

# In-Floor Heating



Superior heating solutions for quality homes

by



*Heating Solutions*

# What is in-floor heating?

Electric in-slab heating uses heating cables embedded in a concrete slab floor to provide home heating. The slab stores the heat at night and releases it to provide continuous warmth to the home during the day. Using off-peak electricity, in-slab heating is an economical method of providing 24 hour heating, if set at a suitable temperature in a well insulated home.

No other heating system provides the all-round benefits of in-floor heating. It is efficient to install and run and is so versatile it can be incorporated into almost any building project. Warmth is evenly distributed from wall to wall due to the in-floor heating cables being evenly embedded within the floor. This makes it ideal for children since there are no hot surfaces or dangerous objects to contend with. In-floor heating is perfect for carpeted, tiled and polished concrete floors and some timber floors.

## Health benefits

In-floor heating creates an environment which helps to eliminate or minimize the 'trigger factors' that can cause allergic reactions.\* With electric in-floor heating no material from combustion is generated or circulated, nor are dust particles or other airborne allergy 'triggers' distributed.

## **P.A.P.** the in-floor heating specialists

P.A.P. has the experience and expertise to design and install the perfect in-floor heating system for your home. They have the appropriate thermostats to maximize the efficiency of your in-floor heating system. P.A.P. also provide a range of solutions for various commercial in-slab applications, cold storage room floors, ice and snow problems and antifrost protection for pipes, valves and gutters.

## Commitment backed by premium components

P.A.P. has an unparalleled commitment to professional service and technical expertise – a commitment backed by premium cables and components. Our Elektra Twin cables and thermostat range meet International Standards AS9001.

\* Minimizing allergic reactions also involves maintaining a uniform temperature whilst minimizing the build-up or disturbance of dust. Adequate ventilation, effective removal of moisture and fumes, direct sunlight and the circulation of fresh filtered air also help to achieve this.



Tiled Floors



Polished Concrete



Carpeted Floors



Wet Areas



- ✓ Silent and invisible
- ✓ No ducts or vents, no maintenance or cleaning
- ✓ Efficient and cost effective
- ✓ Individual room thermostat controls
- ✓ The perfect partner to polished concrete and tiles
- ✓ Versatile indoors and outdoors

## ELEKTRA Heating Cables

P.A.P. Heating Solutions utilize a range of premium quality ELEKTRA Heating Cables. These unique cables provide reliable and efficient heating solutions across a range of projects and applications: from in-slab heating in houses and commercial buildings through to antifrost systems to protect pipes, valves, gutters and cold room doors. They perform to the highest standards in terms of resistance, insulation and durability and are quality assured to ISO 9002 and ISO 9001.

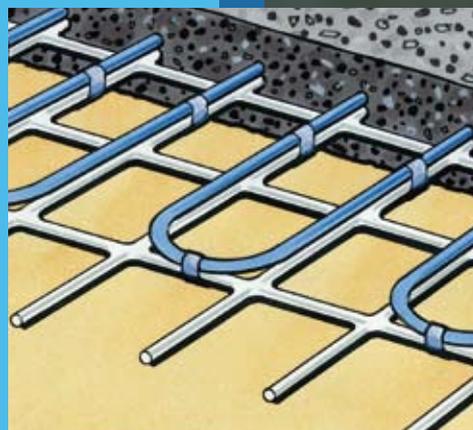


## Home • Commercial Applications

### **ELEKTRA VCD35 Twin in-slab heating cable**

ELEKTRA Twin Heating Cables are available in ready made sets in a comprehensive range of lengths. Their convenient 'twin' design means installation is straight forward - you simply start at the power source and work to the end of the cable, saving time and expense. They also come packaged on reels which means a kink and twist-free roll out. ELEKTRA VCD35 cable is suitable for new constructions and renovations as an in-slab heating system or it can be installed after construction in a 25mm cement-based screed under many different flooring surfaces including timber, stone, tiles (ceramic and vinyl) parquetry and low pile carpet.

- Convenient 'twin' design saves time and expense.
- Extensive range of lengths available
- Residential or commercial applications
- In-slab or in-screed under various floor surfaces
- Off peak storage heating
- No maintenance
- 10 year warranty



In-slab

**\*Note:** Electrical work must be carried out by a licensed electrician and the power supply must have earth leakage protection, such as a safety switch. An electronic thermostat 4 event clock with floor sensing probe for efficient temperature control is supplied with the ELEKTRA heating mat.



## Cold Storage Room Floors Ice & Snow Conditions

### **ELEKTRA VCD10 Twin frost protection heating cable**

ELEKTRA heating cables have many applications besides home heating. The range of VCD10 twin frost protection cables available from P.A.P. are designed to prevent freezing, icing and/or snow capping - example shown in image is a driveway ramp.



## **ELEKTRA In-floor Heating Mat\***

### **Home Heating · Room Heating**

The ELEKTRA Heating Mat is a twin cable on a fibreglass mat with a single sided power supply and is thermostat controlled. ELEKTRA Heating Mats may be used under any type of floor suitable for heating; ie. under any floor which radiates heat easily, such as floor tiles, slate, low pile carpet or some wooden floor panels. They are fixed directly to a prepared floor in a screed of self levelling compound or a cement-based screed. At 0.5m wide and available in lengths from 2m to 16m they can be easily shaped to suit the floor layout. No special tools are required.

An ELEKTRA in-floor heating mat is a very effective system of room heating and if the room has effective thermal insulation, may be used as the primary heating system. This 'quick response' form of heating is ideal for tiled bathrooms, ensuites and toilets, providing warmth underfoot. Towels are kept dry and tiled areas free of mould.

- Simple to install
- Provides comfortable heat
- Economical and safe
- Easily shaped to suit room layout



**In-floor heating may be installed in a screed under many different floor surfaces.**



Pipes  
Valves  
Gutters  
Alpine Areas

## ELEKTRA SelfTec self-regulating antifrost system

Even in the most adverse cold or winter weather the ELEKTRA SelfTec antifrost system protects water supply lines, valves, pipes, gutters, compressed air or hydraulic cylinders and other objects that are likely to fail due to low temperatures. The system automatically adjusts (self-regulates) the cable temperature so that the basic operational conditions are maintained.



### Self regulating

The SelfTec system operates any time it is needed. You do not have to anticipate cold weather - the system automatically adjusts the cable temperature so that basic conditions are maintained. This self-regulation means that the cable can be laid multi-layered and does not require special thermal insulation. It can also be repositioned if required. The ELEKTRA SelfTec system is supplied from a 240V AC network. Both simulated operation and practical testing have confirmed operational dependability.

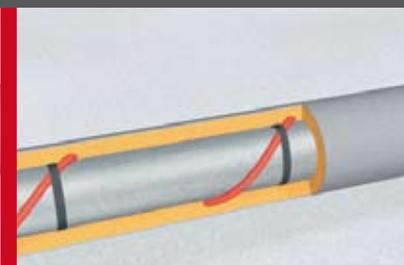
### Easy installation

The ELEKTRA SelfTec system is designed to be laid directly on the part to be protected - such as pipe, valve or gutter. It may be installed on plastic products as well. Unlike other cables the SelfTec self-regulating cable stays flexible, even in low temperatures, and is easy to remove.

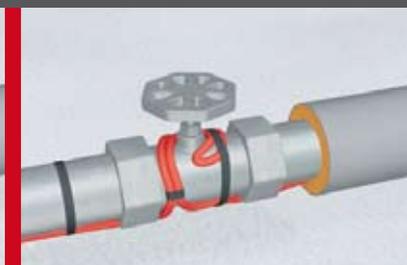
Installation along the pipe



Installation around the pipe

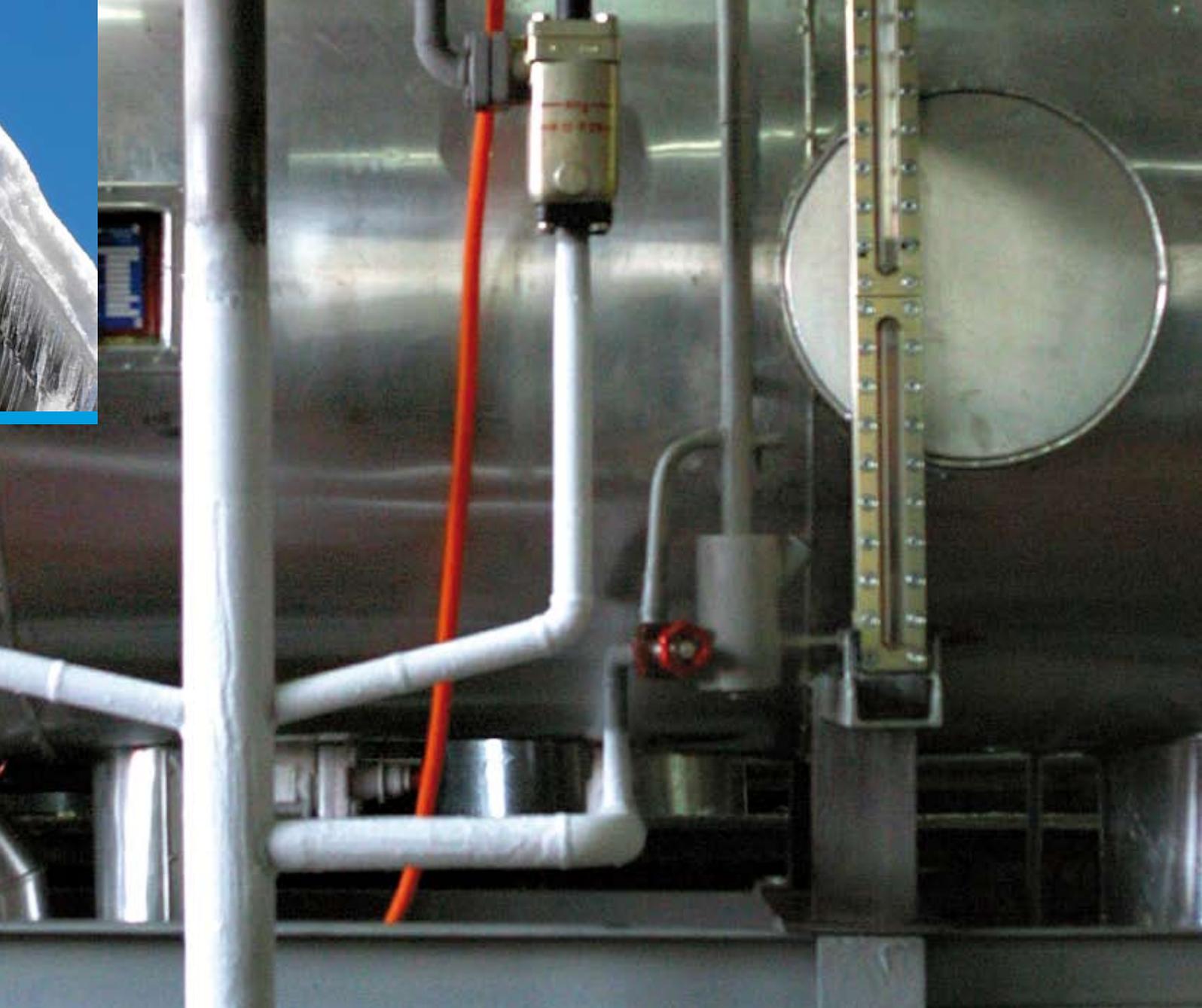


Installation on valves



Installation in gutters





## Design and Safety Features

- Cross-linked polymer core
- Carbon extruded between parallel copper conductors
- Powered from one end with 3-metre connection cable and 3 pin plug
- In the case of local overheating, this section will not operate yet the remaining cable length maintains its properties
- Braided copper tin-plated protective earthed screen
- Outer coat of modified polyolefins
- Cable will not overheat and burn at crossing points



# OJ Thermostats

The OJ thermostat range includes standard thermostats, clock thermostats and thermostats with limitation sensor and regulator. This range has been specially developed for control of electrical in-floor heating and their functionality, elegant, simple design and accuracy make them the perfect system to control the various in-floor heating solutions offered by P.A.P.



## Features & range

**Design:** electronic thermostats in an elegant design suitable for vertical flush mounting in a standard wall bracket. (16amp & 2-pole switch)

**Function:** thermostats include either a floor sensor or built-in room sensor (air sensing) - temperature is controlled to an accuracy of 0.4°C.

**Mounting:** designed for vertical flush mounting in a standard wall bracket.

**Adjustment:** all thermostats feature a graduated scale which makes it easy to set the required floor or room temperature. If required the scale can be adjusted and limited for maximum or minimum temperature.

**The Range:** MTC - standard room mount: MCC2 - built-in 4 event clock: ETN - DIN-rail mounting: ETS - snow and ice.



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