

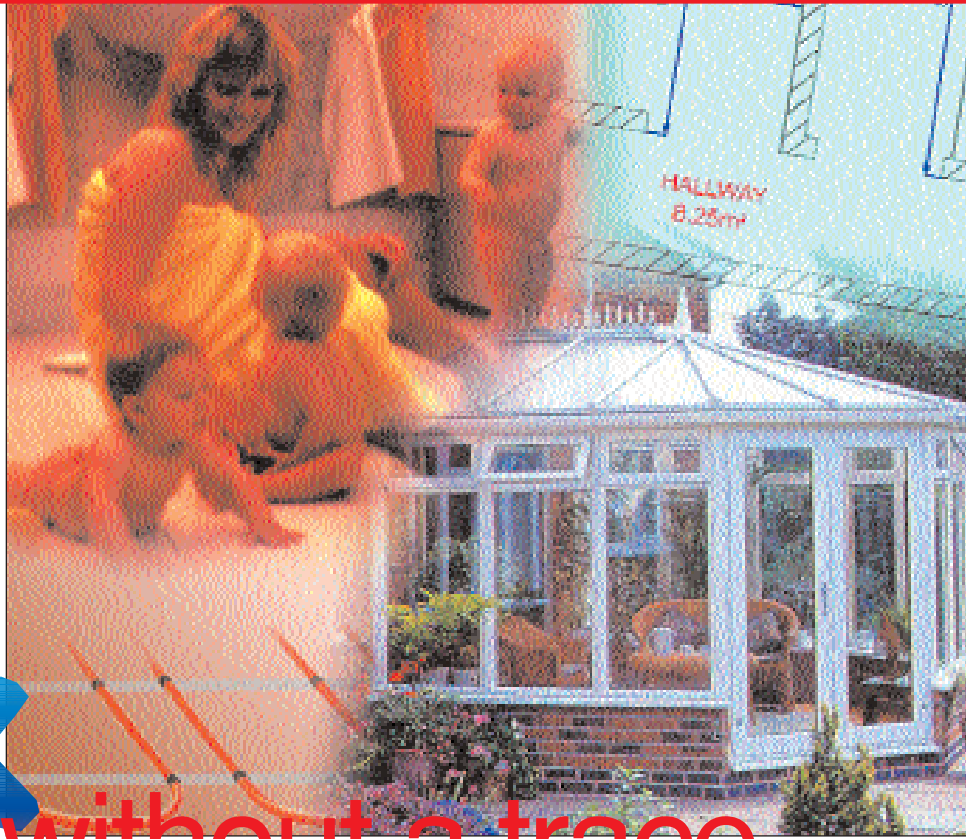
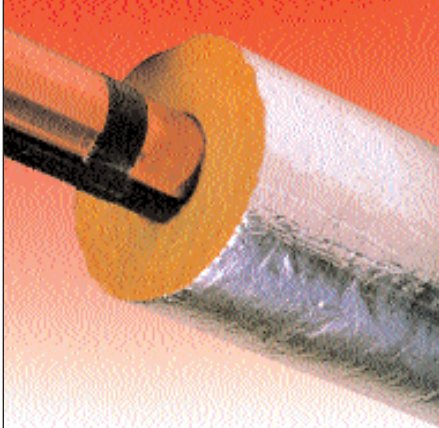
Discover some hot favourites which will be an installation sure bet this winter.

# Sunk

**W**ith so much competition out there, keeping your head above water is becoming increasingly difficult. One life-line that is available to electrical contractors, though, is electrical Underfloor Heating and general pipe and surface heating requirements in and around domestic and commercial properties.

Adding a lucrative dimension to your existing services, the most common types include underfloor heating, freeze protection for water supplies, fuel, etc.; hot water heating for domestic and commercial hot water and finally, snow and ice prevention, for

*Self Regulating cable designed to compensate for heat losses even under the worst conditions.*



## without a trace

...or something similar if you fail to diversify. Lisa Rose from Warmfloor Solutions suggests a more buoyant market exists in electric heat tracing.

roof and gutters, paths, ramps, driveways, etc.

All of the applications described below are simple to install using cut-to-length, self-regulating heating cables, although easy to follow Application Guides are available that explain the basic principles.

### FLOOR WARMING SYSTEMS

The Warmfloor Self Regulating Floor warming solution is available as an Easy-Warm under tile heating kit. Heat Safe cable for installation within concrete screed, or under wooden floors, or as part of a composite "Comfyfloor" a unique patented system providing both thermal / Acoustic insulation, Self Regulating Heating Cable and finally a floating Particle Cement Board flooring finish. This can be supplied to compliment an existing heating system, provide complete comfort conditions, or simply maintain comfortable floor surface temperatures — i.e marble tiles in a bathroom, or ceramic tiles in a conservatory, or kitchen.

The self-regulating capability

of the heating cable ensures that the system responds to localised additional heat losses that may occur at open windows, doors, etc., by automatically increasing the heat output in that area. This self-regulating capability also ensures that the floor cannot overheat, which protects against discomfort and inefficient use of energy. Floor, or room temperature thermostats, with or without timer control, achieve further control and energy efficiency.

### FREEZE PROTECTION OF PIPEWORK

Whilst thermal insulation slows down the rate of heat loss from pipes, it is insufficient to prevent freezing if low temperature conditions persist. A 25mm bore pipe at 5 Deg C, that has been fitted with 25mm thick thermal insulation, will reach freezing point within one hour in an ambient temperature of just -10 Deg C.

However, a suitably rated electric heat tracing cable, fitted beneath the thermal insulation, will compensate for heat losses and ensure that the

pipe temperature remains above freezing, even under the very worst conditions. Furthermore, a simple air thermostat can control the system so that it will only energise when low ambient temperatures are detected.

### HOT WATER HEATING

A boiler will provide a household with all the hot water it needs, on demand, in a central or localised heating system. Nevertheless, a more common problem is the delay caused by water which is allowed to cool in pipes feeding the supply points between use. This is costly, in that the volume of the static head of water must effectively be heated each time a tap or valve is opened. It is also wasteful, as the cold water that was in the pipe is normally allowed to drain away.

Traditional re-circulating systems, when fitted, provide instant hot water at the taps by using a twin pipe flow and return system. The length of the dead-legs is minimised so that hot water flows soon after the tap is opened, thus reducing wastage.

However, re-circulating pipework and thermal insulation has twice the capital and installation costs of a

single pipe system, plus heat losses from a re-circulation system are twice those of a single pipe system. Maintenance costs are also incurred, with the introduction of pumps and other moving parts, while dual pipe systems require twice the space and must be balanced.

A single pipe system, fitted with a self-regulating heating cable, overcomes all of the problems inherent in a re-circulating system. A self-regulating heating cable fitted to a single pipe hot water system, beneath the thermal insulation, maintains the hot water temperature by compensating for heat losses under no-flow conditions.

Compared with a re-circulating system this often means half the capital/installation costs of pipework and thermal insulation; half the pipework means half the heat losses; it is maintenance free (no moving parts) using half the space and no balancing is required.

### SNOW AND ICE PREVENTION SYSTEMS

Manually clearing areas of snow and ice is time consuming and expensive, while using de-icing chemicals, salt and grit is only temporary, as they get washed away by thawing, or rain and may even be environmentally damaging.

The installation of an electric self-regulating heating cable, embedded in the concrete, ensures that the area is always kept clear of snow and ice.

Snow building up on a roof can also be a problem. As the melted snow runs from the roof into cold gutters and drainpipes, it can re-freeze, forming layers of ice which can continue to build up until the flow is blocked. This can often result in damaged drains and gutters.

In addition, water can get into the roof and building, which leads to expensive structural damage, such as broken roof tiles, damaged plaster and facades.

Installing an electric heat tracing cable in the gutters, as well as in the drainpipes, ensures that water is kept freely flowing.

In all of these applications, the



self-regulating nature of the heating cable, together with an efficient control system that will only energise the heaters when necessary, makes for a very economical system. So, when you point out potential hazards to your clients, instead of giving them that sinking feeling, you could have them floating on air!



## Find out more

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