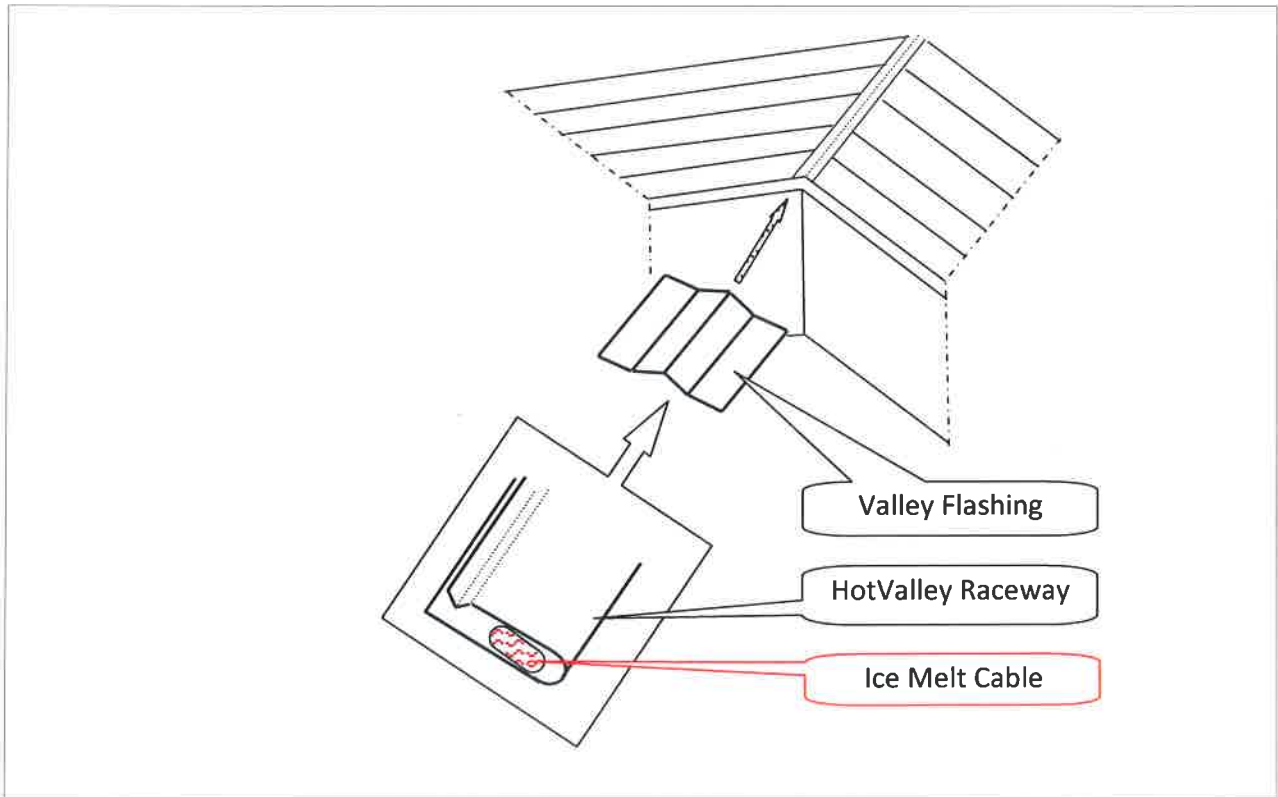


HotValley Raceway - Installation Instructions

Roof Ice Melt Cable Retention System

Hot Edge, Inc.

www.HotEdge.com



The HotValley raceway system holds self-regulating ice melt cable in place on roof flashings. It can be used in roof valleys (see above), on flashings next to vertical walls or on metal roofs. The supplied adhesive holds the raceway in place.

In high snow load regions snow slides from adjacent roofs can overload the valleys and cause ice damming. The raceway dissipates the heat of the ice melt cable over a wider area, therefore dramatically improving the size of the melt path.

The raceways are available in painted galvanized steel or copper. Special UL Listed 12 watt per foot self-regulating ice melt cable is provided with the system.

Overview

The overall objective is to keep the snow melt water in a liquid state until it is drained away from the structure's foundation. A heated gutter and downspout system is required for most applications.

The Hot Edge Ice Melt Systems

The products available from Hot Edge Inc. provide various solutions to excessive ice build-up on many types of roofs. In high snow load regions, this ice can block the normal drainage of melted snow and ice and cause this water to re-freeze into large ice formations. This condition is called ice damming. Above these ice dams, standing melted ice water can leak into the structure causing mold, mildew and structural damage. Most sloped roofs are made to shed moving water, they generally are not designed to resist standing water. The Hot Edge family of products are designed to keep the water in liquid state until it can be safely drained away from the structure.

Warning

Low cost, constant current ice melt cable must not be used. Only safety agency Listed, self regulating ice and snow melt cable for structures that are provided with the system can be used. Ice melt cable on structures must be exposed as per Article 426 of the NEC.

Consult with a licensed electrical contractor for system layout, junction box placement, maximum cable run lengths and power feed requirements as defined by the National Electrical Code (NEC), local building codes and the ice melt cable manufacturer.

The ice melt cable manufacturer's installation instructions are provided with the cable. These procedures must be followed. Installation personnel must be skilled in the art and be aware of the dangers inherent in this type of construction work. This product is designed to be part of a complete roof structure. Only experienced professional contractors should install this product.

Completely read and understand these documents before starting the project.

Installation Instructions

- 1) Design & Planning the Installation
- 2) Placement of the HotValley Raceway
- 3) Ice Melt Cable Insertion and Retention
- 4) Electrical Connections
- 5) Self-regulating Heating Cable Supplied with System
- 6) System Test by the Electrical Contractor

1) Design & Planning the Installation

Ice melt cable splices are not permitted in the HotValley Raceway. Individual home runs to an electrical junction box are highly recommended. The use of ice melt cable splices should be minimized as they have been shown to be unreliable. Splices make troubleshooting and repair difficult and expensive. The expense of the extra footage of cable is an important investment.

Three extra feet of ice melt cable must be provided at each electrical junction box to allow the licensed electrical contractor to provide a drip loop and a power connection. At the end of the run, an extra one foot of cable is required for the installation of the end sealing device. If this extra cable is not provided, the entire run of ice melt cable will need to be replaced. Cable is easy to cut but it does not stretch.

2) Placement of the HotValley Raceway

The HotValley Raceways are attached to the existing metal flashings of the roof with the supplied system adhesives.

Roof valley placements are important to provide heated drain paths where two roofs intersect. The HotValley Raceways can also be installed on other flashings around chimneys and next to vertical walls.

The HotValley Raceways can be cut to length at the job site. It is important to dress the entry and exit points of the raceway to insure a smooth and dull edge surface. Any burrs or sharp edges can cut the protective plastic sheath of the cable and allow moisture to enter the cable.

3) Ice Melt Cable Insertion and Retention

The ice melt cable is inserted into the horizontal open slot along the length of the HotValley Raceway.

It is important to avoid cutting or piercing the outer plastic sheath of the ice melt cable. If water is allowed to leak into the cable it will cause slight ground fault condition that will trip the EPD ground fault circuit breaker that is required for all installations. Care should also be taken during the installation to insure the cut and open ends of the ice melt cable are not exposed to moisture. Moisture can be sucked into the cable through capillary action and make the cable unusable. Recommended practice is to wrap the ends of the cable with waterproof electrical tape to prevent water damage during installation.

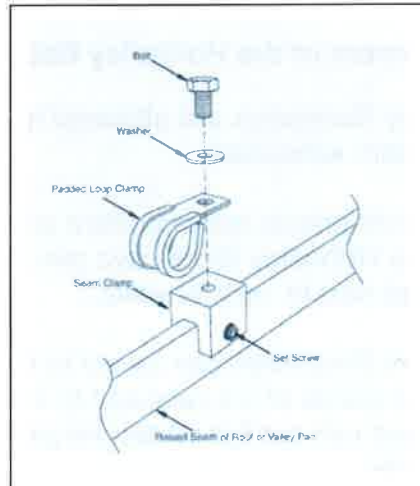
Retention of the Ice Melt Cable Run

Top retention is important so that the sliding ice and snow does not peel the ice melt cable away from the roof surface. Most valley runs should be taken to the top of the roof to the ridge cap to prevent these issues. For up/down cable runs the cable loop at the top of the run needs to be secure. Top loop ice melt cable retention devices are available from Hot Edge Inc.

A 12 inch space is recommended between the top exit point from the raceway and the retention device for the quarter twist of the cable as it enters the retention device. The bottom loop is normally run into the heated gutter to insure a completely heated drain path.



The Tyco/Raychem GMK-RC Roof Clip Bracket Kits are for use with Raychem IceStop heating cables. The GMK-RC roof clips are used to secure IceStop heating cables to roofs and gutters. Available from Hot Edge Inc.



Custom seam clamp and cable loop available from Hot Edge Inc.

4) Electrical Connections

Only a licensed electrical contractor should power up the system. The electrical connections and end seals require an experienced contractor. Details of the electrical installation in this document are brief and do not cover the many variables encountered in the field. More information is available in the ice melt cable manufacturer's installation instructions provided with the ice melt cable.

EPD ground fault breakers with 30 ma trip points must be used, as per Article 426.28 of the NEC.

At low temperatures, the start up current of self regulating ice melt cable can be quite large. Consult the ice melt cable manufacturer's maximum cable length data charts for additional information. The cold start up current load after a power failure should be considered in the design phase of the project.

In all cases, the Listed ice melt cable manufacturer's instructions over-ride the HotEdge Installation Instructions.

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5) Self-regulating Heating Cable Supplied with System

The HotEdge Rail is supplied with one of the following UL Listed (KOBQ) De-Icing and Snow-Melting Equipment Heating Cable and accessories (designed for roof and gutter de-icing and snow melt) indicated below and with the installation instructions provided by the heating cable manufacturer.

Products from Tyco Thermal Controls LLC (Raychem)

UL File KOBQ.E74811, De-icing and Snow-melting Equipment

CSA Class 2872-01, File 021133_C_000 HEATERS-Cable and Cable Sets

Raychem® IceStop® Roof & Gutter De-Icing Systems

GM-1X Heating cables (120VAC, 10 watts per foot)

GM-2X Heating cables (240VAC, 12 watts per foot and 277VAC, 12 watts per foot)

FTC-P Power Connection & End Seal Kit

FTC-HST Splice/Tee Connection Kit

GMK-RC Roof Clips

GM-RAKE Hanger Bracket

Raychem® WinterGard Wet Roof & Gutter De-Icing Systems

H612 Heating cables (120VAC, 6 watts per foot)

H622 Heating cables (208-277VAC, 6 watts per foot)

H900 Power Connection & End Seal Kit

H910 Splice/Tee & End Seal Kit

H913 & H914 Roof Clip Kits

H915 Hanger Bracket Kit

H908 120VAC Plug-in Power Connection Kit

Products from Chromalox Inc. (Thermwire-Melt)

UL File KOBQ.E137658 De-icing and Snow-melting Equipment

CSA Class 2872-01, File 056305_0_000 HEATERS-Cable and Cable Sets

SRF 5-1RG Roof and Gutter De-Icing Cable (120VAC, 6 watts per foot)

SRF 5-2RG Roof and Gutter De-Icing Cable (240VAC, 6 watts per foot)

RG-PK-1 Power Connection and End Seal Kit

RG-SK-1 Splice Kit

RG-EK-1 End Seal Kit

RCK-1 Roof Clip Kit

RDK-1 Downspout Hanger Kit

Products from Thermon Manufacturing Co.

UL File KOBQ.E163149 De-icing and Snow-melting Equipment

CSA Class 2872-01, File 079539_C_000 HEATERS-Cable and Cable Sets

RGS-1 Roof and Gutter De-Icing Cable (120VAC, 10 watts per foot)

RGS-2 Roof and Gutter De-Icing Cable (240VAC, 10 watts per foot)

PTK1A & RGS-CFK Power Connection and End Seal Kit

RGS-SFK Splice/Tee Kit

ETK1 End Seal Kit

6) System Test by the Electrical Contractor

Insulation Resistance (Megohmmeter) Test

The insulation resistance test is critical to ensure the safety and reliability of the heating cable system. This test should be performed as part of the installation of the system. It is also useful for troubleshooting an installed system. This test is required for warranty coverage from some cable manufacturers. See details in the ice melt cable manufacturer's installation instructions.

A large peak amp reading at cold start-up may indicate a current draw issue. Some systems may require time delay relays to spread out this peak load.

Individual home runs are recommended for troubleshooting, repair and replacement of the ice melt cable.

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