

# Snow Melting and De-Icing

## CONNECT AND PROTECT

This section provides an overview of nVent RAYCHEM Snow Melting and De-Icing systems. For detailed information on snow melting design, refer to the MI Surface Snow Melting Design Guide (H57045) or the ElectroMelt Surface Snow Melting Design Guide (H53393). For detailed information on roof and gutter de-icing design, refer to the IceStop Roof and Gutter De-icing Design Guide (H56070). For additional information, contact your nVent representative or visit our website at [nvent.com/RAYCHEM](http://nvent.com/RAYCHEM).

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### INTRODUCTION

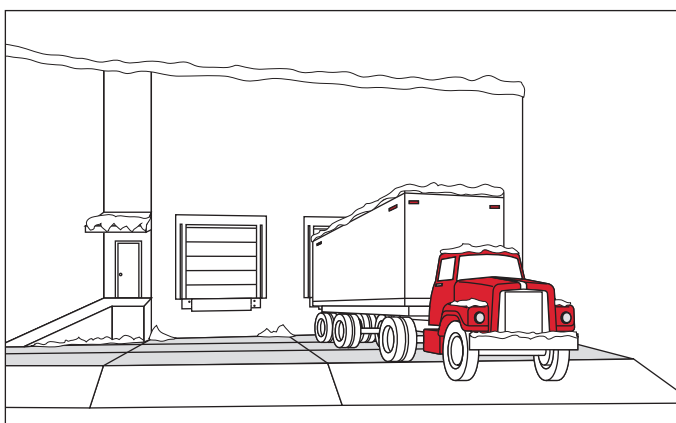
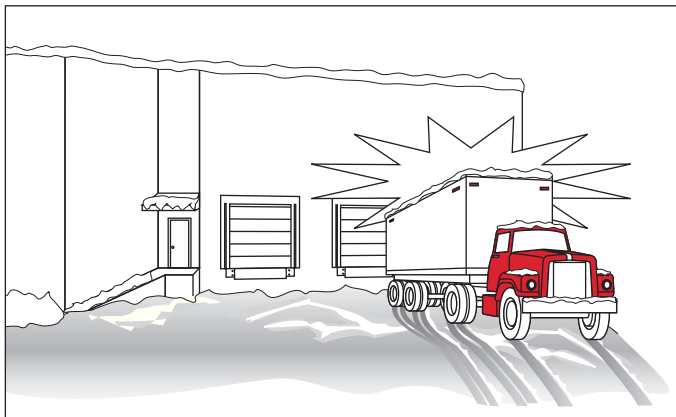
Snow and ice can create many problems for the industrial marketplace including delayed shipments due to frozen loading docks and safety hazards due to icicle formation. nVent provides several snow melting and de-icing solutions for these problems. Typical benefits served by these products include:

- Reduced liability
- Fewer costly repairs
- Reduced potential for lost business
- Increased safety
- Enhanced appearance

A description of typical snow melting and de-icing applications and details on the appropriate system offerings follows.

### Applications

In winter, snow and ice can accumulate on surfaces and create hazards to people and vehicles. nVent's snow melting systems can be used to melt snow in a variety of areas, such as sidewalks, stairways, driveways, ramps, and helicopter landing pads, avoiding expensive vehicle repairs, delayed shipments, and increasing personnel safety.



**Fig. 1 Examples of a typical snow melting application**

### Product Offerings

Snow melting applications can be quite varied. For this reason, nVent offers two products utilizing different technologies to provide an optimized system for your snow melting needs. Both technologies are proven and reliable.

- Mineral Insulated (MI) heating cables
- ElectroMelt self-regulating heating cables

To determine which product suits your application, contact your nVent representative or call 800-545-6258.

### Approvals

nVent RAYCHEM snow melting systems are approved and certified for use in non-hazardous and hazardous locations by many agencies. Please refer to the technical datasheets for more details.

## MI Heating Cables

Standard surface snow melting MI heating cables are comprised of a single conductor surrounded by magnesium oxide insulation, a solid copper sheath, and an extruded Low-Smoke Zero-Halogen (LSZH) jacket. The LSZH jacket protects the copper sheath from corrosive elements that can exist in surface snow melting applications.

### Single-conductor cable

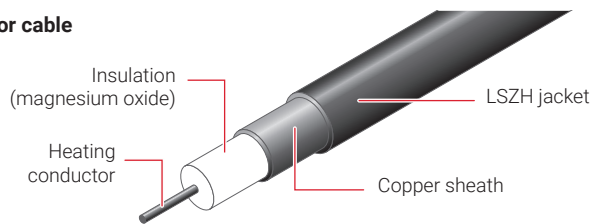


Fig. 2 MI heating cable construction

## MI Snow Melting System

A typical MI snow melting system includes the components shown below. For detailed design information, refer to the MI Surface Snow Melting Design Guide (H57045).

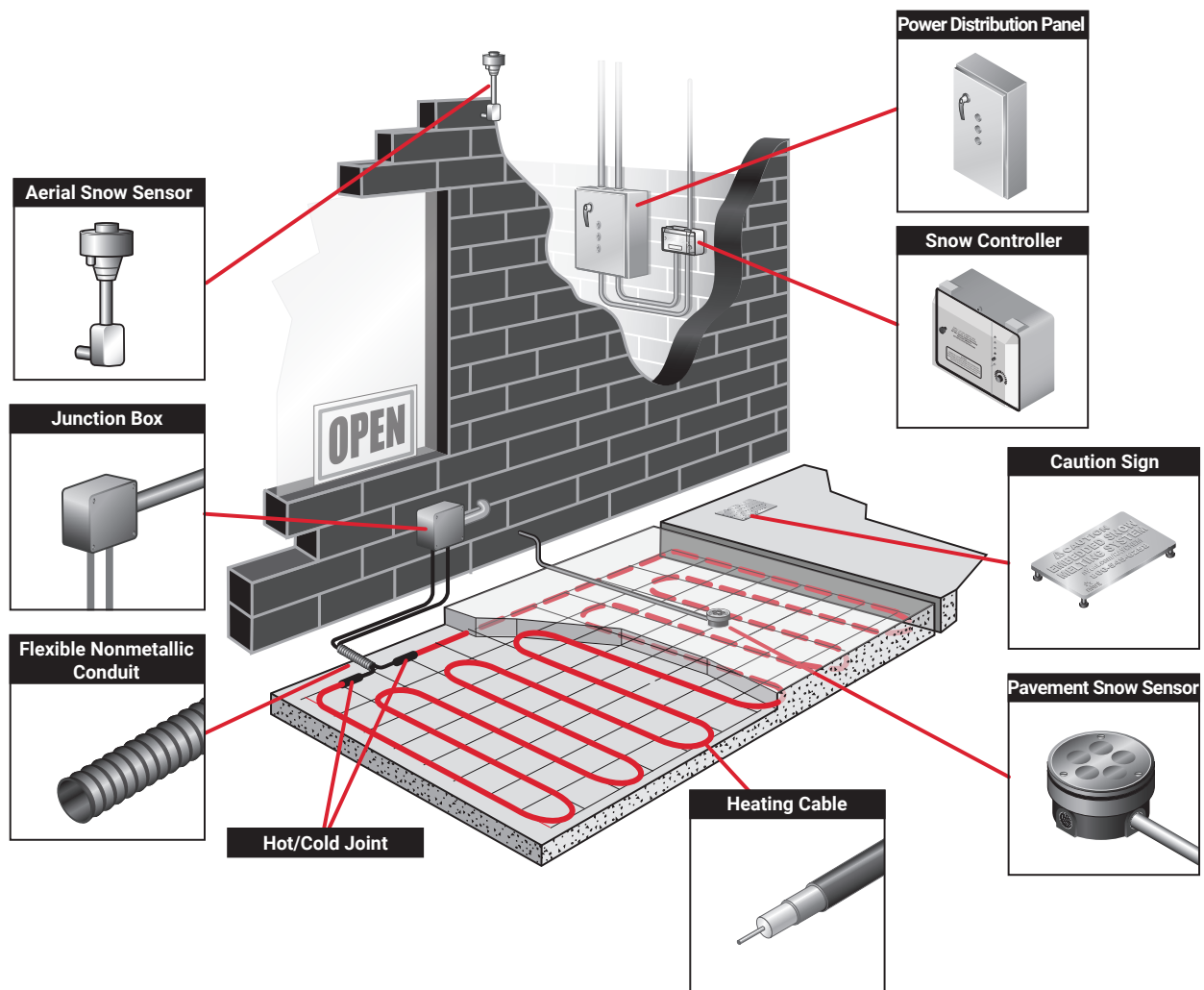
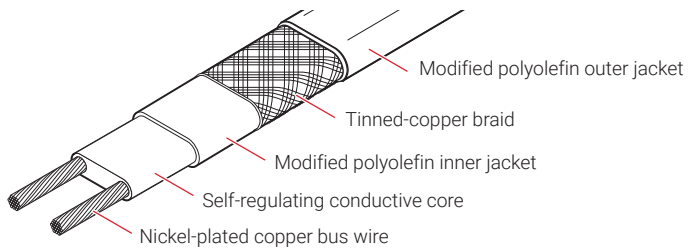


Fig. 3 Typical MI snow melting system

## ElectroMelt Self-Regulating Heating Cables

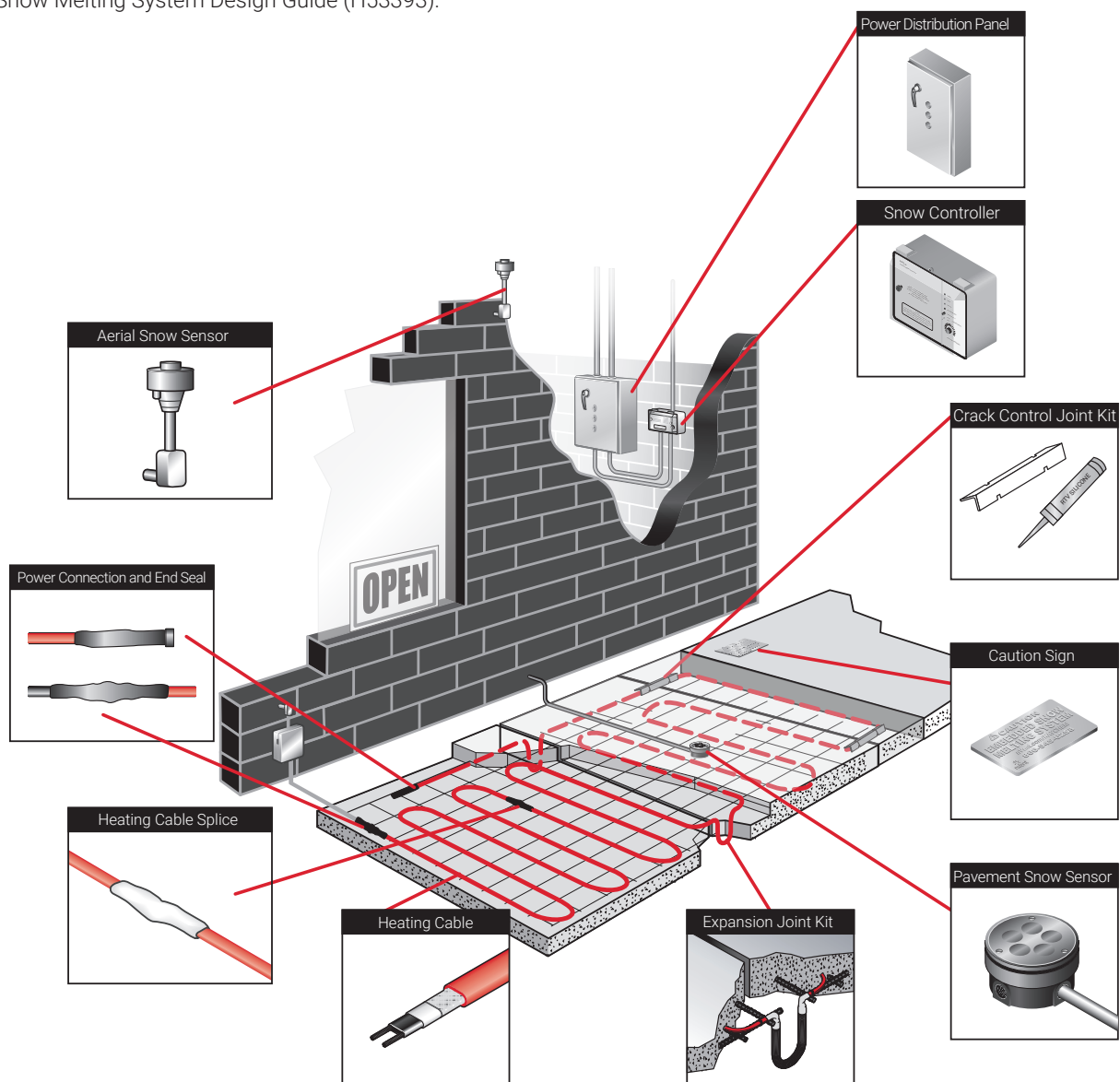
The ElectroMelt self-regulating heating cable is embedded in concrete pavement to melt snow and ice that might otherwise accumulate on the surface. The heating cable responds to the local concrete temperature, increasing heat output when concrete temperature drops and decreasing heat output when concrete temperature rises. The self-regulating heating cable cannot overheat and destroy itself, even if overlapped in the concrete, and therefore does not require the use of overlimit thermostats.



**Fig. 4 ElectroMelt heating cable construction**

## ElectroMelt Snow Melting System

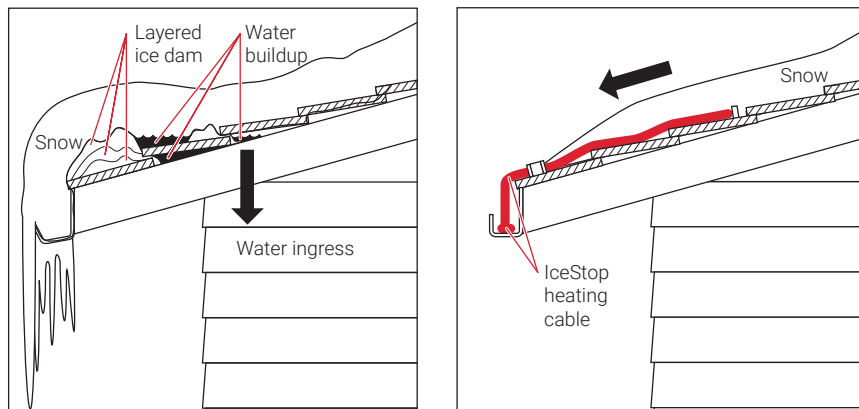
A typical ElectroMelt system includes the components shown below. For detailed design information, refer to the ElectroMelt Surface Snow Melting System Design Guide (H53393).



**Fig. 5 Typical ElectroMelt snow melting system**

### Applications

Industrial administrative buildings, warehouses, storage facilities, and production buildings benefit from roof and gutter de-icing systems. After melting, ice and snow can refreeze and form ice dams that prevent water from draining to the gutter. On rooftops this often leads to standing water, which can cause severe damage by draining into the building. The water can also flow over the ice-filled gutter and form icicles, which can be a serious safety hazard.



**Fig. 6** Examples of a typical roof and gutter de-icing application

### Product Offerings

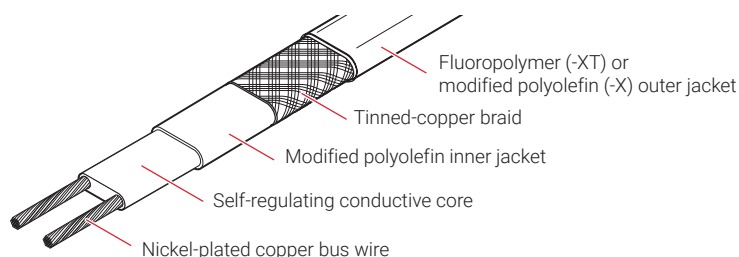
The IceStop system can prevent ice dams and icicles by maintaining a continuous path for melt water to drain from the roof. The IceStop system uses a self-regulating heating cable which reduces heat output automatically as the cable warms to above freezing, resulting in lower energy use, and eliminating the possibility of overheating.

### Approvals

nVent RAYCHEM roof and gutter de-icing systems are approved and certified for use in non-hazardous and hazardous locations by many agencies. Please refer to the technical datasheets for more details.

### IceStop Self-Regulating Heating Cables

IceStop self-regulating heating cables are comprised of two parallel nickel-coated bus wires in a cross-linked polymer core, a tinned copper braid and a fluoropolymer or polyolefin outer jacket. These cables are cut to length simplifying the application design and installation.



**Fig. 7** IceStop heating cable construction

## IceStop System

A typical IceStop roof and gutter de-icing system includes the components shown below.

For detailed design information, refer to the IceStop Roof and Gutter De-icing Design Guide (H56070).

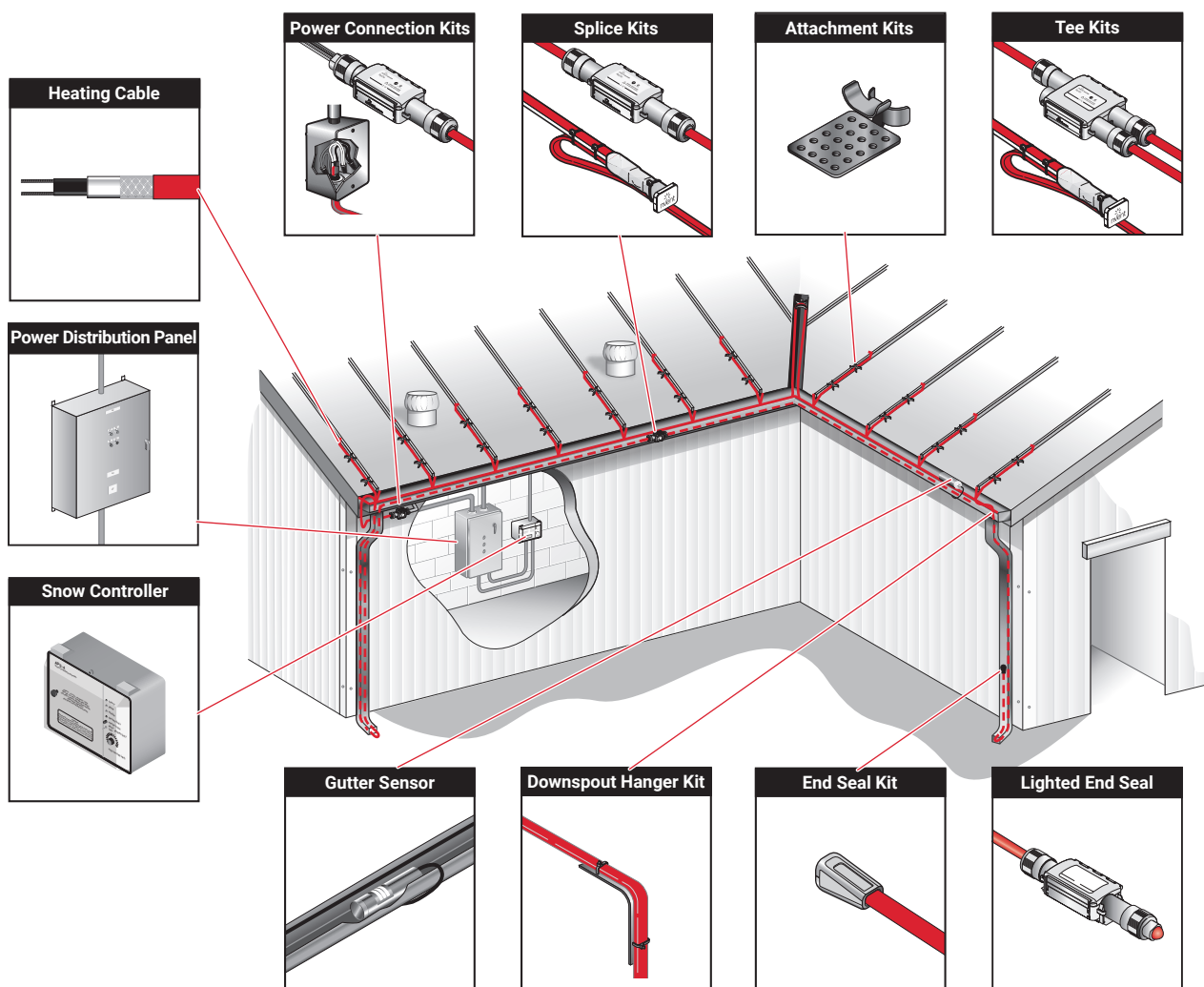


Fig. 8 Typical IceStop roof and gutter de-icing system

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