



Electric ramp heating system





Version with cables



Placing the sensors

Electric ramp heating system

Heating Group International electric ramp heating systems are used for keeping ramps and driveways frost-free in parking garages, luxury residential construction, loading dock pits and public areas, among other applications.

Typically, ramp heating systems are installed in new construction, but with the Retrofit system, Heating Group International also offers solutions for renovating existing situations. Slope heating is a safety feature which makes it extra important that it is present and working at all times. Heating Group International offers service contracts to guarantee this operation.

Electric ramp heating is easy to install, maintenance-free and with weather-dependent control, unnecessary energy consumption is avoided. On average, a system is on for 100-150 hours per year.

Application

Heating Group International installs ramp heating under the following finishes:

- **Concrete:** This is the most common version. Heating is accomplished through custom-made heating cables. The cables are mounted on the top mesh. The cover layer above the cable should be 3-4 cm. Typically, approx. 200- 220W/m² of power installed.
- **Vowels:** In this case, pre-made heating mats are placed under the vowels. These are mounted on a sand bed by means of brackets. A further sand bed of 2-3 cm should then be placed on top of the mats. The ideal thickness of the clinkers is approx. 6 cm. With this finishing layer, 300W/m is installed.
- **Asphalt:** Heating by means of customized heating cables. Special heating cables resistant to high temperatures. In this application, 300-350W/m² power is installed.

The client can choose between two versions:

- **Track heating:** One or more tracks of 90 cm are heated.
- **Surface heating:** In this case, a complete surface is heated with only unheated edges on the sides.



Heating Group International switch panel



Uitvoering renovatie



Uitvoering met matten onder klinkers

Turn key solution Heating Group International

Heating Group International is a total supplier and wants to relieve the client as much as possible.

Design / engineering

The engineers of Heating Group International make the design for the ramp heating system. The power is calculated and the correct cable lengths are determined. When we receive the order the whole system will be drawn in AutoCad. Before a design is made, all project data must be supplied, such as the drawing, finishing layer, type of execution. In case of missing parts the relevant engineer will advise on the application.

Heating cables and mats

The heating system consists of heating cables (for concrete and asphalt) or heating mats (for clinker). The cable application has the most advantages. The cables are in stock in large lengths and are cut to size by the mechanics the day before execution. This allows for quick execution and makes it easy to modify a design. Keeping stock also makes it more interesting price-wise. The cables used have a power of 35W/m.

Temperature measurement

Temperature measurement takes place by means of 2 sensors in the road surface. These measure on:

- temperature
- moisture
- winter precipitation

Temperature control

The corresponding control boxes are made by Heating Group International's panel construction department. These can be custom made to include:

- fault message
- kWh counter
- potential-free contact
- cabinet for outdoor use

Assembly

Assembly by the mechanics of Heating Group International. The heating system is installed, the control box is hung and everything is electrically connected. With assembly by Heating Group International, the warranty period on the heating cables is **extended from 10 years to 15 years**.

Service contract

Guarantee of proper operation of the system and short response times in case of failure. In addition, extension of the warranty period on the heating cables to 20 years (if assembled by Heating Group International).

Renovation

It may happen that a heating system has never been installed (for example, due to budget cuts), or that an existing system is in need of replacement. For this purpose, Heating Group International offers the Retrofit ramp heating system. In these projects acting as general contractor.

For heating and control, our own people and equipment are used. For things outside the normal supply package (think concrete or an epoxy finish coat), Heating Group has been working with the same partners for years. Partners that we know strive for the same level of quality as we do.

Below is the step-by-step procedure for a renovation project:

- on-site recording
- customizing heating cables
- redesign switch panel
- breaking / milling driveway
- placing new concrete mesh (if necessary)
- placing heating cables and sensors
- unlike new construction projects later, a finishing coat is also provided. For example, new concrete, bricks, epoxy or asphalt.
- after the floor has hardened out for at least a week (preferably longer), it can be used again, and the user has a working system that gives them the assurance of safety when needed.