



Recovery System

Product sheet

Frost Heave Recovery System

V1.1 version

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Certificate No:253422016



Key features

- **Targeted Vertical Heating Elements** – Fully insulated, low-voltage heating elements installed via a tube that is inserted through drilled floor cores to gradually thaw the frozen subsoil
- **Thermatek® Control System** – A dedicated control panel monitors and regulates heating operation, ensuring optimal performance
- **Integrated Temperature Probes** – Real-time temperature monitoring allows precise control and prevents overheating or rapid thawing
- **Significantly Less Disruptive Installation** – No major excavation is required, and the system can be installed without shutting down the cold store
- **Energy-Efficient Operation** – Low-power heating elements maintain safe thawing levels, preventing sudden ground movement and structural damage
- **Customisable for Any Floor Size** – The modular system is adaptable to any facility, making it suitable for both small and large-scale recovery projects

Benefits

Damage limitation

The action of frost heave is immediately halted, eventually reversed and finally eliminated

Ease of installation

The vertical heating elements are simple to install through a matrix of equally spaced holes drilled through the floor.

Reduced impact

There is no need to shut-down a cold store as the system can be fitted in stages across the floor

Durability

The robust design of the Recovery System guarantees reliable performance, ensuring the cold store or freezer operates seamlessly as intended over the long term

Timely delivery

Commitment to meeting and exceeding project timelines to keep your work on track



Product information

Restore stability in cold stores affected by frost heave

Frost heave can cause **severe structural damage** to cold stores, leading to uneven floors, cracks, and operational disruptions. If left untreated, it can compromise the long-term stability of the facility.

Thermatek's Low Voltage Frost Heave Recovery System is a targeted solution designed to halt, reverse, and ultimately eliminate frost heave.

Using a system of vertical heating elements, the process gradually thaws frozen subsoil without requiring major excavation.

This system is also ideal for **retrofitting frost heave prevention** into:

- **Recommissioned buildings** that lacked an original prevention system.
- **Chillers upgraded to cold stores**, where subsoil freezing is now a concern.

How it works: vertical element heating system

Targeted subsoil heating without excavation

Thermatek's frost heave recovery system works by directly heating the affected subsoil using fully insulated, low voltage heating elements inserted through the existing concrete floor.

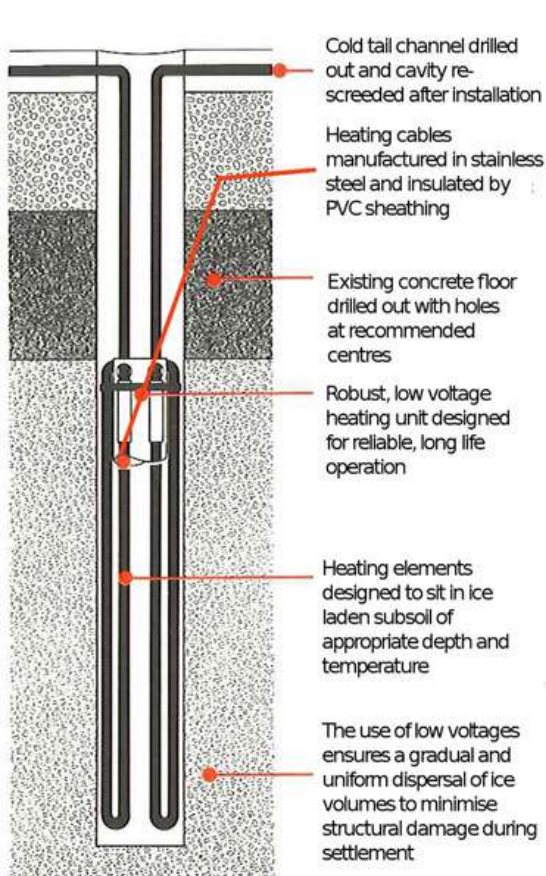
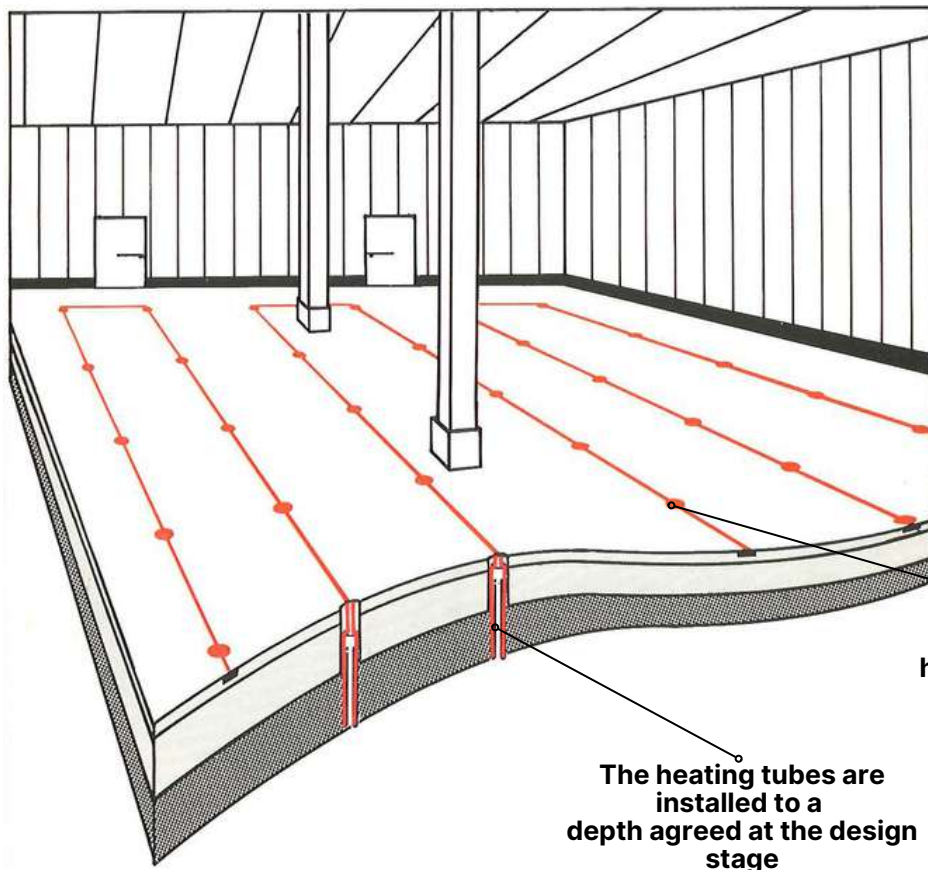
Installation Process

1. **Drilled core holes** – Small holes are precision-diamond drilled through the floor to insert vertical heating elements directly into the subsoil.
2. **Interconnecting cold tails** – Copper cold tails are placed in shallow, narrow channels between drilled holes, distributing power evenly.
3. **Gradual and controlled thawing** – The heating elements warm the subsoil just above freezing, allowing ice to melt in a safe and controlled manner, preventing damage during settlement.

Any floor size can be treated, and because no large-scale excavation is required, installation can take place while the cold store remains operational.



Example of recovery installation



Highly efficient control systems

All Frost Heave Recovery systems are driven by our innovative Control Panel. It includes a smart energy system which provides just enough heat to maintain the protective thermal barrier, while minimising energy usage.

The Thermatek® control panel has visual indicators to show the system is working properly and to display the current temperature of the subfloor. If required, the control panel can also be interfaced to building management systems for remote alarm detection.



Detailed design for each project

Each project is individually designed to the customer's specific needs. Design drawings are initially made and shared with the client for approval before the order is sent to our workshop for manufacture.

Each system is then manufactured in-house, including the transformers, which gives the greatest flexibility in terms of reduced operating costs and speed of manufacture ensuring Thermatek® Recovery System is great value for money.

Heater wire specification

ANNEALED & PVC COATED STAINLESS STEEL WIRE 1.4307							
C.	Si.	Mn.	P.	S.	Cr.	Ni.	N.
0,19	0,315	1,457	0,035	0,002	18,399	8,695	0,054

CORE SIZE	2.64mm
TENSILE	653N/mm2
ELONGATION	65%

You can find all the standards we adhere to in producing our products on thermatek.co.uk/standards



About us

Based in the UK, Thermatek® specialises in **bespoke frost heave and condensation prevention systems, designed and manufactured in the UK** to meet the unique demands of each client. With almost 35 years of experience, 14,000 installations and **ISO9001-certified** quality, our durable, ultra low-voltage systems are trusted by high-profile clients around the world. Our solutions offer unmatched fit-and-forget reliability ensuring cold stores run smoothly and carefree.

>14,000 projects



+2°C to -80°C



10sqM to > 9,000sqM



35 years



ISO 9001



International



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