

When it gets colder – Nexans-Heating cables to protect against cold, frost and ice

Everyone knows that cables and leads are used to transmit power or data. The fact that they can also be used for warming and heating, however, is less well-known. The flow of heat is caused by electrical energy which is converted into heat in the heating conductor. The heat then flows out through the insulation into the surrounding medium.

Inside and outside

Nexans offers a wide range of heating cables suitable for inside and outside applications. The cables in the KLG range can be used in the floor for surface heating indoors just as well as outdoors – such as at the entrance to an underground car park to provide reliable protection from black ice when outside temperatures are below 0°C. Garden centres use the cables to protect against ground frost – for example, to heat cold frames. And landscape gardeners lay them in the grass of sports fields to keep the ball rolling, even in winter.

Other possible applications include installation in roof guttering, as a simple way of preventing icicles from forming so that passing pedestrians do not have to worry about falling ice. They can also help farmers: in winter, animals in barns still get their supply of drinking water, even at sub-zero temperatures, because the Nexans heating cables integrated (parallel to the

water pipe) in the pipe insulation – pipe heaters – ensure that the water will flow.



The KLG NH6YGQUY Nexans-heating cable protects against ice and frost.

The KLG range can be used in many different applications. To meet different requirements regarding surface area and heating power, Nexans offers different resistances from 14,000 to 50 ohm/km.

In addition to the KLG series, Nexans also offers robust, durable heating cables for laying in mastic asphalt or for areas with extreme resistance requirements, such as in petrochemical installations.

The connecting cables are also available with the same insulating and sheathing materials as the heating cables.

Technical details

The construction of heating cable complies with the DIN VDE 0253 standard (NT = nominal thickness):



1. Heating conductor: 7-wire stranded
2. Heating conductor insulation: FEP 0.3 mm NT
3. Insulating sleeve: EVA 0.9 mm NT
4. Earth conductor braid: tinned copper
5. Outer sheath: PVC 1.0 mm NT
Outside diameter: 7-7.5 mm NT

Resistance in ohm/m:
14/8/5,1/3.3/2.28/1.45/1.0/0.7
4/

0.42/0.24/0.18/0.10/0.05

(Other resistances available on request)

Technical data

Rated voltage: 500 V AC

Maximum permissible output: 35 W/m *)

Maximum operating temperature/maximum permissible temperature on the output surface: +80°C

Minimum installation temperature: -10 °C

Minimum bending radius: 25 mm

Approvals: VDE, SEMKO, SEV, ÖVE

Connecting cable: 1.5 mm²

Example applications

- Surface heating inside/outside
- Pipe heating
- Roof guttering heating
- Frost protection: guttering and pipes
- Cold frame heating
- Garage slippery driveways
- Turf heating (sports facilities)

*) depends on installation conditions and associated possibilities for heat dissipation