

Heat Mat

Ice & Snow Systems



Driveway protection

Heat Mat Ice & Snow Melting Systems

For Driveways and Car Parks

Driveway Heating System
Thermostat FRO-47A-STAT

Outdoor Heating Cable PKC-7.0

Automated Driveway and Car Park Heating

Heat Mat's Scandinavian designed ice & snow melting systems can be used beneath virtually any surface to ensure it remains free from dangerous ice and snow build up. The robust heating wire systems are suitable to protect driveways, car parks, pathways, steps, loading ramps and bridges and when used in conjunction with intelligent thermostats they provide an energy efficient and fully automated heating system.

Custom made ice and snow melting thermostats monitor both the ground temperature and the moisture level to ensure that they only operate when they are really needed. The thermostats are fully programmable and can be set up for the specific local conditions as required.

In addition to ensuring that driveways and walkways remain free of dangerous ice and snow buildup the heating systems also prevent the need to use salt to keep areas clear, minimising costs and also ensuring both the road surface and the surrounding environment are not damaged or contaminated by salt buildup.

- Improved safety for vehicles and pedestrians as surfaces are automatically safe to drive and walk on
- Automated clearance of ice and snow, ensuring that Health and Safety requirements can be met and that the first person on site does not have to make the area safe
- Surfaces (particularly concrete) are not damaged by grit and salt, and are also protected from the normal freeze/thaw activity in winter
- The surrounding ground and waterways are protected from salt pollution
- A number of different sensors and timers can be combined to ensure that the system only operates when it is required, minimising energy usage
- Entirely maintenance free. Once the system is installed there is no requirement for any maintenance work and some systems include an automatic alarm warning if the system fails for whatever reason
- A tried and trusted system. These systems have been used in Scandinavia for more than a decade and have proved their worth in extreme temperatures and weather conditions.

Call 01444 247020
to find out more or
visit our website at
www.heatmat.co.uk

Ice & Snow Melting Features

- Fully automated clearance of ice and snow
- Improved safety for vehicles and pedestrians
- Maintain access by keeping loading ramps and bridges safe for use
- Save staff time on clearing ice and snow
- Save money on salt and grit and reduce the environmental impact on the surrounding area and water courses
- Reduce the damage caused to asphalt and concrete surfaces
- Intelligent thermostats monitor ground temperature and moisture levels to minimise energy usage

- Proven systems from Scandinavia
- Independently control two separate areas of heating via a single thermostat
- A choice of thermostats compatible with your individual requirements
- Optional moisture sensors can reduce energy usage by up to 80%

Suitable Product Ranges



Ice & Snow
thermostats



In-screed cable



Self-limiting
heating cable



Specialist cables for hot asphalt

There are two installation options for use with hot asphalt. The most efficient is to use our specialist cables which can be laid directly beneath hot asphalt, and the alternative is to use a standard cable which will need to be covered with a minimum of 10mm of sand and the asphalt cooled before laying. The normal method of installation beneath asphalt would be to level the current surface. If the surface is concrete or similar Heat Fix strips can be nail-gunned to the base and the cable installed onto these. If the surface is not concrete or similar a layer of 30mm of sand or finely crushed stone should be laid with a wire mesh placed on top of this, and the cables zip-tied in place. The asphalt layer should be a minimum of 55mm thick.

Choice of output

For normal installations we recommend an output of around 270W/sqm which provides a good balance between speed of operation and power requirements. Often the limiting factor to the size of area which can be heated is the available power supply on site, and with restricted power supplies it is often possible to specify a lower powered system which will still clear the ice and snow.

Tyre track heating

Where a long driveway requires heating it is quite acceptable to simply heat two tyre tracks leaving other areas unheated. This saves on the power requirements and installation and running costs and it allows longer driveways to be heated than would otherwise be possible.

Drainage channel heating

When heating a driveway or path area it is vital to ensure that the water can safely run away, and does not become pooled to then refreeze. When heating a driveway area we recommend that trace heating cables are installed into the drainage channels to ensure complete clearance.

Installation methods

There are a number of different installation methods, although all of them involve fixing down outdoor heating cable to Heat Fix metal bands or zip-tying it onto reinforcement mesh. A rough overview of the three most popular installation methods is detailed below; please contact Heat Mat technical support for more details.

Block paving

Care must be taken not to drop any paving slabs onto the cable during the installation process as these could damage the heating system. The normal method of installation would be to level the current surface and lay a 60mm layer of sand/grit and compact this as required. A wire mesh would then be laid on top of this layer and the heating cables would be zip-tied in place. A further 40-50mm layer of sand/grit would then be laid on top and this would be compacted by hand to ensure no damage to the heating cables. The block paving could then be laid, and to achieve the greatest benefit from the heating system the blocks should be between 50 and 80mm thick.

Concrete

Heating cables are often installed into concrete bases as concrete is particularly prone to damage from rock salt and freeze/thaw activity. The standard installation method would be to level the existing base before covering it with a support layer of sand/grit 30-40mm deep. A reinforcement mesh should then be laid and the cables can be zip-tied in place on this, before placing a layer of sand on top to protect the cables; this should be a minimum of 10mm thick. The concrete can now be poured and it should form a layer with a minimum depth of 50mm, and the concrete mix must not include sharp stones as these could damage the cables.

TECHNICAL SPECIFICATION

In-screed and outdoor heating cable PKC-7.0-XXXX

Supply Voltage	230V +/-10%
Power output	170W-270W/sqm
Maximum load	21W per meter
Output Range	210W - 3067W
Standard Range	10.5m - 150.0m
Coldtail lead	2m double insulated cable
Wire thickness	6.8-7.2mm
Cable flexibility	Minimum radius 50mm
IP Rating	IPX7
Inner insulation	0.8mm silicon rubber
Outer insulation	Robust PVC UV resistant
Earth protection	100% aluminium earth shield
Cable reinforcement	Fibreglass strands
Fixing materials	Heat Fix metal fixing bands
Compliant with	Part L, 17th Edition IEE Wiring Regulations, EN 60335-1:1998, EN60335-2-17:1999, IEC 60730

10.8kW Thermostat FRO-47A-STAT

Supply voltage	120/230V ±10%, 50-60 Hz
Temperature range	0/+5°C
Working range	-20/+5°C
Built-in timer for manual snow melting / afterrun	1-6 hours
Output relay	3 x 16A potential free relay
2 zone application	Output is 2 x 16A potential free relay
Water based system	Controlling a 3 or 4 way valve, primary pump, secondary pump.
Display	Graphic and with backlight
Ambient operating temp	0/+50°C
Housing / incl. cover	IP20
Weight	495 g
Mounting	DIN-rail mount
Dimensions (H/W/D)	170/162/45 mm
LED's indicate the functions:	
On/Green	Supply Voltage to the thermostat
Alarm/Red	Fault indication

Ground temperature and moisture sensor FRO-GRO-SENS

Senses	Moisture and temperature
Mounting	Outdoor area
Housing	IP68
Operating temperature	-20/+70°C
Dimensions	H32, Ø60 mm



About Heat Mat

With more than 900,000m² of underfloor heating installed, 16 years' experience of the UK underfloor heating market and a wealth of knowledge on Scandinavian ice and snow melting systems, you can rely on Heat Mat to understand your needs and supply the products to satisfy your requirements.

This is why we are the Professional's Choice, the number one supplier of electric underfloor heating and ice and snow melting systems to the UK's professional installation market.



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