



♥ WINTER

CONNECT AND PROTECT

# Safety & Comfort for Buildings & Homes

Commercial & Residential Markets – U.S. Electrical

  
nvent

RAYCHEM



## Because winters can be harsh...

In winter, freezing temperatures can be a latent danger for buildings and the people who live and work in them. Think for example of the damage that can be caused by frozen pipes. Or the difficulties that can result from icicles on gutters, black ice on driveways, or snow-covered stairs and footpaths. As the responsible person, it is in your best interests to properly equip your buildings and give everyone maximum protection against frost, ice and snow.

## This brochure highlights our safety and comfort solutions.

Use the legend below to match the product offering with the market.

### ■ RESIDENTIAL / LIGHT COMMERCIAL

Markets which represents basic, reliable solutions for homes and small commercial buildings, such as shops and strip malls.



### ■ COMMERCIAL / SPECIFICATION

Markets which represents advanced, high-performing, often specified solutions for commercial buildings.







## The solution: intelligent heating systems

nVent RAYCHEM solutions can help you avoid all risks of **material, physical and financial damage**. We have developed a series of innovative, self-regulating heating and freeze protection systems for this purpose. They are all complete, easy to install and efficient solutions to the risk of damage caused by frost, snow and the formation of ice. The low energy consumption is an added bonus. Discover here how our solutions offer you the best possible protection against the lowest temperatures.

### Maximum protection, optimum safety

There is an intelligent nVent RAYCHEM heating solution for every application. Most popular examples:

#### PIPE FREEZE PROTECTION



Modular and flexible cable system for keeping pipes from freezing. This heating solution prevents ice from forming and ensures that water can keep flowing. It prevents burst pipes and water damage.

#### ROOF & GUTTER DE-ICING



High quality and quick-to-install cable systems for keeping gutters and downspouts free from snow and ice. This heating solution prevents icicle formation and damage to gutters and ensures water can keep flowing freely.

#### SURFACE SNOW MELTING



Effective and reliable heating systems for keeping driveways, stairs and footpaths free from snow and ice. This heating solution prevents physical injury and vehicle accidents, and saves time clearing snow.

# Solutions that Make a Building Winter Safe

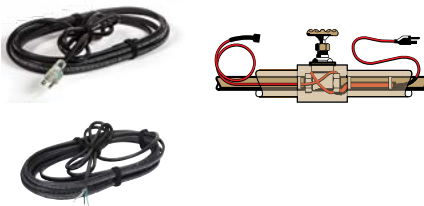
## Pipe Freeze Protection – Residential / Light commercial



nVent RAYCHEM pipe freeze protection systems are flexible and easy to attach to the exterior of the pipe to keep pipes from freezing, bursting, and causing water damage.

Our product range allows you to choose the right solution for your application and budget—from a simple preassembled plug-in kit to one that offers energy-saving control and sensing options.

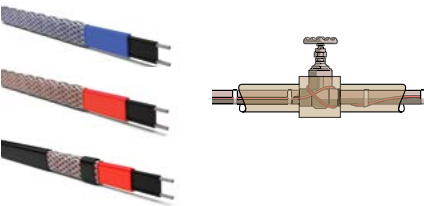
### FROSTGUARD PREASSEMBLED PLUG-IN HEATING CABLE SYSTEM



nVent RAYCHEM FrostGuard preassembled self-regulating heating cable with 6-ft cold lead and lighted plug for small piping up to 2-1/2 inches in diameter in dry or wet locations.

- Voltage: 120 V with plug, in lengths of 6, 12, 18, 24, 36, 50, 75 & 100 feet; 240 V with cold lead only, in lengths of 6, 12, 18 & 24 feet
- Control options: nVent RAYCHEM TC-3 thermostatically controlled outlet for 120 V only
- Components: nVent RAYCHEM H903 application tape

### WINTERGARD SERIES PRE-PACKAGED IN STANDARD ROLL SIZES AND CUT-TO-LENGTH HEATING CABLE SYSTEM



Self-regulating heating cable for piping up to 6 inches in diameter for dry and wet locations. The WinterGard series of products includes nVent RAYCHEM WinterGard, WinterGard Plus and WinterGard Wet.

- Voltage: 120 V or 240 V
- Control options: nVent RAYCHEM AMC-F5, AMC-1A, EC-TS
- Components: nVent RAYCHEM H900 hardwire or H908 plug-in power connection kit; H903 application tape; H910 Splice/Tee kit

### PIPE FREEZE THERMOSTAT SELECTION DETAILS

GOOD	BETTER	BEST
<b>TC-3</b> <ul style="list-style-type: none"><li>• Thermostatically controlled outlet</li></ul>	<b>AMC-F5</b> <ul style="list-style-type: none"><li>• Mechanical thermostat</li><li>• Ambient or line sensing</li><li>• Fixed set point of 40°F (nonadjustable)</li><li>• 3' bulb and capillary sensor</li><li>• 22 A at 125/250/480 V</li></ul> <b>AMC-1A</b> <ul style="list-style-type: none"><li>• Mechanical thermostat</li><li>• Ambient sensing</li><li>• Adjustable set point of 15°F to 140°F</li><li>• 22 A at 125/250/480 V</li></ul>	<b>EC-TS</b> <ul style="list-style-type: none"><li>• Electronic thermostat</li><li>• Ambient or line sensing</li><li>• Adjustable set point of 30°F to 110°F</li><li>• 25' thermistor sensor</li><li>• 30 A at 100 - 277 V</li></ul>



# Solutions that Make a Building Winter Safe

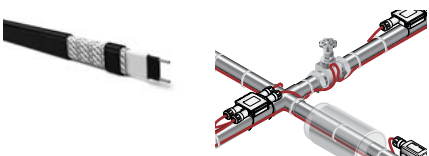
## Pipe Freeze Protection – Commercial / Specification



nVent RAYCHEM **pipe freeze protection systems** are flexible and easy to attach to the exterior of the pipe to keep pipes from freezing, bursting, and causing water damage.

Our products work with our basic or advanced energy-saving control and sensing options.

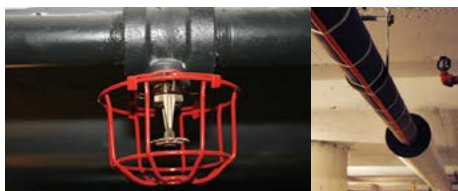
### XL-TRACE EDGE CUT-TO-LENGTH HEATING CABLE SYSTEM



nVent RAYCHEM XL-Trace Edge self-regulating heating cable with either fluoropolymer or polyolefin outer jacket for piping of all sizes in dry and wet locations.

- Voltage: 120 V or 208-277 V
- Control options: Single or multi-circuit, integrated power distribution, energy monitoring, BMS communications
- Components: nVent RAYCHEM RayClic quick connect; FTC heat shrinkable fittings

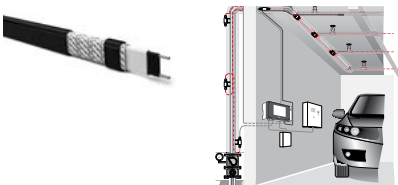
## Fire Sprinkler Freeze Protection – Commercial / Specification



nVent RAYCHEM **fire sprinkler freeze protection systems** freeze protect aboveground and buried supply pipes, fire standpipes, branch lines and branch lines containing sprinklers when run in areas subject to freezing.

NFPA 13 (Standard for the Installation of Sprinkler Systems) allows Listed electrical heat tracing to freeze protect fire suppression systems including supply lines, standpipes and branch lines containing sprinklers. XL-Trace Edge complies with UL 515A, CSA C22.2 No. 130-03 and EEE 515.1 requirements.

### XL-TRACE EDGE CUT-TO-LENGTH HEATING CABLE SYSTEM



Self-regulating heating cable with either fluoropolymer or polyolefin outer jacket for fire sprinkler freeze protection applications. The XL-Trace Edge system provides safe, reliable freeze protection of fire suppression systems.

- Same as above, except that fire panel communication listing requirements apply. All system must be “supervised” with controllers having alarm contacts connected to the fire control panel (nVent RAYCHEM 465 per UL 515A). See design guide.

### PIPE FREEZE CONTROLLER SELECTION DETAILS

GOOD	BETTER	BEST
<b>EC-TS</b> <ul style="list-style-type: none"><li>• Electronic thermostat</li><li>• Ambient or line sensing</li><li>• Adjustable set point of 30°F to 110°F</li><li>• 25' thermistor sensor</li><li>• 30 A at 100 - 277 V</li></ul>	<b>465 (Fire Sprinkler) / 460 (Pipe Freeze)</b> <ul style="list-style-type: none"><li>• 5" color touch screen</li><li>• Intuitive Programming</li><li>• Auto-cycle</li><li>• Built-in GFPD per UL 1053</li><li>• High limit temperature cut-out</li></ul>	<b>ACS-30</b> <ul style="list-style-type: none"><li>• Multi-point electronic controller</li><li>• 30-mA GFPD</li><li>• Distributed power architecture</li><li>• Multi-application control</li><li>• Smart building control platform</li><li>• Communication to BMS</li></ul>
<b>ECW-GF</b> <ul style="list-style-type: none"><li>• Electronic thermostat</li><li>• 30-mA GFPD</li><li>• Ambient or line sensing</li><li>• Adjustable set point of 32°F to 200°F</li><li>• 25' thermistor sensor</li><li>• 30 A at 100 - 277 V</li></ul>	<b>C910</b> <ul style="list-style-type: none"><li>• NEMA 4X outdoor rated</li><li>• 30-mA GFPD</li><li>• Auto-cycle</li><li>• Communication to BMS</li></ul>	
	<b>HTPG</b> <ul style="list-style-type: none"><li>• Heat-tracing power distribution panel</li><li>• Dedicated power distribution, control, monitoring and alarm panel</li><li>• 30-mA GFPD per NEC</li></ul>	

# Solutions that Make a Building Winter Safe

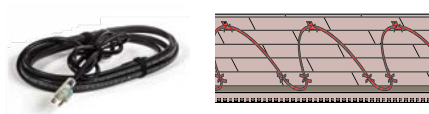
## Roof & Gutter De-icing – Residential / Light commercial



nVent RAYCHEM **roof & gutter de-icing systems** protect roofs and gutters from ice dams, heavy snow build-up and icicles. The heating cable creates a continuous path for melted ice and snow to drain.

Our basic, reliable roof & gutter de-icing solution ranges from a simple preassembled plug-in kit to cut-to-length heating cables. These systems are ideal for residential or small commercial buildings in light to moderate snow load areas.

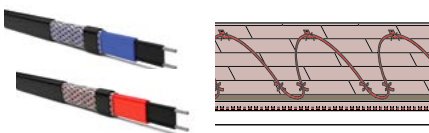
### FROSTGUARD PREASSEMBLED PLUG-IN HEATING CABLE SYSTEM



Preassembled self-regulating heating cable with 6-ft cold lead and lighted plug for short standard or standing seam roof & gutter de-icing applications on porches and overhangs.

- Voltage: 120 V in lengths of 6, 12, 18, 24, 36, 50, 75 & 100 feet
- Components: nVent RAYCHEM H913/H914 roof clips, H915 downspout hanger

### WINTERGARD WET PRE-PACKAGED IN STANDARD ROLL SIZES AND CUT-TO-LENGTH HEATING CABLE SYSTEM



Self-regulating heating cable that can be cut and spliced to fit the layout of any standard or standing seam roof line with gutters up to 6 inches wide. Choosing the H908 Plug-in cord eliminates the need to hardwire, thus reduces installation costs.

- Voltage: 120 V or 240 V
- Control and sensor options: nVent RAYCHEM PD-Pro and GF-Pro, LCD-8, Snow Owl, GIT-1
- Components: H900 hardwire or H908 plug-in power connection kit; H913/H914 roof clips; H915 downspout hanger; H910 Splice/Tee kit

### ROOF & GUTTER CONTROLLER SELECTION DETAILS

GOOD	BETTER	BEST
<b>EC-TS</b> <ul style="list-style-type: none"> <li>• Electronic thermostat</li> <li>• Ambient or line sensing</li> <li>• Adjustable set point of 30°F to 110°F</li> <li>• 25' thermistor sensor</li> <li>• 30 A at 100 - 277 V</li> </ul>	<b>LCD-8</b> <ul style="list-style-type: none"> <li>• Moisture/temperature sensing controller</li> <li>• Aerial mounted sensor</li> <li>• Up to 5-hour hold time (adjustable)</li> <li>• Compatible with external contactors</li> <li>• 16 A at 120 V</li> </ul>	<b>PD-PRO &amp; Snow Owl / GIT-1</b> <ul style="list-style-type: none"> <li>• Temperature and moisture sensing controller</li> <li>• Works w/ Snow Owl aerial and/or GIT-1 gutter snow sensors</li> <li>• Up to 8-hour hold time (adjustable)</li> <li>• LED lights to indicate power and heat cycle</li> <li>• Compatible with external contactors</li> <li>• 30 A at 100 - 277 V</li> </ul>
		<b>GF-PRO &amp; Snow Owl / GIT-1</b> <ul style="list-style-type: none"> <li>• Temperature and moisture sensing controller</li> <li>• Built-in GFEP protection</li> <li>• Works w/ Snow Owl aerial and/or GIT-1 gutter snow sensors</li> <li>• Up to 8-hour hold time (adjustable)</li> <li>• LED lights to indicate power and heat cycle</li> <li>• 30 A at 100 - 277 V</li> </ul>

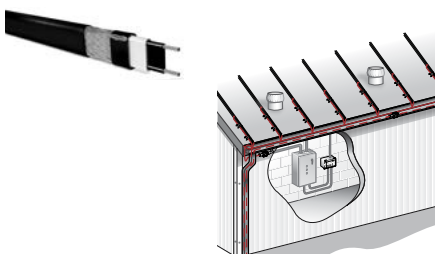
# Solutions that Make a Building Winter Safe

## Roof & gutter De-icing – Commercial / Specification



nVent RAYCHEM **roof & gutter de-icing systems** are advanced, high performing and often specified for buildings and offer reliable state-of-the-art connection kits and control systems. These systems are ideal for commercial buildings in light to heavy snow load areas.

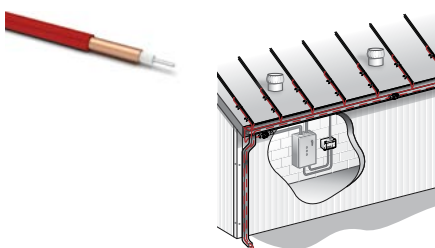
### ICESTOP CUT-TO-LENGTH HEATING CABLE SYSTEM



nVent RAYCHEM IceStop self-regulating heating cable for standard or standing seam roof and gutter de-icing applications featuring a fluoropolymer outer jacket for superior abrasion and UV resistance, or a polyolefin jacket for less demanding applications.

- Voltage: 120 V or 208-277 V; Single-phase
- Control options: Single or multi-circuit, integrated power distribution, energy monitoring, BMS communications
- Components: RayClic quick connect; FTC heat shrinkable fittings

### MI PRE-TERMINATED HEATING CABLE SYSTEM



nVent RAYCHEM Mineral Insulated (MI) copper sheathed or LSZH jacketed, mineral insulated heating cable for standing seam metal roof and gutter de-icing applications.

- Voltage: 120 V to 600 V; Single or 3-Phase design
- Control options: Single or multi-circuit, integrated power distribution, energy monitoring, BMS communications
- Components: Pre-terminated

## ROOF & GUTTER CONTROLLER SELECTION DETAILS

GOOD	BETTER	BEST
<b>EC-TS</b> <ul style="list-style-type: none"><li>• Electronic thermostat</li><li>• Ambient or line sensing</li><li>• Adjustable set point of 30°F to 110°F</li><li>• 25' thermistor sensor</li><li>• 30 A at 100 - 277 V</li></ul>	<b>PD-PRO &amp; GF PRO w/ Snow Owl / GIT-1</b> <ul style="list-style-type: none"><li>• Temperature and moisture sensing controller</li><li>• Works w/ Snow Owl aerial and/or GIT-1 gutter snow sensors</li><li>• Up to 8-hour hold time (adjustable)</li><li>• LED lights to indicate power and heat cycle</li><li>• Compatible with external contactors</li><li>• 30 A at 100 - 277 V</li><li>• GF-PRO has built-in GFEP protection</li></ul>	<b>ACS-30</b> <ul style="list-style-type: none"><li>• Multi-point electronic controller</li><li>• 30-mA GFPD</li><li>• Distributed power architecture</li><li>• Multi-application control</li><li>• Smart building control platform</li><li>• Communication to BMS</li></ul>
<b>ECW-GF</b> <ul style="list-style-type: none"><li>• Electronic thermostat</li><li>• 30-mA GFPD</li><li>• Ambient or line sensing</li><li>• Adjustable set point of 32°F to 200°F</li><li>• 25' thermistor sensor</li><li>• 30 A at 100 - 277 V</li></ul>	<b>APS &amp; SC-40</b> <ul style="list-style-type: none"><li>• Temperature and moisture sensing controller</li><li>• Multiple sensor types</li><li>• BMS interface</li><li>• Master/slave function</li><li>• APS-4C has built-in GFEP protection; and works with SC-40 contactor</li></ul>	<b>SMPG</b> <ul style="list-style-type: none"><li>• Heat-tracing power distribution panel</li><li>• Dedicated power distribution, control, monitoring and alarm panel</li><li>• 30-mA GFPD per NEC</li></ul>

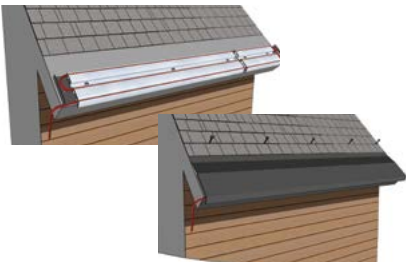
# Solutions that Make a Building Winter Safe

## Roof & Gutter De-icing – Residential / Light commercial & Commercial / Specification



nVent RAYCHEM roof & gutter de-icing systems are the premiere, highest performing, aesthetically elegant engineered systems with no visible cables. These systems are ideal for new construction or renovation of residential or commercial buildings in light to heavy snow load areas.

### ■ ■ ROOF ICE MELT (RIM) PREMIERE CUSTOM ROOF ICE MELT PANEL SYSTEM



nVent RAYCHEM Roof Ice Melt (RIM) System is our premiere offering for roof & gutter de-icing in light to heavy snow load areas. The system consists of metallic panels that embed self-regulating heat tracing cable to provide high power output and an aesthetically pleasing roof de-icing solution. The RIM system includes panels specifically designed for eaves, valleys, channels, rakes and flat roof sections.

- For this custom solution, refer to the Roof & Gutter De-Icing Systems brochure (H81855) for details and an Estimate Form that serves as a basis for the design.

### RIM CONTROLLER SELECTION DETAILS

GOOD	BETTER	BEST
<b>ASD</b> <ul style="list-style-type: none"><li>• Electronic controller</li><li>• Ambient sensing</li><li>• Adjustable set point</li><li>• 30 A at 100-277 V</li></ul>	<b>HECS</b> <ul style="list-style-type: none"><li>• Electronic controller with power distribution</li><li>• 30-mA GFPD</li><li>• High efficiency design with ambient and RIM sensing</li></ul>	<b>ACS-30</b> <ul style="list-style-type: none"><li>• Multi-point electronic controller</li><li>• 30-mA GFPD</li><li>• Distributed power architecture</li><li>• Multi-application control</li><li>• Smart building control platform</li><li>• Communication to BMS</li></ul>



# Solutions that Make a Building Winter Safe

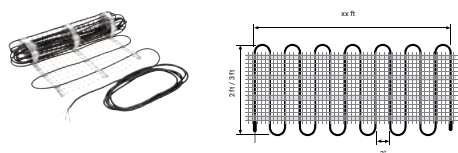
## Surface snow melting – Residential & Commercial / Specification



nVent RAYCHEM **surface snow melting systems** keep ramps, access ways and footpaths free of snow and ice.

Our product range allows you to choose the right solution for your application and budget – from a self-regulating system for concrete surfaces and pavers that reduces heat output automatically as the pavement warms and is ideal for smaller areas, to an MI pre-terminated system for concrete, pavers, and asphalt which provides constant power output and is ideal for larger jobs.

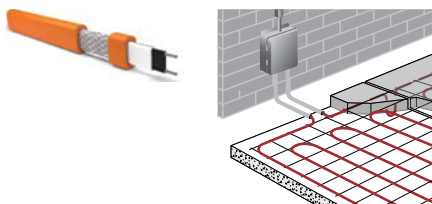
### WINTERGARD MESH SURFACE SNOW MELTING SYSTEM



nVent RAYCHEM WinterGard Mesh is a constant wattage mesh roll system for surface snow melting in concrete, asphalt, and sand/limestone screenings under pavers.

- Voltage: 120 V; 208/240 V
- Control options: Single or multi-circuit, integrated power distribution, energy monitoring, BMS communications
- Components: n/a

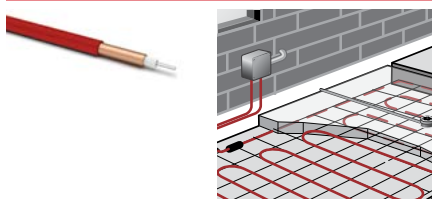
### ELECTROMELT CUT-TO-LENGTH HEATING CABLE SYSTEM



nVent RAYCHEM ElectroMelt self-regulating heating cable for surface snow melting and anti-icing in concrete pavement.

- Voltage: 208 V; 240 V; 277 V
- Control options: Single or multi-circuit, integrated power distribution, energy monitoring, BMS communications
- Components: EMK heat shrinkable fittings

### MI PRE-TERMINATED HEATING CABLE SYSTEM



LSZH jacketed copper sheathed heating cable for snow melting in concrete, mastic asphalt slab or road-grade asphalt slab.

- Voltage: 120 V to 600 V; Single or 3-Phase design
- Control options: Single or multi-circuit, integrated power distribution, energy monitoring, BMS communications
- Components: n/a

### SURFACE SNOW MELTING CONTROLLER SELECTION DETAILS

GOOD	BETTER	BEST
<b>EC-TS</b> <ul style="list-style-type: none"><li>• Mechanical thermostat</li><li>• Ambient or line sensing</li><li>• Adjustable set point of 30°F to 110°F</li><li>• 25' thermistor sensor</li><li>• 30 A at 100 - 277 V</li></ul>	<b>PD-PRO &amp; GF PRO w/ Snow Owl / GIT-1</b> <ul style="list-style-type: none"><li>• Temperature and moisture sensing controller</li><li>• Works w/ Snow Owl aerial and/or GIT-1 gutter snow sensors</li><li>• Up to 8-hour hold time (adjustable)</li><li>• LED lights to indicate power and heat cycle</li><li>• Compatible with external contactors</li><li>• 30 A at 100 - 277 V</li><li>• GF-PRO has built-in GFEP protection</li></ul>	<b>ACS-30</b> <ul style="list-style-type: none"><li>• Multi-point electronic controller</li><li>• 30-mA GFPD</li><li>• Distributed power architecture</li><li>• Multi-application control</li><li>• Smart building control platform</li><li>• Communication to BMS</li></ul>
<b>ECW-GF</b> <ul style="list-style-type: none"><li>• Electronic thermostat</li><li>• 30-mA GFPD</li><li>• Ambient or line sensing</li><li>• Adjustable set point of 32°F to 200°F</li><li>• 25' thermistor sensor</li><li>• 30 A at 100 - 277 V</li></ul>	<b>APS &amp; SC-40</b> <ul style="list-style-type: none"><li>• Temperature and moisture sensing controller</li><li>• Multiple sensor types</li><li>• BMS interface</li><li>• Master/slave function</li><li>• APS-4C has built-in GFEP protection; and works with SC-40 contactor</li></ul>	<b>SMPG</b> <ul style="list-style-type: none"><li>• Heat-tracing power distribution panel</li><li>• Dedicated power distribution, control, monitoring and alarm panel</li><li>• 30-mA GFPD per NEC</li></ul>

# Solutions that Make a Building Comfortable

## Floor heating Residential & Commercial / Specification



Comfort is everything, especially in your home. With nVent NUHEAT **Electric Floor Heating Systems**, you can offer the comfort of a warm floor that is maintenance-free for your customers. nVent NUHEAT Electric Floor Heating Systems are ideal for both new construction or renovation projects.

### **CUSTOM AND STANDARD MATS**



The thinnest custom-built and pre-built electric floor heating mat. Designed to precisely fit any room.

- Available in over 70 standard off-the-shelf square and rectangular sizes
- Custom Mats manufactured in only 3 days
- 12 W/ft<sup>2</sup>; 41 BTUs (15 W/ft<sup>2</sup>; 51 BTUs also available upon request)

### **CABLE**



The robust floor heating cable solution. Perfect where on-site adjustments are required.

- Available in 33 sizes in both 120 and 240 V
- Flexible wire spacing and heating output
- May be installed at 12 W/ft<sup>2</sup> (41 BTUs), or 15 W/ft<sup>2</sup> (51 BTUs)

### **CABLE AND MEMBRANE**



The integrated electric floor heating and uncoupling solution. Membrane can reduce risk of tile cracks due to subfloor movement.

- Accommodates nVent NUHEAT Cable's thin cold lead splice and end seal with cutting or modification
- Can replace a layer of subfloor
- Flexible heat output (10, 12, 15 W/ft<sup>2</sup>)

### **MESH**



The self-adhesive electric floor heating solution. Mesh is customizable to any room shape with its simple roll out installation method.

- 32 kit sizes; largest 120 V covers 120 ft<sup>2</sup> and largest 240 V covers 240 ft<sup>2</sup>
- Thin, cold lead and connection joint
- 12 W/ft<sup>2</sup>

## THERMOSTATS

GOOD	BETTER	BEST
<b>nVent NUHEAT Element</b> Basic electronic thermostat - simplified functionality for ease of use.	<b>nVent NUHEAT Home</b> Easy and intuitive programmable thermostat with a high resolution touchscreen interface.	<b>nVent NUHEAT Signature</b> Works with Amazon Alexa®, the Google Assistant, IFTTT®, Crestron®, Control4® and more.

For complete specifications and other design assistance, refer to the appropriate data sheets and application design guides available on our website [NUHEAT.com](http://NUHEAT.com)



## **NVENT RAYCHEM SOLUTIONS PROTECT:**

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### **Buildings**

nVent RAYCHEM cable systems are made from the highest quality materials. They are UV-resistant and have a long lifespan. Burst pipes, damage to gutters and downspouts, hazardous snow-covered and slippery parking spaces, driveways and footpaths all become things of the past. Your gain? A safe living and working environment and lower maintenance costs.

### **People**

Because our systems prevent ice from forming and keep paths free from ice and snow and make them safely accessible, the risks of material damage and physical harm are kept to an absolute minimum.

### **Budgets**

No accidents ultimately means a serious reduction in your financial risks (through claims for damages, higher insurance premiums, etc.) Thanks to the efficient operation of the cables and intelligent control, you also save a great deal of energy. Which is always very welcome during harsh winters.



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Our powerful portfolio of brands:

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**TRACER**



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