice builds up in the gutters and eaves troughs can quickly become a very heavy load for old building structures. Electric heating cables are an effective solution for such problems. Cables are installed using special plastic clips placed inside gutters and eaves troughs and are turned on automatically by a special set of sensors andthermostat.

suitable for removing ice and snow from roofs and gutters:
MapSV cable, adpSV cable, adSV+heating cable

fROsT PROTecTIOn Of PIPes

As in residential buidlings, churches and other historic buildings can experience significant damage caused by freezing pipes during the winter months. Installing supplementary heating pFp cables with an integrated thermostat prevent pipes freezing.

PfP heating cable
pFp cable is an automatic heating cable with a thermostat; thanks to the plug installation is very easy and doesn't require any specialized work in connecting it to the electrical wiring system. pFp cables operate automatically using the integrated thermostat and are supplied with a moulded plug for connection to a standard socket outlet. pFp heating cables are attached to the whole length of the pipe using self-adhesive aluminium tape which provides efficient heat transfer from the cable to the pipe. The integrated thermostat automatically switches on the cable when the pipe temperature drops below 3 °C.

pFp *heating cable*

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

MAin ADVAnTAGeS

- load relief on the roof structure
- prevention of deformation of gutters and downpipes
- injury prevention
- maintenance-free operation

VIDEO GUTTERS...

W-MAT / S-MAT

Local heating mats

Application

place of worship, entrance areas, ...

PResenTATIOn

Using our long-term experience in radiant heating systems, we've developed a range of special heating mats which are designed to provide localised heating in historic buildings such as churches. The main advantages of these products are the simple "plug and play" installation which enables the mats to be quickly removed and stored away until required.

W-MAT

W-mat with a power dissipation of 200 W/m² is a heated rubber mat that can protect a priest or any other participant against the cold emanating from the floor and significantly increase the level of comfort during worship. These products are perfect for providing local heating in large areas which otherwise do not require to be heated. Measuring only 100×60 cm, the mat can be positioned where needed and turned on just before the service begins avoiding unnecessary pre-heating costs.

S-MAT

S-mat heaters are a fast and efficient solution for removing snow in walkways and entrances in buildings where it is not possible to install snow melting cables within the walkway.