summit
ICE MELT SYSTEMS

The Patented
Radiant Edge™ Ice Melt System

Product Catalog 2.1

From This . . .

To This . . .

Thermodynamics analyzed. Applied.™

Summit Ice Melt Systems, Inc.
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www.summiticemelt.com

Notes:

Table of Contents

A Bit About Our Past. . .

Summit Ice Melt Systems was founded by Brian Casey of Tahoe City, California, after many years of hands-on experience with ice dams, roofing, roofing manufacturing, and various ice melt systems.

The harsh environment and heavy snow in the High Sierras is the ideal location to put ice melt systems to the test. Building regulations require engineering roofs to support up to 545# snow load per square foot. A local ski area logged 810" of snowfall in the winter 2010-2011. This is the snowiest county in the lower 49 states, and big ice dams form as a result.

Brian teamed up with world recognized experts in efficient heat transfer and frost and freeze protection to engineer roof ice melt systems that are distinctly different, effective, and truly energy efficient.

Summit has developed a full line of ice melt systems, and one can be tailored to your specific needs. Since Radiant Edge can handle the big ice dams, think of what an effective job it will do for you. Call today Summit for a custom designed solution to your ice dam problems.

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Why Choose Summit?

Unparalleled experience - We put the science behind our ice melt systems.

- Unique, innovative ice melt systems with patented features ONLY available from Summit
- Advanced, engineered designs do the job with much less energy required
- Summit's background includes 40 years of heavy roof snow and ice dam experience
- Proven in the harshest winter conditions to provide safety and convenience
- Precision in-house manufacturing–accurate to 0.004"–assures first quality fit and finish that provides unmatched energy efficiency
- Fast becoming the preferred choice among architects, contractors, and property owners
- Handsome, architectural roof ice solutions that look beautiful all year around
- Successful installations from Maine to Washington State and Canada, on residences, ski areas, condominiums, commercial, and public works.

Summit Ice Melt Systems PRO
Tames the Toughest Conditions

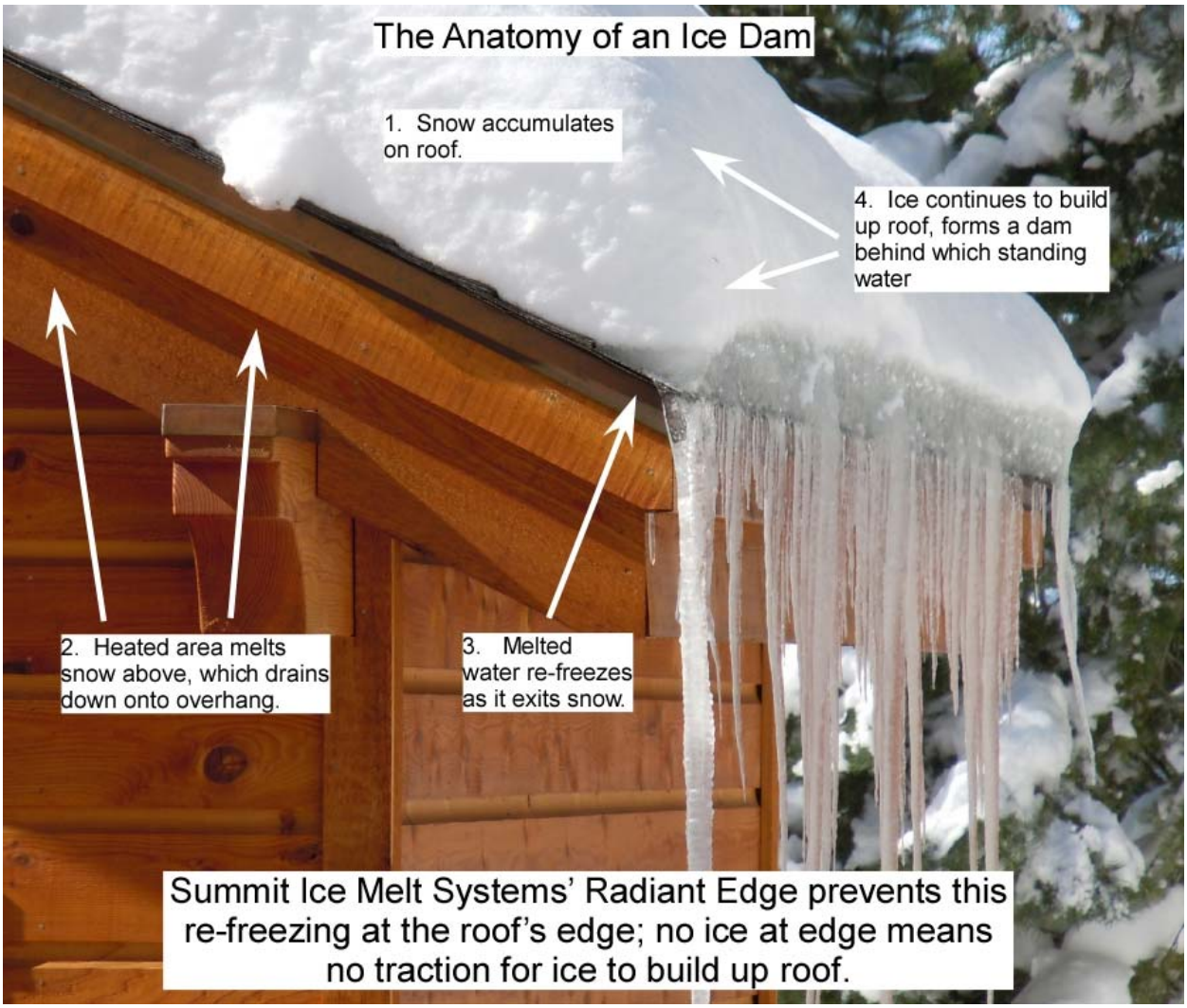
What is an ice dam?

An ice dam is a ridge of ice that forms along a roof's edge when three simple conditions coexist:

1. Snow accumulates on a roof.

2. Solar gain and interior building heat melt the snow. The melt water runs down the roof surface under the insulating blanket of snow.

3. Sub-freezing outdoor temperatures cause the melt water to re-freeze at the roof's edge, thus causing the ice dam and icicle formations. Without Summit Ice Melt Systems' Radiant Edge, the ice continues to grow and build up the roof.



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Ice Dams and Icicles Pose Significant Threats:

- When left unabated, ice dams will continue to grow up to the building's wall line. A pool of standing water develops behind the dam above the wall line. **It can then leak** into the interior and **cause water damage and dry rot**.

- Ice is very, very heavy. **Ice formations stress buildings** and overhangs, and **damage roofing** and underlying structures.

- Ice formations and icicles eventually and **unpredictably fall off** roofs and damage decks, railings, vehicles, and break windows. Worse yet, **falling ice can cause personal injuries**

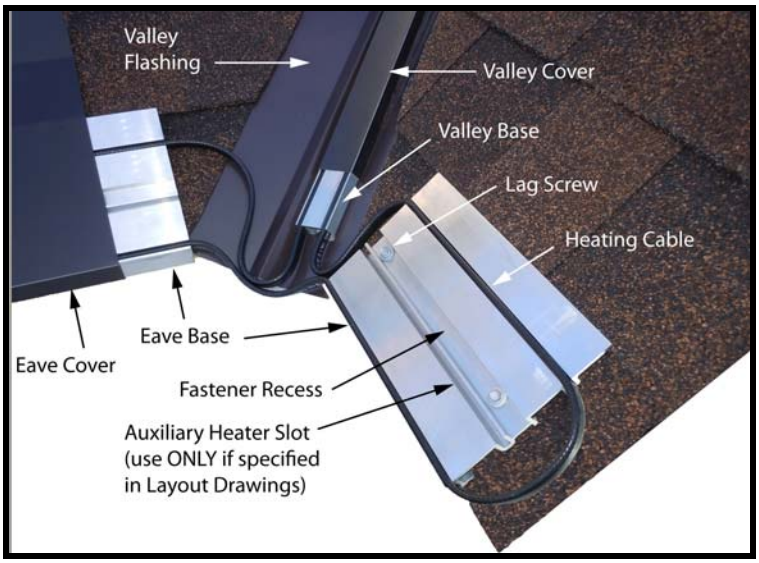
Fully developed ice dam formations:

How Does Our Ice Melt System Work?

The patented Radiant Edge ice melt system prevents ice dams and icicle formations on roofs by heating along the entire roof's edge. It does this with an advanced, engineered assembly of highly conductive aluminum cores, self-regulating heater cables, and protective covers.

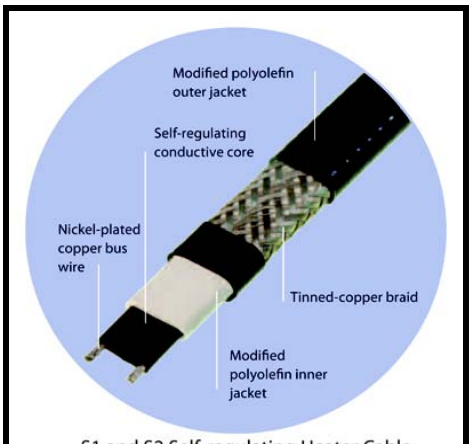
Step by step details:

What distinguishes Radiant Edge begins at the heart of the system: the Eave Base Panel. It is a heavy, precision engineered element made from a highly conductive aluminum alloy.



Every feature of the Base Panel is designed to maximize efficient heat transfer to the melt surfaces, and minimize heat loss downward through the roof deck.

The first step of the installation is to attach the Base Panel onto the roof. Summit has systems that may be used on new roofs, or installed onto many existing roofs without invasive roofing removal.

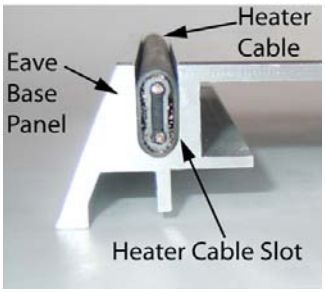


S1 and S2 Self-regulating Heater Cable

The next component of the system is our UL Listed self-regulating heater cable. These state-of-the-art cables deliver heat safely throughout the system.

The self-regulating cable's technology automatically adjusts heat output as needed. They will deliver heat only when and where it is needed, and will never over-heat.

The heater cables are inserted into thick-walled, tight slots in the Base Panel which conduct the heat to the heavy top and drip edge surfaces. Solid mass means better heat conduction.



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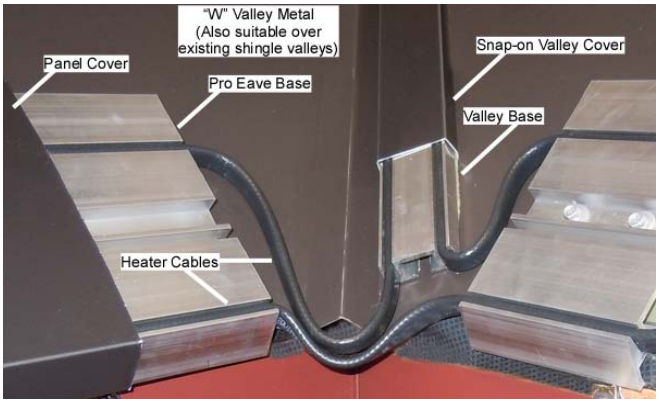
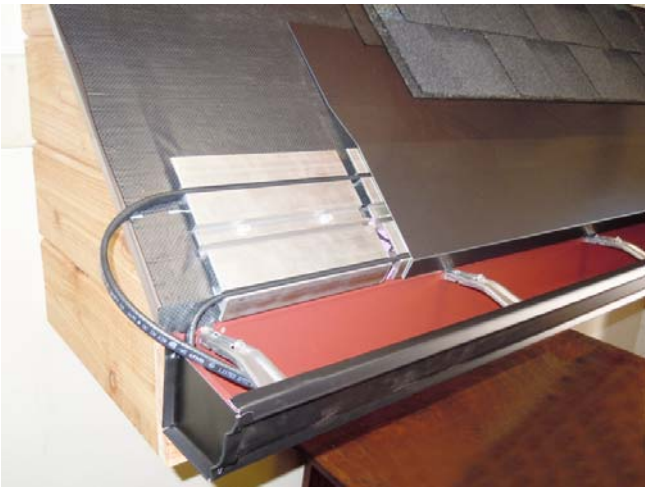


Valley areas are particularly prone to ice dams and leaks. Radiant Edge Valley is the perfect complement to all of Summit's ice melt systems. Its fastener-free attachment and matching snap-on cover provide the versatility and protection needed to safeguard against ice dam leaks and ice formations in valleys.

Gutters and downspouts are also protected by the Radiant Edge Ice Melt System. The heater cables continue from the eave and valley areas, and allow gutters and downspouts to safely and reliably transport meltwater to the intended location.



Summit Ice Melt Systems' 4CDC - 4 Zone Controllers are often the preferred method of controlling the system.

They have a user-friendly digital readout controller to control and monitor the complete system. Manual, Automatic, and System Off modes may be selected.

The 4CDC makes easy work out of pre-season testing and can also be programmed with a low-temperature cutoff.

The Summit Advantage

Why choose Summit? We make a patented product engineered by analyzing the thermodynamics and applying it to our roof ice melt systems.

What is Thermodynamics? It is the science of energy conversion, in this case heat conversion and heat transfer.

Optimizing heat transfer is key to an energy-efficient ice melt system. It's actually much simpler than it sounds.

Here are the FOUR RULES of Thermodynamics as applied to roof ice melt systems:

1. **Minimize heat lost downward** to the roof deck due to surface contact.

2. **Maximize heat transfer** from the heater cables **to the top** melting surface.

3. **Maximize heat transfer** from the heater cables **to the drip edge**.

4. **Eliminate air gaps** in the heat transfer paths. Air is an insulator and the enemy of efficient heat transfer.

Avoid dangerous ice formations with Summit's Radiant Edge

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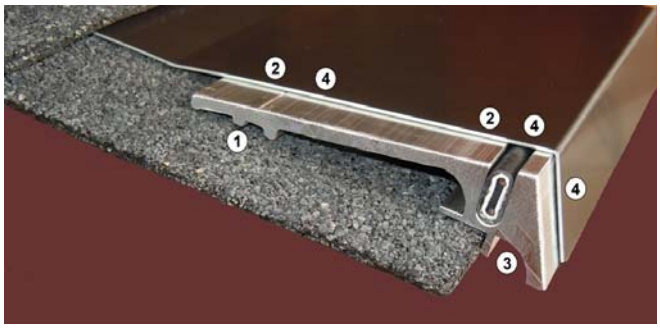
See How Summit's Ice Melt Systems Strictly Follows the 4 RULES:

The **PATENTED Radiant Edge PRO** has twelve unique features patent pending.

All of these features add up to better energy efficiency. The end result: PRO's circuit lengths extend 50% further than the competition.

No product delivers the high performance of the PRO with its low energy consumption.

Radiant Edge PRO



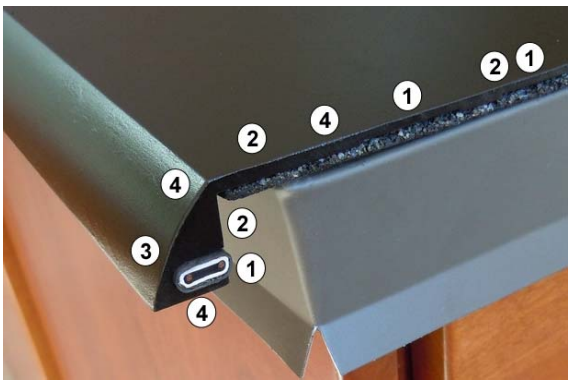
Radiant Edge LT

The **Radiant Edge LT** is a powerhouse for moderate snow zones. Its unmatched melt surface ratios and minimized roof deck surface contact deliver heat where you need it.

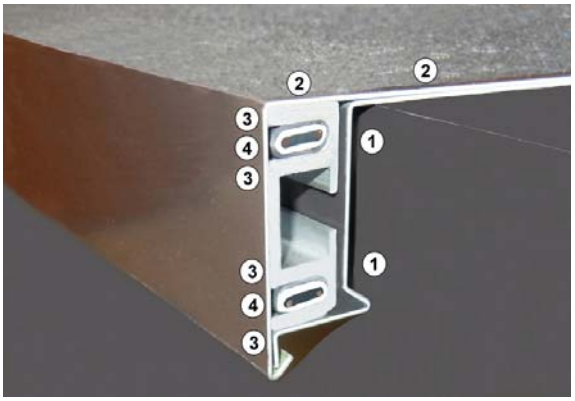
All these features enable LT's electrical circuits extend 60% further than the competition.

HotSlot's heavy one-piece extrusion draws heat directly from the heater cable and efficiently delivers it to the drip edge and top melt surface.

The cable is inserted after the Base Panel is installed, allowing easy installation and cable inspection.



Radiant Edge HotSlot

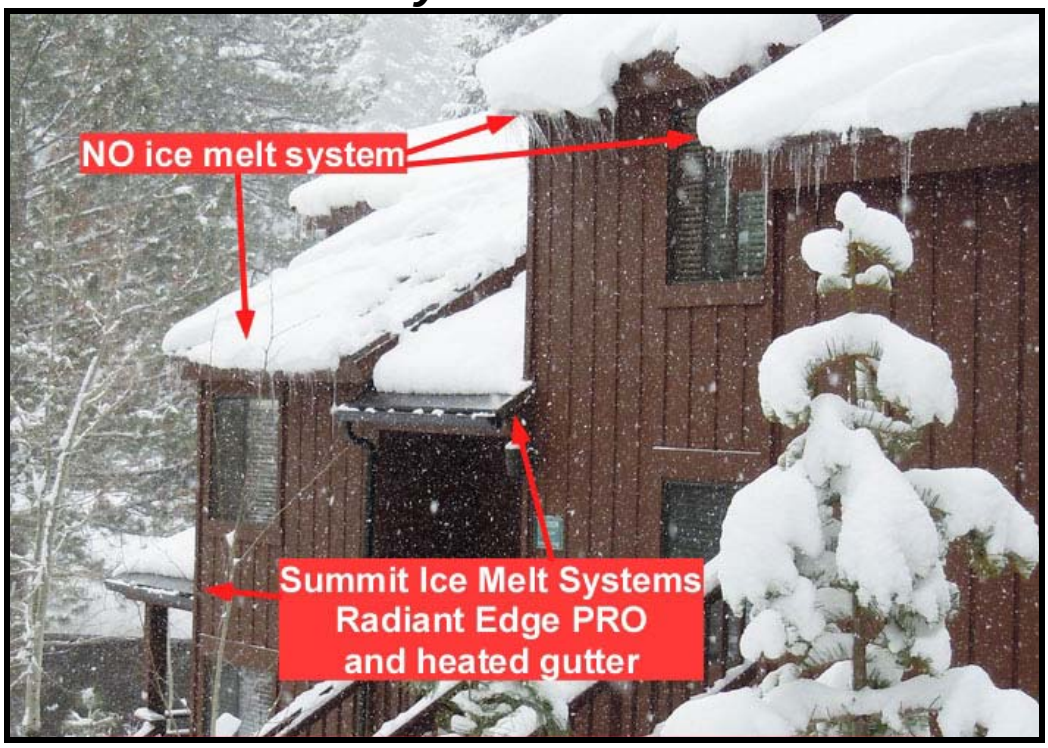


Radiant Edge LowSlope

The Radiant Edge **LowSlope** focuses heat on the drip and top surfaces.

The stand-off at the bottom of the Base Panel eliminates heat-losing contact with the fascia, and drives all the heat up from the drip edge to the top melt surface.

See Summit Ice Melt Systems in Action



Ski Resort during blizzard: heated and unheated areas

Before Radiant Edge

With Radiant Edge

Radiant Valley at Work

Heated Standing Seam:
New York Thruway Rest Areas

LowSlope Under Metal Roofing

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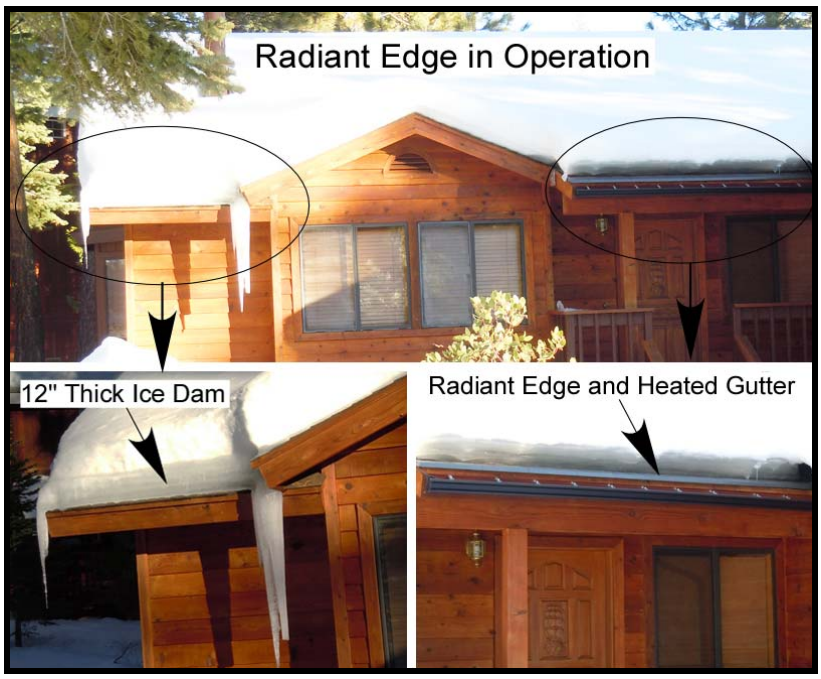


Radiant Edge in Operation (in the Shade!)

Before Radiant Edge

After PRO and Heated Gutter

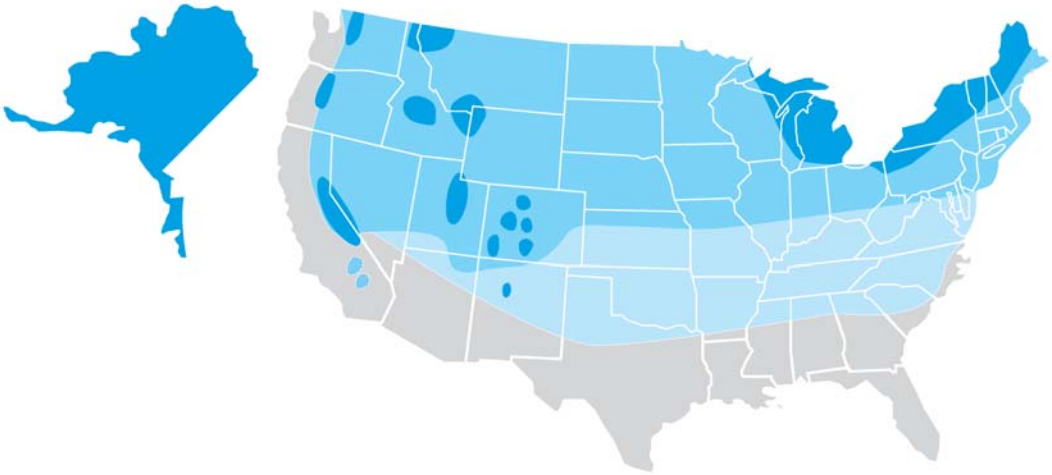
Radiant Edge to Right. Inset Shows Adjacent Unheated Roof Up Close

HotSlot Installed Along Eave

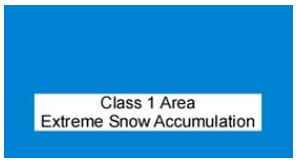
PRO on 19,000 SF home

HotSlot on Right Eave, Upstate NY

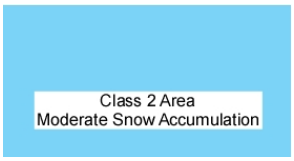
Snow Area Classifications & Roof Ice Dam Potential



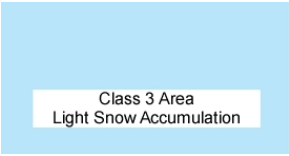
Each area of the U. S. has assigned a general Snow Area Class. We use this as the starting point to design your ice melt system. Our full spectrum of offerings will protect your property in extreme, moderate, and mild snowfall areas. See what snow class-ification your project is, and we'll determine which Radiant Edge solution is best for you.



- Annual snowfall greater than 100"
- Greater than 15" snow on roof most of the winter
- New England Resort Areas
- Mountain areas, El. 6,000'+: High Sierras, Cascades, Colorado Rockies, Utah, Sun Valley, Big Sky, Jackson Hole Ski Areas
- Mountain areas: B.C., Northern Idaho, Northern Montana Ski Areas,
- Canadian Rockies
- Lake Effect Snow Areas: Northern Michigan, Northern Ohio,
- Upstate New York



- Annual snowfall less than 100"
- Typical snow accumulations of 6" to 15" on roof for most of the winter
- Typical areas: Upper Midwest to East Coast, Western U.S. high plains and high deserts, Eastern Wyoming and Eastern Colorado to Wisconsin, Illinois to Massachusetts



- Annual snowfall less than 30"
- Typical snow accumulations of up to 6" on roof for most of the winter
- Typical areas: New Mexico to Middle East Coast

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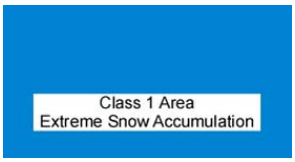
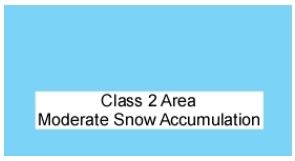
Site Analysis and Recommendations

We start with your snow fall classification, then do an analysis of the design and orientation of your roof. We evaluate other environmental factors (exposure, winds, known history, etc.) Lastly, we input the existing or proposed roofing materials factor to determine what the ideal Summit Ice Melt System is right for you.



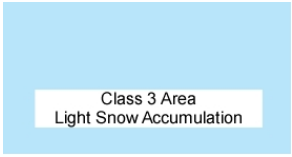
Class 1 Area Product Recommendations

- Radiant Edge PRO System with 24 watts/foot high-efficiency output
- Radiant Valley Panels with 24 watts/foot high-efficiency output
- S1 and S2 High-efficiency self-regulating 12 watt/foot heater cables for gutters and downspouts
- Radiant Edge LowSlope Panel System with 24 watts/foot high-efficiency output for roof slopes below 3/12



Class 2 Area Product Recommendations

- Radiant Edge LT System with 12 watts/foot high-efficiency output
- Radiant Edge HotSlot System with 12 watts/foot high-efficiency output
- Radiant Valley Panels with 12 or 24 watts/foot high-efficiency output
- S1 and S2 High-efficiency self-regulating 12 watt/foot heater cables for gutters and downspouts
- Radiant Edge LowSlope Panel System with 24 watts/foot high-efficiency output for roof slopes below 3/12



Class 3 Area Product Recommendations

- Radiant Edge HotSlot System with 12 watts/foot high-efficiency output
- S1 and S2 12 watt/foot Zig Zag self-regulating heater cables
- For roof eave, gutter, and downspout applications

Product Line Summary

At Summit, we know one size does not fit all. That's why we have the most complete line of roof ice melt systems available. We take into consideration many factors to design the right system for you, including the roof's design and orientation, roofing materials, and environmental influences specific to your area.

Radiant Edge PRO

The **PATENTED Radiant Edge PRO** for Class 1 areas: the most demanding environments. Perfect for new and existing roofing, use the PRO when you want the very best protection. Easier installation and significant operational savings over the competitors.

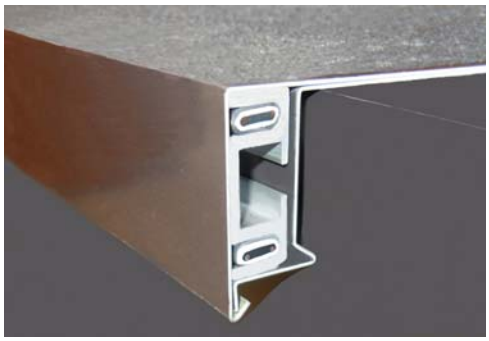
The **patent-pending LT** is a high performance system for Class 2 areas with moderate ice and snow. Its innovative profile maximizes efficient heat transfer using much less energy than ever before.

Radiant Edge LT

HotSlot

When materials and installation costs are closely considered, the **patent-pending HotSlot** is indisputably the least expensive way to protect your property with an energy-efficient, highly conductive aluminum extrusion ice melt system. It is suited for Class 2 and Class 3 snow areas, and is a handsome and more effective method to prevent ice dams and eliminate those unsightly exposed heater cables on roofs.

The **LowSlope** ice melt system is extremely versatile. It may be used in Class 1 and 2 snow areas. It is perfect for many flat roof and metal roofing applications. The heating system runs along the fascia–below the roof plane–so as not to impede water drainage on lower slope roofs.



LowSlope

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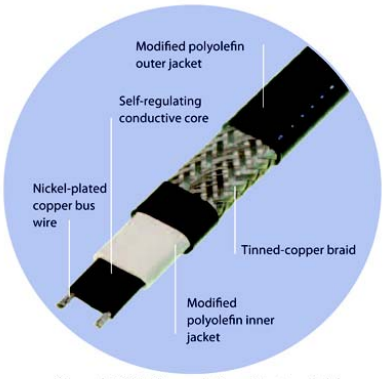
The **Radiant Edge Valley** is the perfect match for all Summit's ice melt systems, and performs well in all Class 1, 2 and 3 snow areas. Its heavy Base Panel and color-matched snap-on cover provide high performance protection and an attractive solution for preventing ice dams in valley areas.

Heated Standing Seam Metal Roofing

Summit's **patent-pending Heated Standing Seam** is a smart upgrade for anyone considering using metal roofing. Now commonplace along the eaves of composition and synthetic roofing materials, the HSS system eliminates the dangers of ice dams and leaks. The batten seam smartly houses the heating element, and interlocks with the adjacent panel.

Select Summit Ice Melt Systems' ambient temperature sensing **digital controllers** for set-and-forget operation. When temps drop below freezing the controller automatically triggers the ice melt system operation. When outdoor temperatures raise above freezing and ice dams stop forming, the controller automatically shuts down the entire system.

4CDC Digital Ambient Temp Controller



S1 and S2 Self-regulating Heater Cable

At the heart of our ice melt system are UL approved, industrial grade, self-regulating heater cables. Extend the eave ice melt system's heater cable to provide save, convenient melt water disposal along gutters and downspouts. They may also be used in Class 3 snow zones in an exposed, zig-zag fashion.

The PATENTED Radiant Edge PRO[tm]

Radiant Edge PRO

Select the Radiant Edge PRO when you want the greatest protection for your most demanding projects. It is our top-of-the-line ice melt system that's been proven in the toughest, snowiest and coldest environments in America.

Like all members of the Radiant Edge family, every feature of the PRO has been engineered to maximize energy-efficient heat transfer to the melting surfaces, while minimizing heat loss via contact with the roof deck surface.

The UL rated self-regulating heating system includes a massive, highly conductive aluminum core and distribute heat only where and when it is needed. The attractive, metallic cover completes the low-profile, high-performance system. **PRO's patented features are available only from Summit.**

Specifications:

Performance

- Our commercial quality ice melt system that minimizes ice dam and icicle formations in moderate and heavy snow zones for roofs expecting more than 15" snow accumulations and annual snowfalls of greater than 100" (mountain resort areas, lake effect snow areas, etc.)
- Suitable for roof slopes 3/12 and greater

Warranty

- Fifty (50) year warranty on the Base Panel
- Fifty (50) year warranty on the Cover
- Forty (40) year warranty on the Cover paint finish
- Ten (10) year warranty on the heater cable
- See warranty for complete details

Power Output

- 24 watts/foot

Self-Regulating Heat Cable Provided:

- UL Listed, CSA Certified, and FM Approved
- 2 runs per panel
- Model S1 for 110 Volt system
- Model S2 for 208, 240, and 277 Volt systems

Cover Materials

- Real copper
- Aluminum (High grade Kynar-500 finish)

Aluminum Cover Color Selection

- 20 standard colors
- 10 custom colors and metallics

Panel Lengths

- Standard is 5', available up to 10'

Supplied Components

- Base Panels
- Base Panel Lag Screws
- Industrial Quality Self-regulating Heater Cables (2 LF of 12 watt/foot cable per foot of panel)
- Panel Covers
- Panel Splice Covers
- 5' Power Lead
- Power Connection Kit
- Expert Layout and Design Assistance

Accessories

- S1 or S2 Self-regulating heater cable for gutters, and downspouts

- 4CDC 4- 30A circuit digital ambient temperature controller

- Custom, High-Efficiency UL distribution panels for up to 18 circuits

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The Radiant Edge LT[tm]

We are proud to have our Patent-Pending Radiant Edge LT in our family of energy-efficient ice melt systems for roofs. The LT is designed to minimize ice dams and icicles across roof eaves where ice formations begin.

Radiant Edge LT

It is well suited for ice dam and icicle prevention in areas with accumulations up to 15" on the roof and up to 100" of annual snowfall in light and moderate snow zones.

The LT has superior top and drip surface to roof contact area ratios, making it a true stand-out in the industry. It is so efficient, its circuits extend 60% further than the competition.

Specifications:

Performance

- For prevention of ice dam and icicle formations in moderate snow zones and roofs with up to 15" snow accumulations and annual snowfalls of less than 100" 50% of the heater output of the Radiant Edge
- Suitable for roof slopes 2/12 and greater

Warranty

- Fifty (50) year warranty on the Base Panel
- Fifty (50) year warranty on the Cover
- Forty (40) year warranty on the Cover paint finish
- Ten (10) year warranty on the heater cable
- See warranty for complete details

Power Output

- 12 watts/foot

Self-Regulating Heat Cable Provided

- UL Listed, CSA Certified, and FM Approved
- 1 run per panel
- S1 for 110 Volt system
- Model S2 for 208, 240, and 277 Volt systems

Cover Materials

- Real copper
- Aluminum (High grade Kynar-500 finish)

Aluminum Cover Color Selection

- 20 standard colors
- 10 custom colors and metallics

Panel Lengths

- Standard is 5', available up to 10'

Supplied Components

- Base Panel
- Industrial Quality Self-regulating Heater Cables (1 LF 12 watt/foot cable per foot of panel)
- Panel Covers
- Panel Splice Covers
- 5' Power Lead
- Power Connection Kit
- Expert Layout and Design Assistance

Accessories

- S1 or S2 Self-regulating heater cable for gutters, and downspouts
- 4CDC 4- 30A circuit digital ambient temperature controller
- Custom, High-Efficiency UL distribution panels for up to 18 circuits

The HotSlot™ Ice Melt System

HotSlot

The Patent-Pending HotSlot is at the top of its class for energy efficiency and lowest in-place cost. It provides affordable protection for projects on a limited budget. Its one-piece, one-size-fits-all profile is ideal for virtually all existing composition shingle and most metal roofs in Class 2 and 3 areas. Its commercial quality, factory baked-on finish provides years of excellent weather and UV resistance.

Regardless of roof slope or fascia angles, HotSlot's smart design simplifies everything.

It fits around most existing gutters and the heating system can be extended to gutters and downspouts. The heavy, highly conductive aluminum alloy eliminates the waviness ("oil-canning") common with competing lightweight sheet metal systems. There are no unsightly fascia fasteners and the heater cable and slot are completely hidden from view. All these features ensure a rich, elegant, architectural finish.

The UL-rated heating system uses self-regulating heater cable technology that distributes heat only where and when it is needed. The hidden slot in the massive drip edge adheres to the NEC's Section 426 allowing cable insertion, inspection, and replacement in the unlikely event of damage or failure. HotSlot's engineered profile strictly follows the 4 Rules of Thermodynamics, ensuring the most energy-efficient design and bang for the buck possible.

HotSlot: the workhorse that provides the economy and performance you need. Protecting your property with an advanced roof ice melt system has never been easier or more affordable.

Specifications:

Performance

- For prevention of eave ice formations in Class 2 and 3 areas
- 50% of the heater output of the Radiant Edge PRO
- Suitable for composition shingle and metal roofs
- Slopes 2/12 and greater

Warranty

- Ten (10) year warranty on the HotSlot Panel
- Ten (10) year warranty on the heater cable
- See warranty for complete details

Power Output

- 12 watts/foot

Self-Regulating Heat Cable Provided:

- UL Listed, CSA Certified, and FM Approved
1 run per panel
- Model S1 for 110 Volt system
- Model S2 for 208, 240, and 277 Volt systems

Panel Finish

- High-grade factory baked-on paint finish
- Dark Bronze finish
Medium Bronze finish

Panel Lengths

- Standard is 8'
- System is available in 4' increments

Supplied Components

- HotSlot Panel pre-bored with 0.22" holes at 22.5" O.C., 5 holes per 8' length
- 5' Power Lead
- Industrial quality self-regulating heater cable (1 LF of 12 watt/foot cable per foot of Panel)

Accessories

- S1 or S2 Self-regulating heater cable for gutters, and downspouts
- Matching pre-painted ultra low-profile waterproof screws with T-25 Torx drive
- Power connection and splice kits
- 4CDC 4- 30A circuit digital ambient temperature controller

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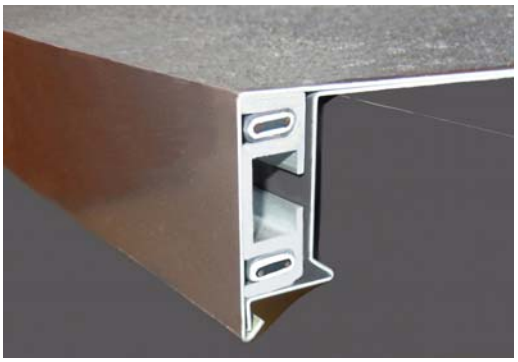
Radiant Edge LowSlope[tm]



LowSlope

Our unique Radiant Edge LowSlope ice melt system is very versatile profile designed for ice dam and icicle prevention on roof applications down to 1/4" per foot slopes. It is ideal for stopping icicles and ice dam formations on all flat roofs, including built-up roofs, EPDM, PVC, APP and SBS roofing, and flat and sloped metal roofing. It may also be customized to fit any plumb or square fascia with different roof slopes to accommodate special needs. An extended drip edge for may be custom integrated into the cover panel to further push water away from the fascia, and may also be used as the cleat for standing seam metal roofing.

Our exclusive design isolates the roof ice melt heating system from the fascia. This maximizes heat to the drip edge and top melting surface, minimizes heat loss, and provides a very effective, energy-efficient roof edge ice melt solution. The positive drip keeps runoff away from the fascia, and finally makes it possible to integrate a heated gutter system to safely carry the melt water through the downspouts.

Installation is easy. The integrated base panel and heavy extrusion are first attached to the roof. Heater cables are then installed in the base. The Panel Cover interlocks with the base panel and has a finished painted surface or is pure copper. The system is then counterflashed by the roofing materials.

Specifications:

Performance

- To minimize ice dams and icicle formations on flat roofs of metal, APP, SBS, EPDM, PVC, tar and gravel, etc., even low pitched composition shingle roofing.
- May be used on any slope where the heating element is desired on the fascia, not on the roof plane.
- The LowSlope enables gutter and downspout systems to safely carry away melt water.

Warranty

- Fifty (50) year warranty on the Base Panel
- Fifty (50) year warranty on the Cover
- Forty (40) year warranty on the Cover paint finish
- Ten (10) year warranty on the heater cable
- See warranty for complete details

Power Output

- 24 watts/foot

Self-Regulating Heat Cable Provided:

- UL Listed, CSA Certified, and FM Approved
2 runs per panel
- Model S1 for 110 Volt system
- Model S2 for 208, 240, and 277 Volt systems

Cover Materials

- Real copper
- Aluminum (High grade Kynar-500 finish)

Aluminum Cover Color Selection

- 20 standard colors
- 10 custom colors and metallics

Panel Lengths

- Standard is 5', available up to 10'

Supplied Components

- Base Panel
- Industrial Quality
Self-regulating Heater Cables (2 LF 12 watt/foot cable per foot of panel)
- Panel Covers
- Power Connection Kit
- Expert Layout and Design Assistance

Accessories

- S1 or S2 Self-regulating heater cable for gutters, and downspouts
- 4CDC 4- 30A circuit digital ambient temperature controller
- Custom, High-Efficiency UL distribution panels for up to 18 circuits

Radiant Edge Valley[tm]

Valley areas are particularly prone to ice dam build ups and subsequent leaking. The Radiant Edge Valley efficiently conducts heat from the heater cables to the ice and snow and provide a reliable drainage path for meltwater.

Radiant Edge Valley has a heavy aluminum Base Panel with two tight-clearance slots into which the self-regulating heater cables are inserted.

The Base Panel is installed onto metal or shingled valleys, and is embedded in a special adhesive so no roof penetrations are required. Heater cable is traced along eave ice melt system and up and down the valleys. The matching snap-on Valley Cover provides an attractive, protective finish.

Radiant Edge Valley is the perfect complement to the Radiant Edge and LT ice melt systems and provides the protection needed to safeguard against ice dam leaks and ice formations in valleys.

Specifications:

Performance

- Radiant Edge Valley performs in Class 1, 2, and 3 areas
- Matches perfectly with all of Summit's Systems eave ice melt systems
- When inverted into a vertical orientation, the Valley becomes our Radiant Edge Channel to provide a continuous heated meltway between upper and lower roofs, along dormer walls, etc.

Warranty

- Fifty (50) year warranty on the Base Panel
- Fifty (50) year warranty on the Cover
- Forty (40) year warranty on the Cover paint finish
- Ten (10) year warranty on the heater cable
- See warranty for complete details

Power Output

- 24 watts/foot

Self-Regulating Heat Cable Provided:

- UL Listed, CSA Certified, and FM Approved
2 runs per panel
- Model S1 for 110 Volt system
- Model S2 for 208, 240, and 277 Volt systems

Cover Materials

- Real copper
- Aluminum (High grade Kynar-500 finish)

Aluminum Cover Color Selection

- 20 standard colors
- 10 custom colors and metallics

Panel Lengths

- Standard is 5', available up to 10'

Supplied Components

- Base Panel
- Industrial Quality
Self-regulating Heater Cables (1 LF 12 watt/foot cable per foot of panel)
- Snap-on Panel Covers
- Panel Adhesive
- Expert Layout and Design Assistance

Accessories

- S1 or S2 Self-regulating heater cable for gutters, and downspouts
- 4CDC 4- 30A circuit digital ambient temperature controller

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Heated Standing Seam

Summit Ice Melt Systems' patent-pending Heated Standing Seam is the first and only bona fide metal roofing system designed to minimize ice dams and icicles across roof eaves where ice formations begin.

Metal roofing along roof eave edges has become very fashionable, especially among upper-end residential and commercial projects. The intended purpose of using metal edging is to help prevent roof damage and ice formations, and as an architectural statement for contemporary design.

Typical unheated metal edging creates an entirely new set of problems. Shingle roofing still gets torn off often above the wall line where it causes leaks. Ice dams form and dangerous masses of ice fall off the roof unpredictably. And worse, ice dam leaks occur at the busy transition between the metal edging and the primary roofing materials.

Radiant Edge Heated Standing Seam is unique. Its sleek batten profile cleverly houses the heating system. No longer does one have to use exposed heat tape cable to mitigate ice issues along metal roofing.

Specifications

Performance

- For prevention of ice damage, ice dams and icicle formations along roof edges
- America's only true heated standing seam metal roofing with a waterproof seam interlock
- A complete metal roofing system, including Drip Eave, "Z" closure, Gable, and transition flashings
- Suitable for roof slopes 3/12 and greater

Power Output

- Varies on profile and panel length desired.

Cover Materials

- Real copper
- Aluminum (High grade Kynar-500 finish)

Warranty

- Fifty (50) year warranty on the Base Panel
- Forty (40) year warranty on the Kynar-500 paint finish
- Ten (10) year warranty on the heater cable
- See warranty for complete details

Self-Regulating Heat Cable Provided:

- UL Listed, CSA Certified, and FM Approved
2 runs per batten
- Model S1 for 110 Volt system
- Model S2 for 208, 240, and 277 Volt systems

Aluminum Cover Color Selection

- 20 standard colors
- 10 custom colors and metallics

Panel Lengths

- Available up to 10' lengths

Supplied Components

- Extended Drip Eave Trim, Gable Trim, "Z" Closure flashing, Vertical and Horizontal Base Panels
- Industrial Quality Self-regulating Heater Cables (2 LF 12 watt/foot cables per lineal foot of panel)
- Batten-style standing seam roofing panels with integrated fastener strip along male rib
- Expert Layout and Design Assistance

Accessories

- S1 or S2 Self-regulating heater cable for gutters, and downspouts
- 4CDC 4- 30A circuit digital ambient temperature controller
- Custom, High-Efficiency UL distribution panels for up to 18 circuits

Controllers

Summit Ice Melt Systems carries a selection of manual and automated mechanisms to efficiently operate the Radiant Edge ice melt system. Our in-house panel shop ensures quality and safety at every step of production.

A popular favorite is our 4CDC Digital Controller. It is an advanced digital controller that uses a thermistor that senses ambient temperatures. When the outdoor temperatures drop below a set temperature, the system is automatically energized. When the outdoor temperature warms again, the system shuts off.

Summit's Panel Shop

Summit's HECS-1 18 Circuit Controller

Large commercial and industrial concerns will utilize our High Efficiency Control Systems. Our **HECS-1 UL approved distribution panel** handles 1 or 3 phase input (single phase output), 600V 250A systems with up to 18 circuits.

Medium-sized systems may require the 10CDC controller. It handles up to 10-30A 240Vac circuits: almost 3,000 lineal feet of our S2 heater cable.

The 4CDC Features

- Summit Ice Melt Systems' 4CDC controller is the perfect match to any residential or small commercial Radiant Edge ice melt system installation. It provides ambient temperature sensing digitally controlled operation for up to 4 separate heating zones with 30A circuits each.
- The digital readout provides a very user-friendly interface, and allows variations in programming to meet local conditions.
- Set the 4CDC to "Auto" mode and the system triggers when the temperature drops below a pre-set, field-adjustable temperature setting.

4CDC Ambient Temp Sensing Digital Controller

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- Set the 4CDC to “Manual” mode for testing and manual operation.
- The controller can be programmed for low-temperature cutoff.
- The indicator light lets you know when the system is energized.
- The ambient temperature sensor is mounted outdoors in an area typical of the coldest conditions, usually on the north exposure of the building. A built-in alarm notifies the operator if there is an error with the probe or short or open sensor leads.
- The 4CDC controller has been engineered and perfected by our Certified UL 508 panel building shop to ensure top performance and safety.
- The 4CDC provides On/Off/Manual operation of its S1 and S2 (120Vac to 277Vac) self-regulating heater cables for Radiant Edge by energizing up to four individual branch circuits. Each branch circuit must be protected by a ground fault protection device per the NEC. A 120Vac protected circuit is required to energize the controller. NEMA 4/12 (exterior installation) enclosures are standard.

The 10CDC Features

Summit’s 10CDC - 10 Circuit Controller

- Summit Ice Melt System’s 10CDC controller is perfect for commercial and large residential Radiant Edge heating systems. It provides ambient temperature sensing digitally controlled operation for up to 10 zones with 30A circuits each. Adjustable time delays stagger the startup of each circuit to help prevent excessive inrush currents.
- The digital readout provides a very user-friendly interface, and allows variations in programming to meet local conditions.
- The 10CDC is enclosed in a NEMA4 UL approved enclosure. The 3-way Auto-Off-Manual mode switching and power-on indicator light are conveniently located on the face of the enclosure.
- Set the 10CDC to “Auto” mode and the system triggers when the temperature drops below a pre-set, field-adjustable temperature setting.
- Set the 10CDC to “Manual” mode for testing and manual operation.
- The controller can be programmed for low-temperature cutoff.
- The ambient temperature sensor is mounted outdoors in an area typical of the coldest conditions, usually on the north exposure of the building. A built-in alarm notifies the operator if there is an error with the probe or short or open sensor leads.
- Summit’s UL Approved 10CDC controller is designed and built by our Certified UL 508 panel building shop to ensure top performance and safety.
- The 10CDC provides On/Off/Manual operation of its S1 and S2 (120Vac to 277Vac) self-regulating heater cables for Radiant Edge by energizing up to ten individual branch circuits. Each branch circuit must be protected by a ground fault protection device per the NEC. A 120Vac protected circuit is required to energize the controller.

Self-regulating Heater Cable Specifications, Testing, And Circuit Lengths

Summit's self-regulating heating cables are at the heart of the Radiant Edge Ice Melt System. They are comprised of two parallel nickel-coated bus wires in a cross-linked polymer core, a tinned copper braid and a polyolefin outer jacket.

The remarkable technology of S1 and S2 heating cables enable them to automatically adjust their power output to compensate for temperature variations and eliminate any worry about overheating and can be overlapped.

The Summit S1 and S2 heating cables are a safe and efficient means to deliver heat to the Radiant Edge and effectively eliminate ice dams and icicle formations.

Since the cables automatically adjust their power output to compensate for temperature variations, they can also be safely installed in gutters and downspouts made from standard materials.

The S1 and S2 heating cables can also be cut-to-length during installation which offers added flexibility to handle any unexpected changes at the jobsite.

Heating Cable Specifications

Bus Wires . . . . . .16 AWG , Nickel Plated
Heating Core . . . . . .Radiation Cross-linked Polyolefin
Primary Dielectric Insulation . . . . . .Radiation Cross-linked Polyolefin
Metallic Braid. . . . . 16 AWG (equivalent size) tinned copper
Outer Jacket. . . . . .Polyolefin
Minimum Bend Radius. . . . . 5/8"
Supply Voltage. . . . . 120 or 208-277 Vac

Heating Cables Meet or Exceed the Following Tests

Abrasion Resistance . . . . . .UL 1588 (8.3); IEEE 515.1 (4.3.4)
Cold Bend . . . . . .IEEE 515.1 (4.2.10)
Deformation . . . . . .IEEE 515.1 (4.2.8)
Dielectric Withstand . . . . . .IEEE 515.1 (4.2.1)
Resistance to Impact . . . . . .UL 1588 (8.2)
Resistance to Cutting . . . . . IEEE 515.1 (4.3.3)
Resistance to Crushing. . . . . UL 1588 (8.1)
Temperature . . . . . .UL 1588 (9.1-9.3)
UV and Condensation . . . . . .IEEE 515.1 (4.3.2)
Vertical Flame . . . . . .UL 1588 (8.5)

Model Number	Operating Voltage	Start-up Temp	Lineal Feet Cable per Circuit Breaker Size			
			15A	20A	30A	40A*
S1	120 Vac	32° F. 20° F. 0° F.	100 95 80	135 125 100	200 185 155	--- 200 200
S2	208 Vac	32° F. 20° F. 0° F.	190 180 145	250 235 195	380 355 290	--- 380 380
S2	240 Vac	32° F. 20° F. 0° F.	200 190 155	265 250 205	400 370 305	--- 400 400
S2	277 Vac	32° F. 20° F. 0° F.	215 200 165	290 265 225	415 400 330	--- 415 415

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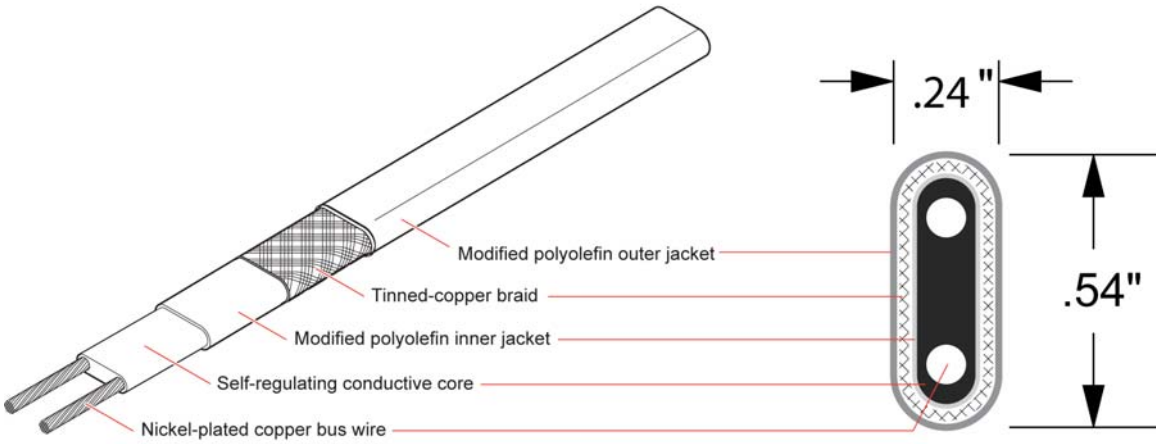
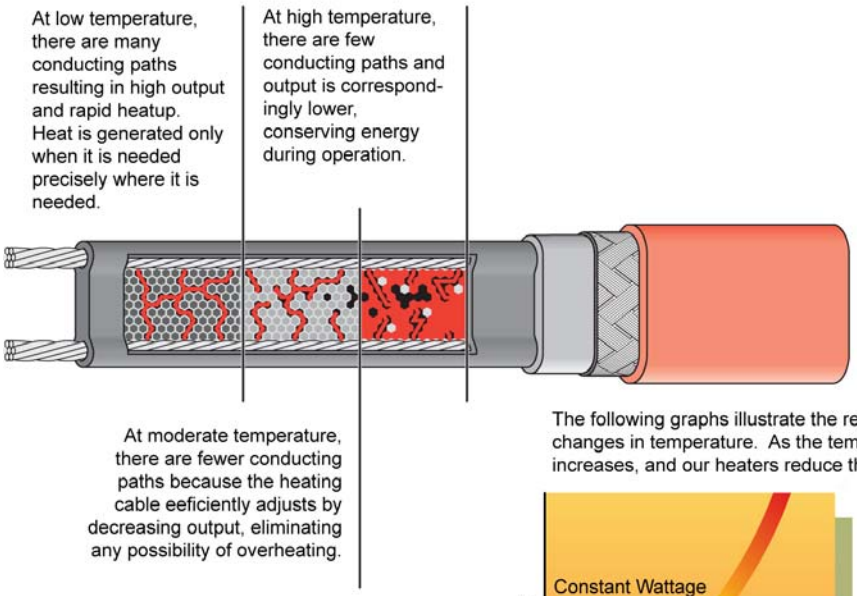
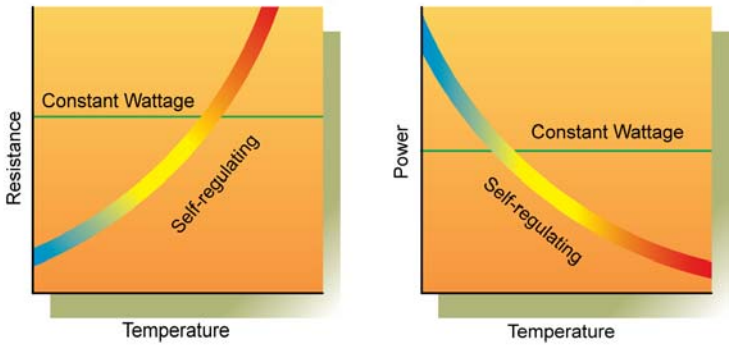
Self-regulating Heater Cable Construction, Technology, and Approvals





The following graphs illustrate the response of self-regulating heating cables to changes in temperature. As the temperature rises, electrical resistance increases, and our heaters reduce their output.



Self-regulating heating cable technology

877Z De-icing and Snow-Melting Equipment

-WS

Nonhazardous and Hazardous Locations
Class 1, Div. 2, Groups A, B, C, D*
* For GM-1XT and GM-2XT

The S1 and S2 heating cables are UL Listed, CSA Certified, and FM Approved only when used with the appropriate agency-approved Summit Ice Melt Systems' connection kits and accessories.

How to Get Your Roof Ice Melt System

Getting your ice melt system from concept to complete ice protection is easy. Simply call or email Summit Ice Melt Systems to review what ice melt needs are specific to your job.

Radiant Edge can be easily installed on new and existing roofs without the significant expense of removing and installing new roofing. It prevents ice dam formations and eliminates the roof leaks and dangerous falling ice conditions that result.

Three Steps:

1. Summit Ice Melt Systems, along with the owner and/or architect, designs the ice melt system to best suit the building's needs. Summit creates a System Layout and locates components, including eaves and valleys, gutters and downspouts, electrical junction boxes, and controller panels.

2. The system is installed on the roof.

3. A qualified electrician makes the wiring connections

Architect/Designer and Summit Ice Melt Systems:

- Determine the areas that would benefit from the safety enhancements and ice dam abatement of the Radiant Edge ice melt system.
- Architect and electrical engineer/contractor ensure circuits are brought from the control panels to the heating systems.

Summit Ice Melt Systems will:

- Will work with architectural plans and create a System Layout including panels on all affected eaves and valleys, gutters and downspouts
- Locate controllers, sensors, junction boxes; design and build a control center and calculate current draws for electrician's circuits

Building Owner:

- Will determine which areas need the ice melt system. Are ice formations a concern along all eaves and valleys, or are specific areas in need? Are there gutters and downspouts that need protection?
- Complete and return Jobsite Data Form to Summit and we'll design a system to meet your needs.
- Owner selects a qualified installer.
- Radiant Edge installed onto an existing composition shingle roof

Summit Ice Melt Systems will:

- Create a System Layout including panels on all affected eaves and valleys, gutters and downspouts
- Locate controllers, junction boxes; creates control center and calculates current draws for electrician's circuits

Installer:

- Reviews the System Layout and installs per the Installation Guide
- Makes the electrical connections and safety tests, completes and returns the installation log

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Quick Quote Form

Please complete and scan and email to info@summiticemelt.com, or fax to 530/583-7777.
Thank you!!

Name:
Business Name:
Email:
I am a(n) ☐ Architect ☐ Contractor ☐ Homeowner ☐ Other:
Mail Street Address:
Mail City, State, Zip
Ph: Home:( ) Mobile:( ) Work:( )
Job Site Address:
Job City, State, ZIP:

Project Type: ☐ New Roof ☐ Existing	Color:
Roof Type: ☐ Composition/Asphalt Shingle ☐ Shake ☐ Tile ☐ Metal ☐ Flat ☐ Other:	
Annual Snowfall:	Max Roof Snowpack:
Project Timeline: 1-30 31-90 90+ Days	Supply Voltage: ☐208-277Vac (std.) ☐120Vac ☐Either
System Preferred: ☐PRO ☐LT ☐HotSlot ☐LowSlope ☐Standing Seam ☐ZigZag ☐ Don't Know	
Control System: ☐ Automatic Digital Ambient Temp ☐ Manual	
Lineal Feet Eaves:	Lineal Feet Gutters:
Lineal Feet Valleys:	Lineal Feet Downspouts: Quantity:

Project Notes:

Jobsite Data Form

Date:____/_____/ 201___

Summit Ice Melt Systems

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Customer:
Address:
Contact:
Phone: ( ) Mobile: ( )
Fax: ( )
Email:
End User:
Address:
Contact:
Phone: ( ) Mobile: ( )
Fax: ( )
Email:

Ice Melt System Information
System: [ ] PRO [ ] LT [ ] HotSlot [ ] Valley [ ] LowSlope
Cover Material: [ ] Aluminum [ ] Copper
Color:
Voltage Available:
Notes:

Roofing Information
[ ] New roof [ ] Existing roof
Type of roofing: Color:
Slope: Height above ground:

Check List Indicate the following: By: _____

- ✔ Length of roof eave to be heated
- ✔ Length of valleys to be heated
- ✔ Gutter and downspout locations, lengths
- ✔ Power source junction box
- ✔ Controller sensor
- ✔ Main Service panel
- ✔ North orientation

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Jobsite Data Form

Job Name: _____ Date: _____

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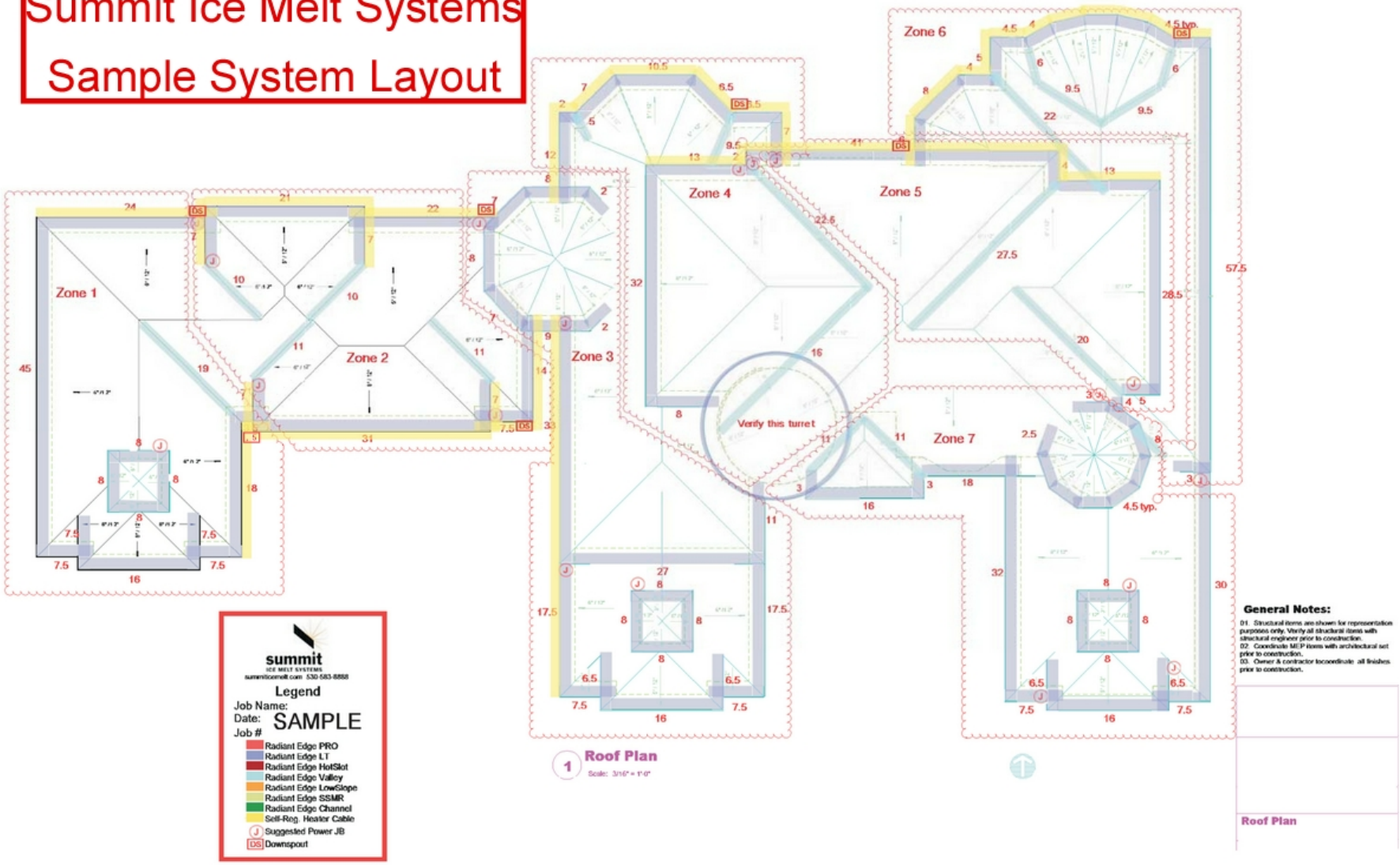
Check List Indicate the following: By: _____

- ✔ Length of roof eave to be heated
- ✔ Length of valleys to be heated
- ✔ Gutter and downspout locations, lengths
- ✔ North orientation
- ✔ Power source junction box
- ✔ Controller sensor
- ✔ Main Service panel

Summit Ice Melt Systems
Sample System Layout



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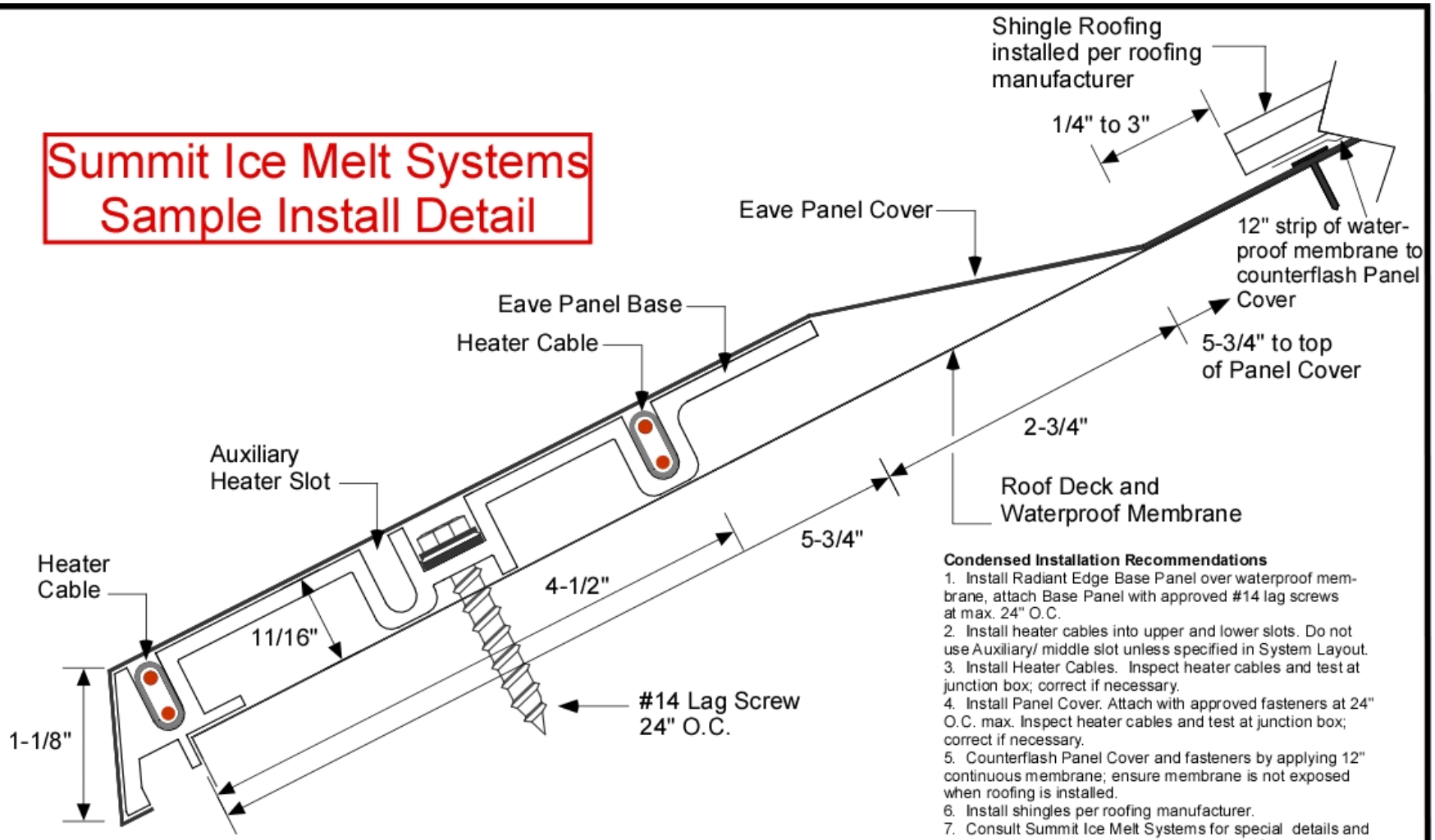
Summit Ice Melt Systems
Sample Install Detail



Condensed Installation Recommendations

1. Install Radiant Edge Base Panel over waterproof membrane, attach Base Panel with approved #14 lag screws at max. 24" O.C.
2. Install heater cables into upper and lower slots. Do not use Auxiliary/ middle slot unless specified in System Layout.
3. Install Heater Cables. Inspect heater cables and test at junction box; correct if necessary.
4. Install Panel Cover. Attach with approved fasteners at 24" O.C. max. Inspect heater cables and test at junction box; correct if necessary.
5. Counterflash Panel Cover and fasteners by applying 12" continuous membrane; ensure membrane is not exposed when roofing is installed.
6. Install shingles per roofing manufacturer.
7. Consult Summit Ice Melt Systems for special details and refer to Summit's Installation and Operation Guide. Per NEC, protect all circuits with GFCI Ground Fault protection.

summit ICE MELT SYSTEMS

Summit Ice Melt Systems, Inc.

Thermodynamics analyzed. Applied.™

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Tahoe City, CA 96145-6928
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Scale	Revision Date	Title
Do Not Scale	8-22-2013	**Radiant Edge PRO™** New Composition Shingle Roofing
Dimensions shown are for reference only.		Drawing Number 110

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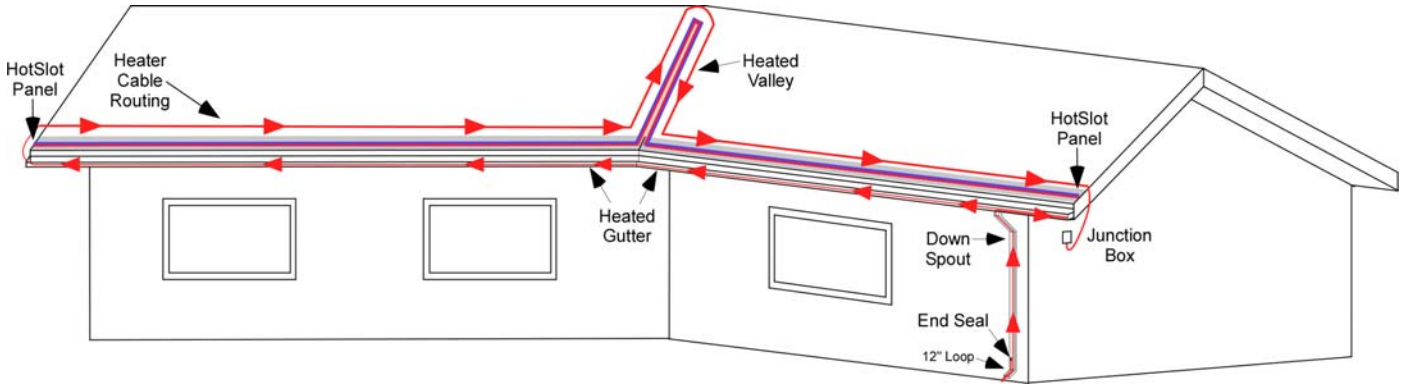
Radiant Edge HotSlot[tm] *QuickStart Instructions*

This is a brief overview of the Radiant Edge HotSlot installation, and is not intended to be a substitute for complete instructions. Contact Summit Ice Melt Systems for the current HotSlot Installation and Operation Guide.

1. System Layout:

Determine layout of system and Heater Cable. Locate junction box and termination End Seal. HotSlot's one-size-fits-all design makes it easy to place your materials order. Be sure to add Heater Cable for gutters and downspouts. Summit Ice Melt Systems will assist in the layout, if necessary.



2. Roof Preparation:

Existing shingles: Loosen lap of second course of shingles. Panel and Valley installation is virtually the same whether metal "W" valley flashings or "woven" shingled valleys are used.

New Shingles: Install Panel over ice and water type membrane and strip counterflash top flange of Panel before shingle installation.

Existing Metal: If system permits, cut roofing panels flush to fascia, and remove fasteners to 7" up roof. (Additional prep or alternate system may be required for standing seam and other metal systems).

New Metal: Install Panel over ice and water type membrane and strip counterflash top flange of Panel before roofing installation. Note: an alternate system may be required by certain metal roofing systems.

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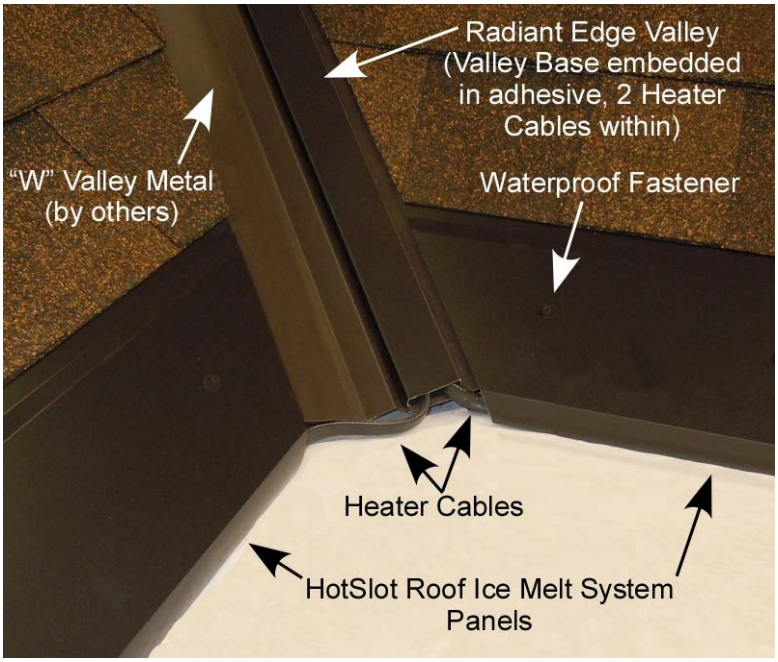
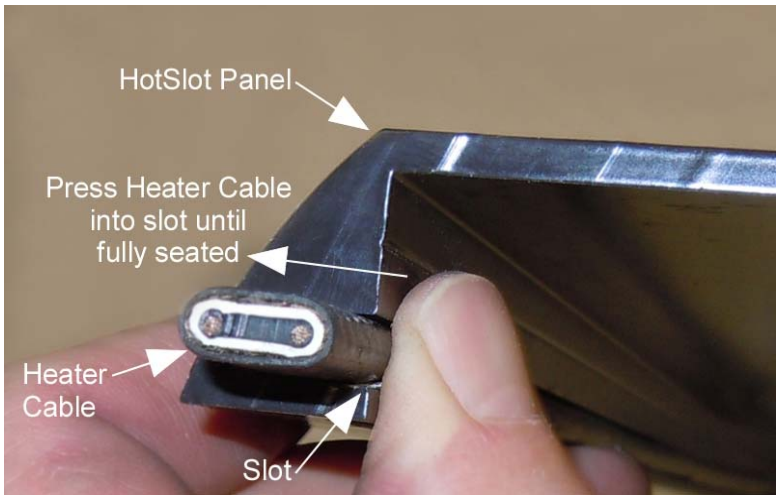
3. **HotSlotPanel Installation:** Install the 8' panels at the roof's edge while tucking under the second course of shingles. Attach with screws through pre-drilled holes for fast installation. Miter cuts and sizing may be done with a carbide-tipped circular saw.



4. **Valley installation** (if applicable): Clean valley area; embed Valley Base extrusion into adhesive. Do not penetrate with fasteners.

5. **Heater Cable Installation:** Install End Seal on Heater Cable and insert through HotSlot system. At valleys install Heater Cable up one slot and return down the other slot. Continue installing remaining Cable along adjacent eave. Press Heater Cable into slot until fully seated. Install matching snap-on cover to Valley Base to cover cables.



6. **Test and connect:** Connect Heater Cable to junction box with Power Connection Kit. Connect to controller, if applicable. Conduct final testing, connect to protected circuit. The HotSlot ice melt system **MUST** be protected with a ground fault protection device per local codes and the NEC (National Electric Code) and CSA (Canadian Standards Association).

7. **Operation:**
Turn on system before a storm begins. Remember it is much easier and more energy-efficient to prevent ice from freezing that it is to melt it. Our UL Rated Heater Cables are self-regulating and will never overheat. Heat is generated only when it is needed, and precisely where it is needed.

GUIDE SPECIFICATIONS

DIVISION 23 8313 Roof Ice Melt System

ROOF ICE AND SNOW MELTING SYSTEM GUIDELINES

PART 1: GENERAL

1.1 SUMMARY

A. Includes but not limited to:
   1. Furnish and install roof de-icing and snow melt system as described in Contract Documents.

B. Related Sections:
   1. Section 073100 – Shingles and Shakes: Installation coordination with roofing material and details
   2. Section 073200 – Roof Tiles: Installation coordination with roofing material and details.
   3. Section 074100 – Roof Panels: Installation coordination with roofing material and details.
   4. Section 075000 – Membrane Roofing: Installation coordination with gutter material and details.
   5. Section 076000 – Flashing and Sheet Metal: Installation coordination with gutter material and details.
   6. Section 077100 – Roof and Wall Specialties and Accessories: Installation coordination with gutter material and details.
   7. Section 260600 – Schedules for Electrical: Materials and installation of wiring and electrical power source.

1.2 SYSTEM DESCRIPTION

A. The system shall consist of all equipment and materials for a complete roof de-icing system installation.

B. See Manufacturer's current Installation and Operations Guide and System Layout for detailed information.

1.3 SUBMITTALS

A. Product Data: Submit Manufacturer's technical product data and current written Installation and Operation Guide for roof edge de-icing and snow melt systems.

B. Shop Drawings: At Architect's request, submit drawings showing layout of system controllers, sensors, grounding connections, and system elements required to provide complete operating system. Include the following:
   1. Determine the zones for system.
   2. Locations of controllers.
   3. Eave base panel layout.
   4. Valley base panel.
   5. Distribution panel location and drawings.

C. Installation Guide: Submit Manufacturer's written Installation Guide for system.

D. Operation instructions: Submit Manufacturer's written Installation and Operation Guide for system.

E. Installation Quality Control: Submit Manufacturer's Installation Log.

F. Warranty: Submit copy of system Manufacturer's Warranty Registration Form. Submit copy of Manufacturer's standard warranty for system.

1.4 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
   1. Firm regularly engaged in manufacturing high-efficiency roof ice melt systems.

B. Installer Qualifications:
   1. Licensed Contractor with a minimum of two years successful certified experience installing projects utilizing roof edge ice melt systems equal to systems specified in this section.

C. Regulatory Requirements:

   1. Comply with applicable local electrical code requirements of local authorities having jurisdiction.
   2. Provide products that are listed, recognized, and labeled by Nationally Recognized Testing Laboratory (NRTL) that include but are not limited to:
      a. Underwriters Laboratories (UL)
      b. Canadian Standards Association (CSA)
      c. ETL subsidiary of Intertek Testing Laboratories
   3. Conform with requirements of NEC (National Electrical Code)

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, and handle in accordance with Manufacturer's written instructions. Store the materials in dry indoor location off the ground.

B. Inspect the materials deliver against the Packing Slip, Design Layout, and Shop Drawings. Note any discrepancies and contact Manufacturer within three days to resolve disparity.

B. Remove damaged materials from job site and replace with new at no additional cost to Owner.

1.6 WARRANTY

A. Provide Manufacturer's Warranty with following minimum requirements:
   1. Aluminum Base Panels - Fifty (50) years
   2. Copper Covers - Fifty (50) years
   3. Aluminum Cover Panels Finish - Forty (40) years
   4. Self-Regulating Heater Cable - Ten (10) years
   5. Controllers - One (1) years

PART 2: PRODUCTS

2.1 MANUFACTURER

A. Summit Ice Melt Systems, Inc., 2911-D Lake Forest Road (PO Box 6928), Tahoe City, CA 96145
Phone: 530-583-8888 www.summiticemelt.com Info@summiticemelt.com

2.2 COMPONENTS

A. Radiant Edge High-Efficiency roof edge ice melt system. System shall be designed for Radiant Edge PRO^{tm} - Class 1 (heavy snow load accumulation areas), Radiant Edge LT^{tm} or HotSlot - Class 2 (moderate snow load accumulation areas), or Heated Standing Seam metal roofing. This project is in a Class [Select 1 or 2] snow load accumulation area. Class 1 (Radiant Edge) systems shall have two 12 watt/foot self-regulating heater cables in eave base panel (24 watts/foot total). Class 2 (Radiant Edge LT or HotSlot) systems shall have one 12 watt/foot self-regulating heater cable in base panel (12 watts/foot total). Provide specially coated #14 domed washer head lag screws with a waterproof neoprene gasket for eave panel attachment for Radiant Edge PRO. Provide approved flat head countersunk fasteners for Radiant Edge LT, or matching, pre-painted, waterproof screws for HotSlot.

1. Valley Panels
   a. Valley panels, as required by System Layout Design, shall have two 12 watt/foot self regulating heater cables (24 watts/foot peak output total).

2. Low-Slope Panels
   a. For roofs with a slope of less than 2/12, provide LowSlope panel profile with 24 watts/foot peak output.

3. Radiant Edge LT Panels
   a. For roofs in Class 2 Moderate Snow Zone areas, provide Radiant Edge LT panel profile with 12 watts/foot peak output.

4. Radiant Edge HotSlot Panels
   a. For roofs needing ice abatement along the roof's eave edge; 12 watt/foot peak heat output

5. Radiant Edge Heated Standing Seam Metal Roofing
   a. For roofs where a heated standing seam metal roofing system is desired

6. Electrolysis Abatement
   a. For all ice melt systems using copper covers, provide proprietary polyvinyl isolator to separate copper cover from aluminum base panel.

7. UL Approved self-regulating heater cables
   a. UL and CSA approved self-regulating heater cable with peak output of 12 watts per linear foot.
   b. Two Bus Wires: 16 AWG, Nickel Plated Maximum
   c. Heating Core: Radiation Cross-linked Polyolefin
   d. Primary Dielectric Insulation: Radiation Cross-linked Polyolefin
   e. Metallic Braid: 16 AWG (equivalent size) tinned copper
   f. Outer Jacket: Polyolefin
   g Minimum Bend Radius: 5/8"
   h. Supply Voltage: 120 or 208-277 Vac

8. Gutter and downspout management
   a. Supply 12 watt/foot self-regulating heater cable and accessories for gutters and downspouts and gutter guards as required..

9. Local Zone Controller
   a. Supply Model 4CDC ambient temperature sensing controller.
   b. 4 circuits full 30A 110Vac or 220Vac rating
   c. Field adjustable temperature on and low temp cutoff trigger points

10. Central Distribution and Control Panel
    a. Digital controller interface displaying status, ambient temperature, and mode
    b. Ambient temperature sensing controller
    c. Multiple branch circuits as needed
    d. Field adjustable set point for system trigger and low-temperature shutoff
    e. NEMA 1 enclosure for interior installations
    f. NEMA 4 enclosure for exterior installations

PART 3: EXECUTION

3.1 EXAMINATION

A. Examine roofing and/or roof deck for proper installation, cleanliness, or condition that may hinder proper installation of ice melt system.
   1. Notify Contractor in writing of items needing correction.
   2. Do not install ice melt system until faulty conditions are corrected.

3.2 INSTALLATION

A. Interface with Other Work: Coordinate installation of ice melt system with appropriate sections in Division 07 for roofing material and appropriate sections of Division 26 Electrical.

B. Install ice melt system, including Eave and Valley Base Panels, and self-regulating heater cables. Prior to installation of cover panels, perform and record megohmeter testing results. Ensure that results meet requirements in Installation Guide before proceeding. If readings do not meet requirements, follow procedures in the Troubleshooting Section in Installation Guide until minimum requirements are met. Continue installation of Cover Panels, and Controller. Ensure complete installation is in accordance with Manufacturer's Installation and Operation Guide and approved Shop Drawings.

C. On new construction, apply a strip of waterproof membrane along the top edge of the eave cover panels to ensure weather tight installation. Locate strip low enough to weatherproof adjacent roofing fasteners, and high enough to not be visible when roofing is installed.

D. Ensure all circuits are protected with 30mA GFCI breakers as required by NEC.

3.3 FIELD QUALITY CONTROL

A. Testing as directed by System Manufacturer in Installation Guide:
   1. Prior to installing cover panels, visually inspect the heater cables for damage and replace as needed. Perform megohmeter test on heater cables in junction box and record readings. [NOTE: If project has a special extended warranty (15 years) installer must also conduct and record additional testing. Get details in writing from Manufacturer prior to installation.] Ensure that results meet requirements in Installation Guide before proceeding. If readings do not meet requirements, follow procedures in the Troubleshooting Section in Installation Guide until minimum requirements are met.
   2. After installing cover panels, perform megohmeter test on heater cables in junction box and record readings. Ensure that results meet requirements in Installation Guide before proceeding. If readings do not meet requirements, follow procedures in the Troubleshooting Section in Installation Guide until minimum requirements are met.
   3. Perform testing of operations of Controller per Manufacturer's Installation Guide.
   4. Test system and operate in presence of Architect, Contractor, and Owner's Representative to be certain system functions in accordance with design intent.

B. Ensure that only Manufacturer's components are use on project.

C. Ensure that installation strictly follows Manufacturer's Installation Guide.

D. Complete Installation Log Sheet and Warranty Registration forms within 30 days of installation for review and approval by Manufacturer. If project is provided the special 15-year warranty, provide additional testing records per Manufacturer.

3.4 DEMONSTRATION

A. Provide adequate demonstration and training to Owner in operation and maintenance of system.

END OF SECTION

summit
ICE MELT SYSTEMS

Thermodynamics analyzed. Applied.

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