Installing Gutterglove IceBreaker On A Metal Corrugated Roof

This guide is for installing 30 feet of IceBreaker on the gutter above (red line). You can clearly see the icing problems the customer had prior! Photo on right: inside patio perspective.

Introduction

Icebreaker is a heated gutter guard that uses a self-regulating heat cable to warm the aluminum alloy of itself to melt icicles, snow loads and ice dams that form in and on the gutter.

Before installing the heat cable, you should check with local and state authorities and regulations to confirm if any special electrical licenses are required. In most states, a licensed electrician is not needed unless an external electrical outlet is to be installed in the wall to plug the sensor or heat cable into. In other words, you may be able to install the cable in IceBreaker, but if there is no external wall outlet, leave the heat cable dangling and have a licensed electrical contractor install an exterior wall outlet so the heat cable can be plugged in to.

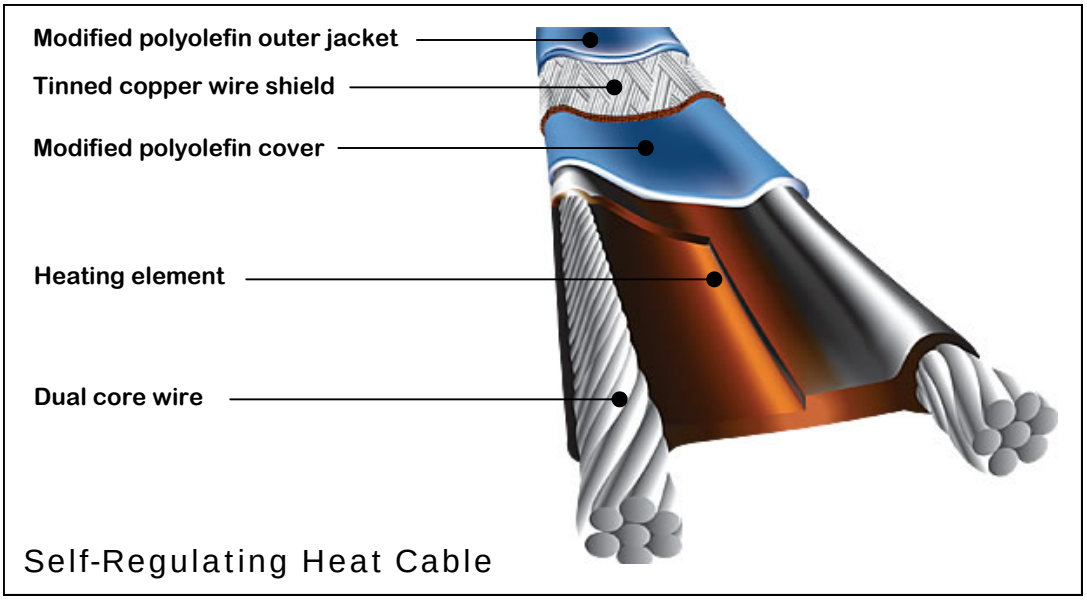
These installation guidelines for IceBreaker do not supersede any guidelines of installations from the heat cable manufacturer. You must adhere to the installation procedures of the heat cable manufacturer you use.Self-regulating heat cable: This type of cable varies the heat output based on outdoor temperature. When it gets colder the self-regulating cable warms up, when it gets warmer outside, the cable gets cooler, almost shutting off entirely.

What wattage cable to use

In general, if the average daytime temperatures are below 15 degrees on a weekly basis, then you can either use a 10 watt cable with a 110volt supply, or a 6 watt cable with a 220volt supply. The lower the wattage the farther run of cable you can use. If the temperatures are between 15 - 30 degrees, then it's ok to use an 8 watt cable. CONSULT AN ELECTRICIAN TO VERIFY THE LENGTH OF CABLE YOU CAN USE. The length of cable you can use depends on the wattage rating of the heat cable and the amperage rating of fuse that is connected to the circuit IceBreaker is attached to.

What's the best gutter size to use

4 or 5 inch gutter (dimension of the top opening of the gutter), with a depth of approximately 4 inches. Gutters should be made from steel and not aluminum for optimum results. Steel gutters tend to be more sturdy, rigid and keep more warmth inside, whereas an aluminum gutter can conduct (remove) the heat from inside to the outside, thus reducing the heat potential in the gutter.



Self-Regulating Heat Cable

‘Walkway’ IceBreaker

On all walkway areas where pedestrians may walk, it is manditory that you install the Gutterglove IceBreaker Walkway version. A ‘walkway’ area may be any of the following that is under a gutter where Gutterglove IceBreaker is to be installed:

1) Sidewalk.
2) Patio.
3) Any door of your home.
4) Any other area where a pedestrian may walk.

The Walkway version is Gutterglove IceBreaker with a larger mesh hole size to better accommodate potential snow-melt situations. The hole size of the mesh on this version is slightly larger than the original. We call this the “Walkway” version of Gutterglove IceBreaker.

The Gutterglove Walkway IceBreaker version will virtually eliminate all snow melt dripping and thus virtually eliminate all potential slip-and-fall hazards. After the Walkway version is installed and there are still some icy conditions that persist, you should apply rock salt on those areas to remove any potential hazzard that may still exist.

Our definition of ‘snow melt’ is this: When it’s not raining, when it’s not snowing, and the weather outside is not freezing, and there is snow on your roof that is slowly melting so it drips off the front of your roof. This can happen with or without IceBreaker due to the nature of the weather and your home configuration. The dripping snow can eventually refreeze on the walkway below.

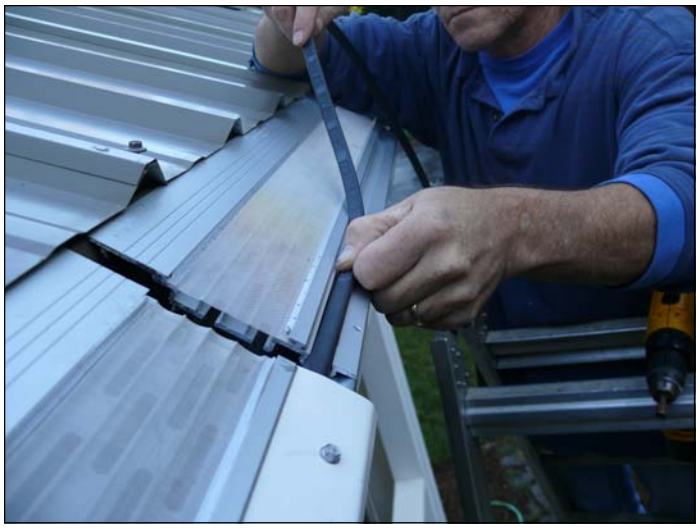
Gutterglove IceBreaker “Walkway” version with the larger mesh size is to be installed over all walkways where pedestrians may walk.

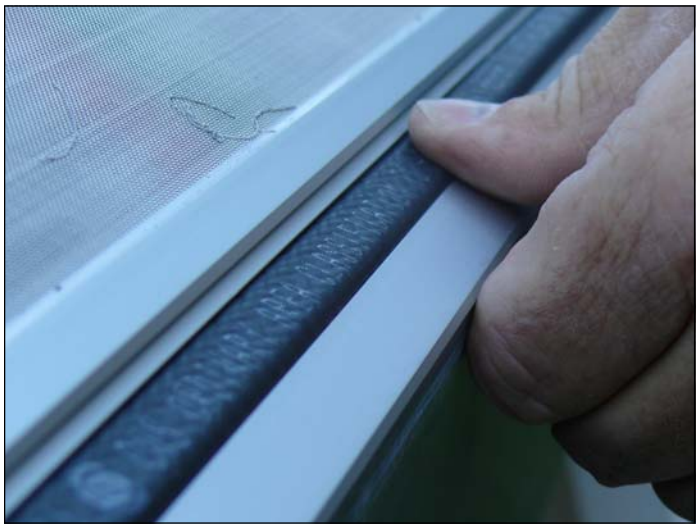
Installing 5 Foot Sections

In order to get the 5 foot sections of Gutterglove IceBreaker under the metal roof panels, we backed out the roof screws 1/2 an inch and then gently lifted the panels up so IceBreaker would slide under them. After IceBreaker was installed, we screwed the roof screws back down.

IceBreaker comes in 5 foot sections and are pre-drilled with 3 holes for screwing down to the front lip of the gutter.

IceBreaker slides under the metal roof panels.

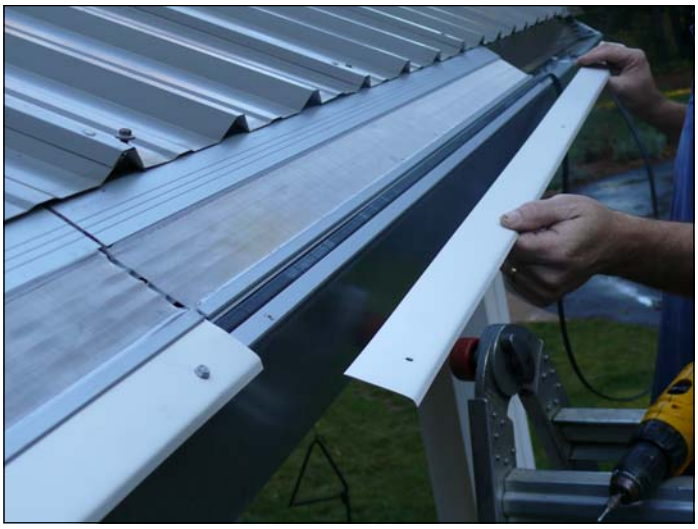




Push cable in the channel with your thumbs. If the cable doesn't push in easily, you can use a pair of pliers to pinch the cable in. Using the pliers makes it very easy to push the cable in the channel, just press lightly.

The easiest way to install IceBreaker is to install all the 5 foot sections first (assuming a straight run) on the gutter, then install the cable, then back out the screws of each 5 foot section and screw down the drip-edges.

Even though the drip-edge isn't installed yet, screw down the 5 foot section with three self-tapping screws. Later you will back out the screws to install the drip edge. Pre-drilling these holes with the self-tapping screws makes it easier to screw down the drip-edge.



Back out the three screws you just put in and then install the drip-edge. The drip-edge gets screwed into the same three holes that were made by the self-tapping screws.

Be careful never to screw through the heat cable!

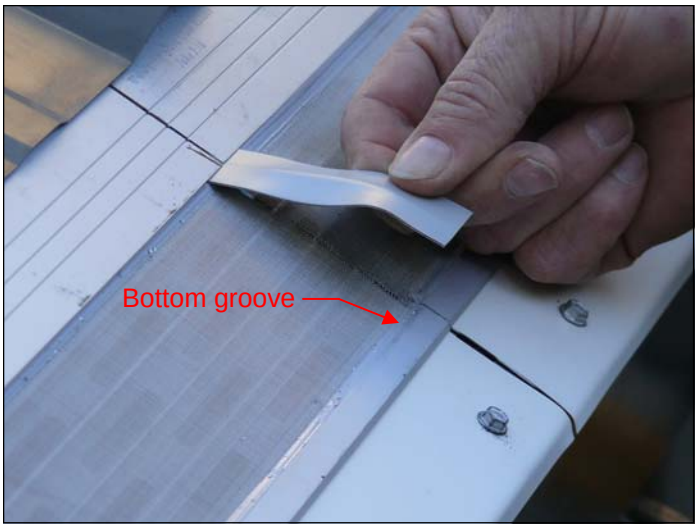
Purpose of the drip edge:

1) Eliminates streaking on the gutter from snow and rain run off.
2) Eliminates the possibility of dripping melted snow off the front of the gutter and forming icicles at the bottom of the gutter.
3) Increases the heat potential of the cable because it reduces heat loss by covering the cable.

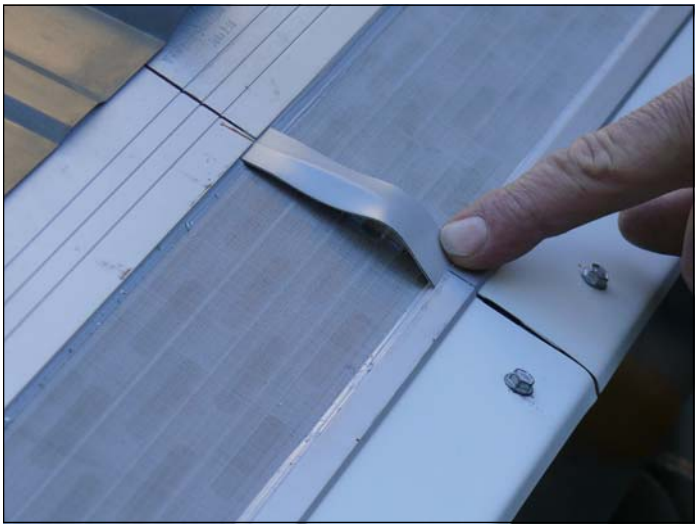
Once IceBreaker is installed, screw back down the metal roof panel screws.

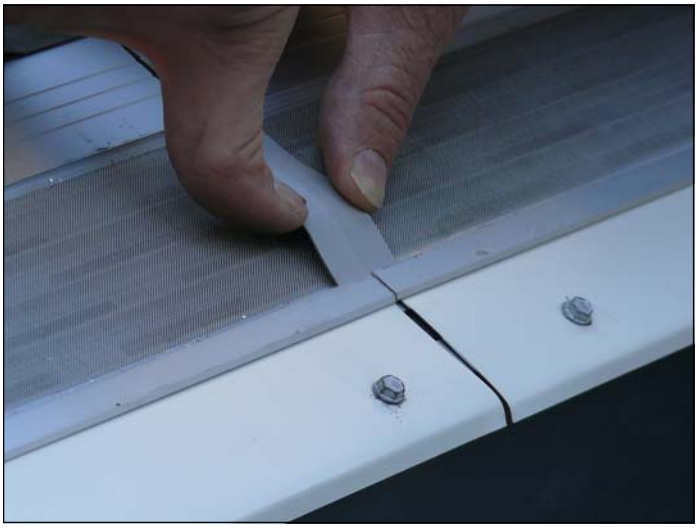
Joining Two 5 Foot Sections

The metal fasteners are made of a soft aluminum so they can be bent with your fingers. We call these metal fasteners 'fingers' also.



Slightly bend down the bottom section of the metal fastener so it can be pushed into the bottom groove.





With your two thumbs, push the fastener down until it pushes itself inside the groove, making a lock tight fit.

Terminating The End Of The Self-Regulating Cable

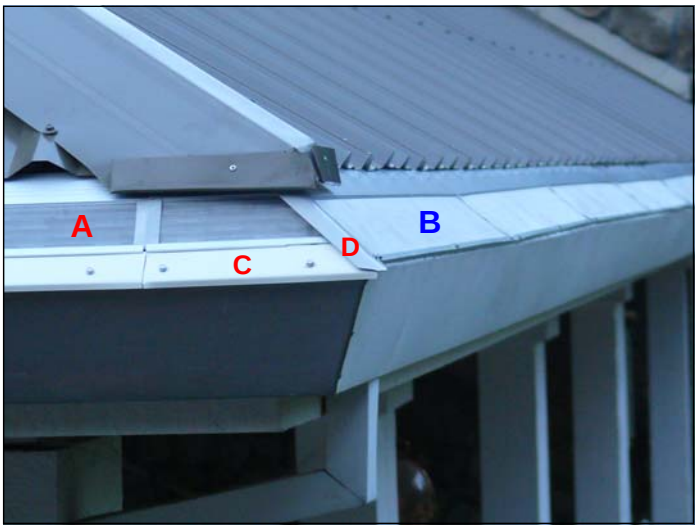
Consult manufacturer's installation guidelines when terminating the end of a self-regulating cable! Our install guidelines for terminating the end are for reference only, and are not to replace the manufacturers guidelines of the termination kits you purchase.

The purpose of terminating the end is to make the cable water-tight so the cable doesn't short out or electrify the gutter.

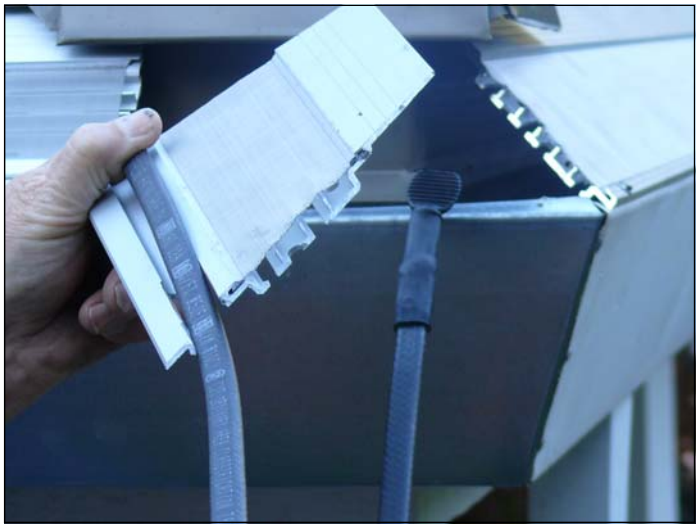
When you torch the ‘heat shrinkable plastic end’, make sure to start at the top (A), and apply heat towards the cable (B). If you heat from the cable bottom (B) up towards (A), then you will have air pockets inside the end kit and it won’t seal properly.

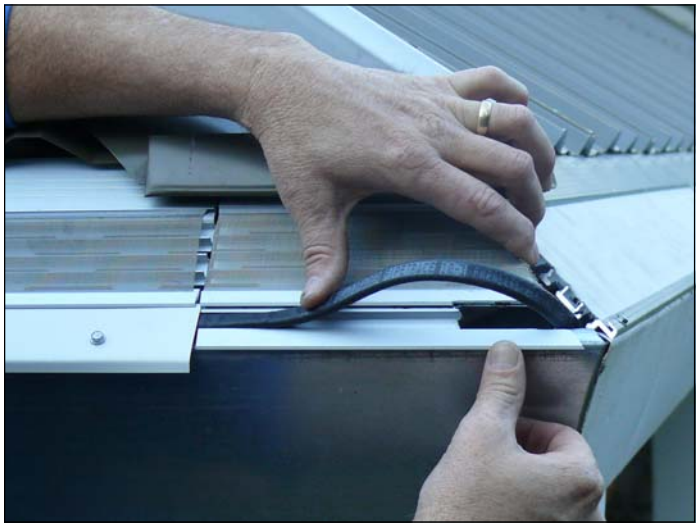
On this particular job the customer had us terminate the end of the heat cable at the outside miter. They didn’t have many icing problems on the front of their home, so we just put the end of the heat cable in the gutter.

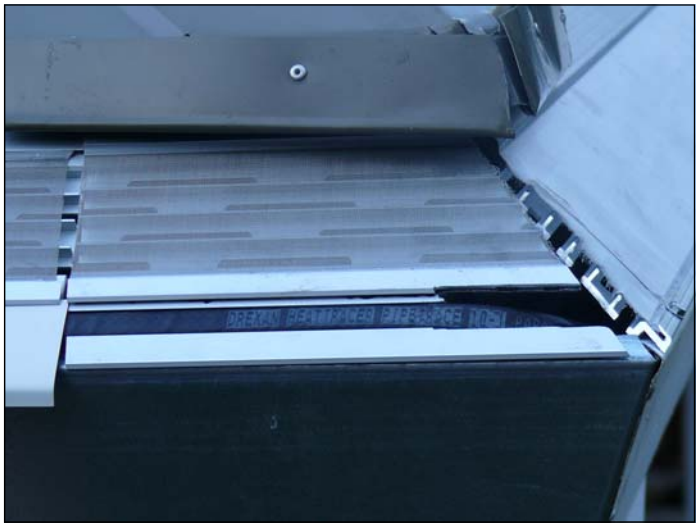
Outside Miter: Ending The Heat Cable



Gutterglove IceBreaker is installed on the gutter above the front doorway (A), and Gutterglove Pro Standard is installed on the gutter along the front right side of the home (B). This is because the customer didn't have many icing problems on the front side of the home.





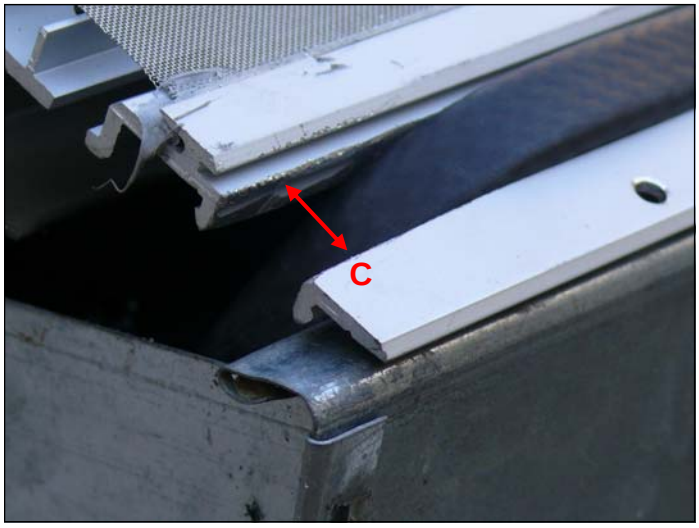


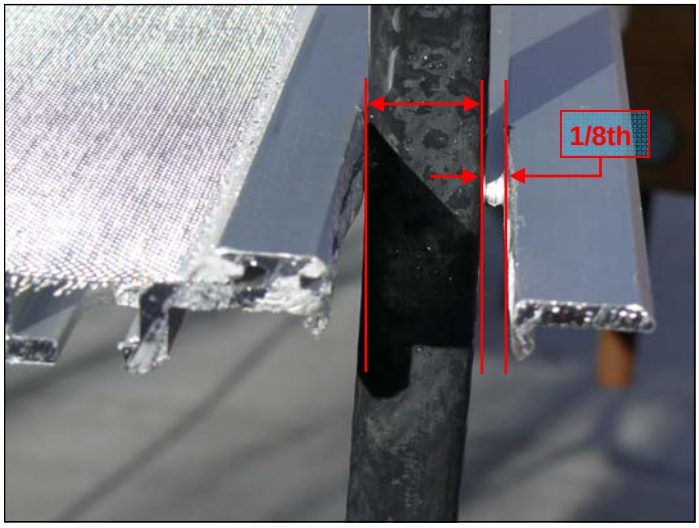
Notch out the end of the mitered section so the heat cable can enter through it an lay in the bottom of the gutter. This would be the proper way to end a heat cable in the middle of a gutter run. Next, just install a piece of drip edge (photo top right: C) over the last section of IceBreaker, then finish the outside miter off by installing a metal fastener, called a thumb, (photo top right: D) over the joint.

End Of Gutter: Ending The Heat Cable

The terminated end of the self-regulating heat cable (A) will drop inside the end of the gutter (B). Just leave about 12 inches and it loops inside at the bottom of the gutter.

When you notch out the end of the aluminum extrusion (C), always make sure to notch it out about 1/8th of an inch <u>wider</u> than the cable as seen in the photo below to the right.





Notch aluminum extrusion about 1/8th inch wider than the self-regulating heat cable. This gives room for the cable to move without getting nicked or cut by the aluminum.

Installing Cable Through The Downspout

The next step is to remove the downspout so the heat cable can be installed through it. This will prevent the melted snow run-off from freezing in it.

Most downspouts have two straps connecting them to the building wall. Remove the downspout straps carefully.

The angled elbows in the downspout need to be broken apart to make is possible to feed the heat cable through it. Some downspouts are soldered together so you will need to heat the solder in order to loosen the elbows up in order to break them open.

After the elbows are broken open, you will need to scrape off any excess solder or caulking. Using a spinning wire wheel attachment for a drill works well (A).


Next, feed the self-regulating heat cable down the water-outlet that the downspout was connected to.




Feed the heat cable through the down-spout. With all the angled elbows open, it's much easier to feed the cable through.

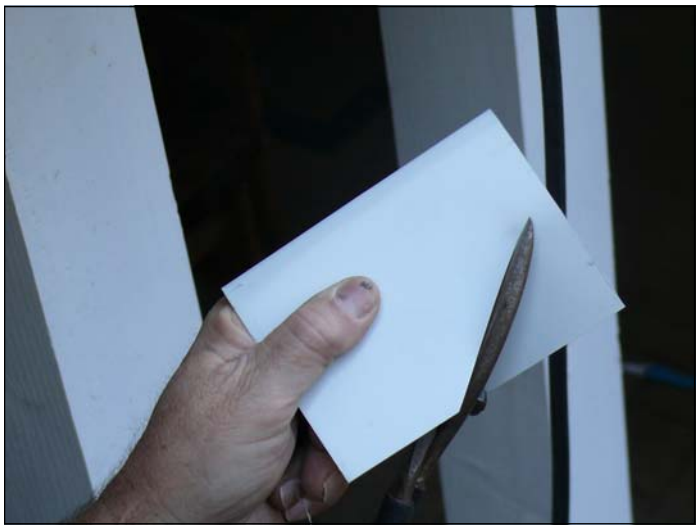
The downspout should not have screws holding it together, but rather use rivets and/or solder. The sharp end of a screw could poke a hole in the cable over a long period of time.

Right: Once the downspout is re-attached, solder the joints back together so the downspout doesn't leak.

Left: The cable is coming out the bottom (A) and is plugged in an outlet nearby.

Installing The End Cap

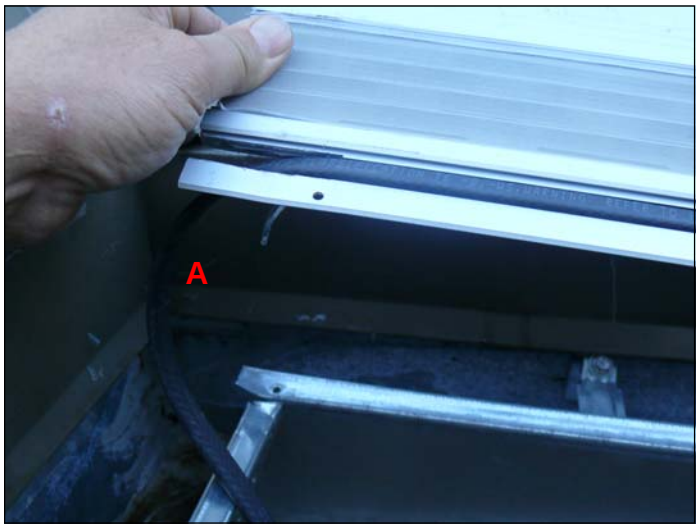
At the end of the gutter there is an opening that we would like to cover (A). Covering this opening will help keep bugs out and help reduce any warmth from escaping when IceBreaker is turned on.



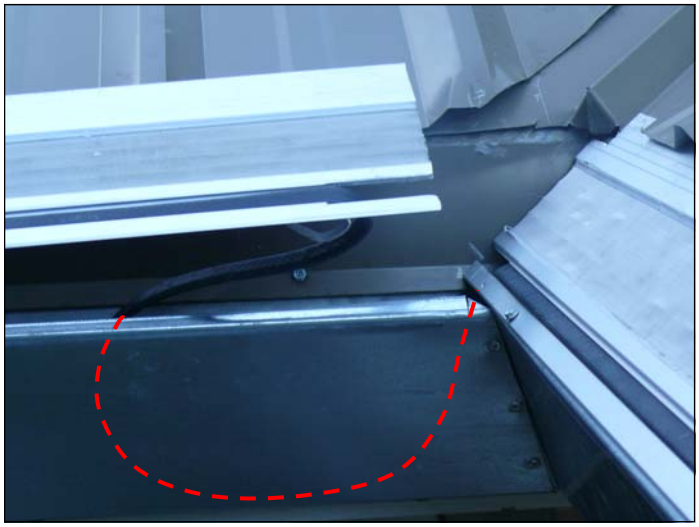
There isn't an exact shape that you need to follow when trimming the end cap to cover the opening. The goal is to just cover the opening, so trim the end cap material in any way you like in order to cover the opening.

Installing The Inside Miter

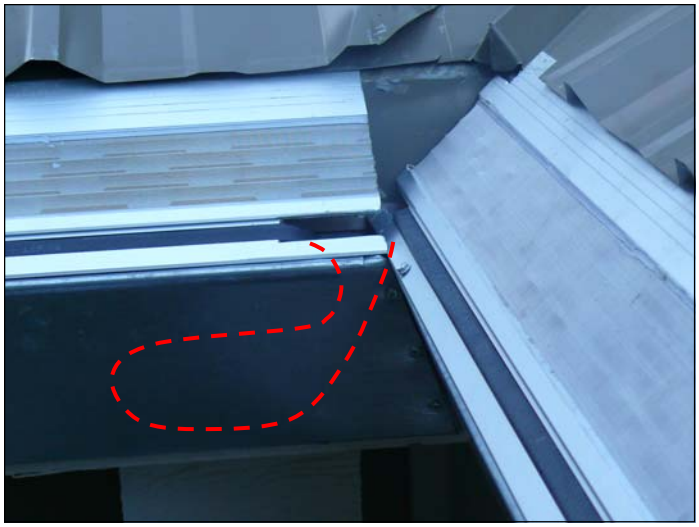
The most important part of the installation procedure of the inside miter is how the heat cable is ‘snaked’ into the gutter. Notice how it drops into the gutter through the notched out extrusion of the aluminum (A).



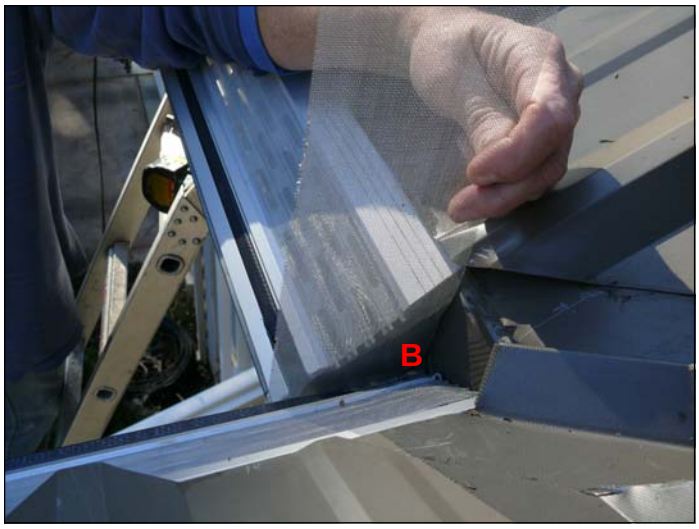
Secure the 5 foot section by screwing it down. Later we will install the drip edge over the cable.



On the second 5 foot section of IceBreaker, notch out the extrusion end for the heat cable, then ‘snake’ the cable into the gutter, looping to the left, then back towards the right. The red dotted line represents the path of the cable inside the gutter.



The next step is to cover the large gap (B).

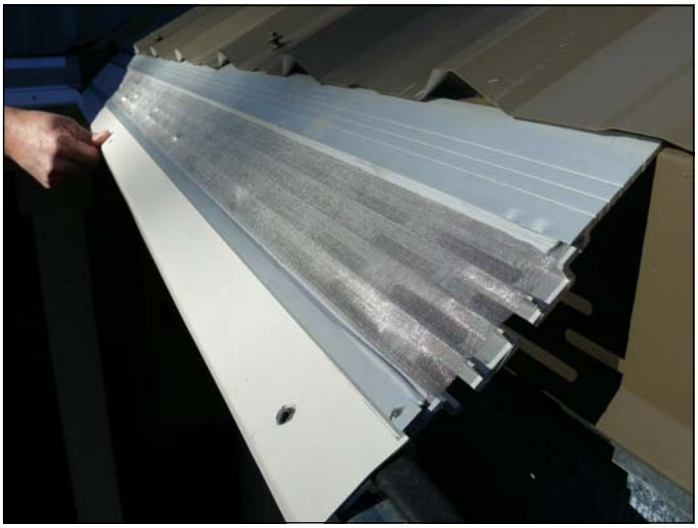


To cover the gap (B), you can use a variety of materials and we chose to use a piece of stainless steel mesh. It's really not important if you use mesh or if you use a solid piece of aluminum material. You could use the same material as for the end cap also. We folded the mesh in half to give it a little more support (C).

Trim the mesh gap-cap (or aluminum cover) and fold it so it fits neatly over the gap.

Screw the gap-cap down to the extrusion.

The last step is to put the drip edge on. We had to trim off the end so it would fit around the inside miter.



Cutting IceBreaker



Using a circular saw works well for cutting Gutterglove IceBreaker. Make sure the blade has over 40 carbide teeth and can cut non-ferrous metals. Using the wooden clamps like the ones in the photos above work the best for holding Ice-Breaker down for cutting. Remember SAFETY FIRST: Wear safety goggles for eye protection and also ear muffs for ear protection.

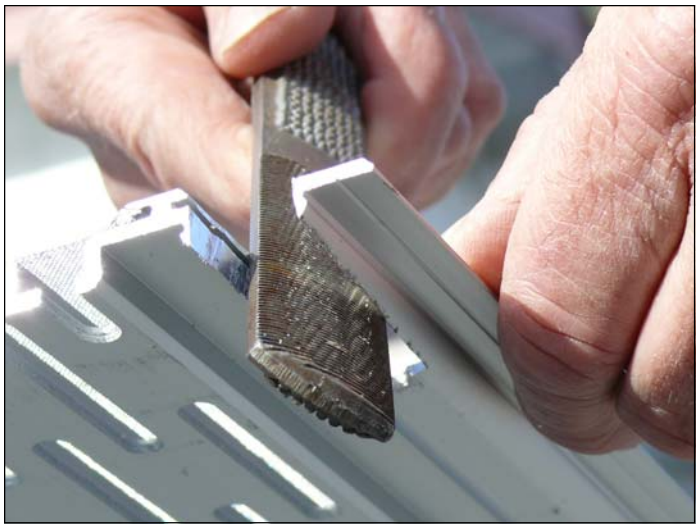
You can also use a reciprocating saw for cutting Gutterglove IceBreaker as in the photo below.

Reciprocating Saw

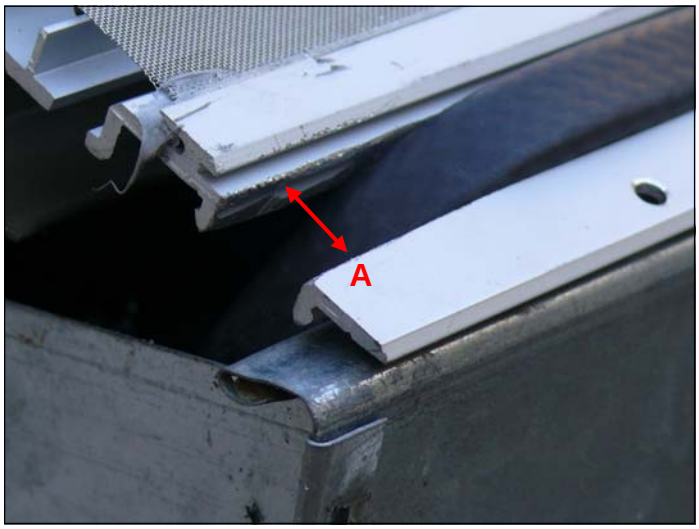
Notching IceBreaker For The Heat Cable

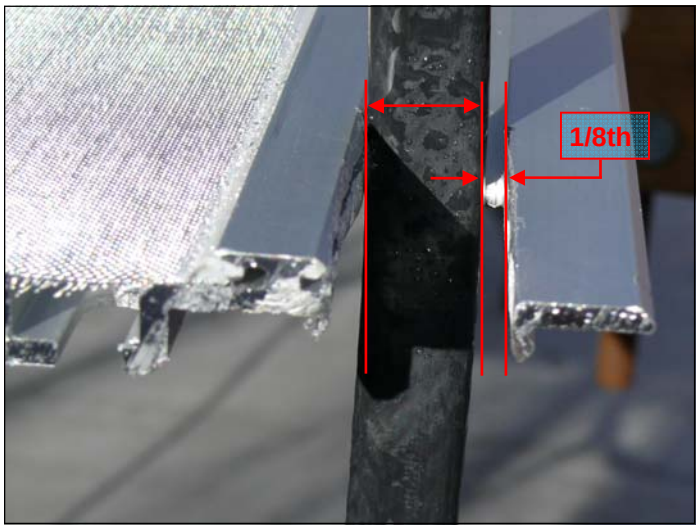
Trim out 2 inches of the channel that holds the cable. The purpose of this is so the cable can have a wider radius for turning down into the gutter. The self-regulating heat cable is not designed to make sharp turns with a small radius.

Then use a pair of pliers and just bend and snap off the notched piece of aluminum extrusion.



File all the edges of the notched out aluminum until smooth. This is so over long term the edges won't cut into the heat cable.



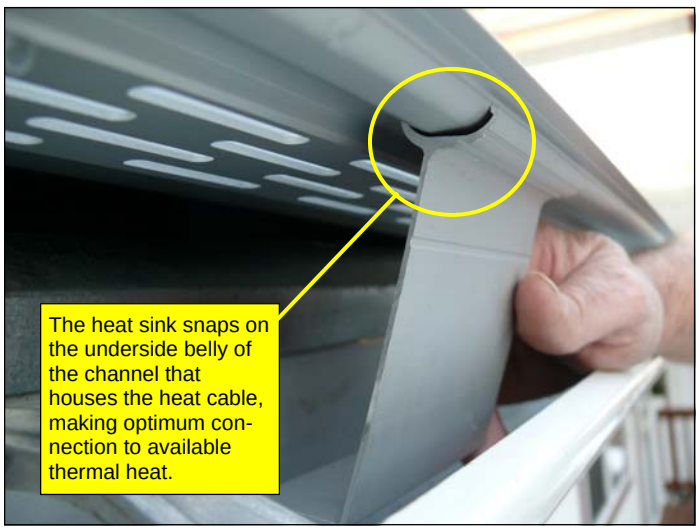


The aluminum extrusion should be notched out about 1/8th inch wider (A) than the self-regulating heat cable. This gives room for the cable to move without getting nicked or cut by the aluminum over long term.

Snap-On Heat Sinks

Gutterglove IceBreaker's revolutionary technology uses 'snap-on' aluminum heat sinks to bring warmth to the bottom of a gutter for melting ice when daytime temperatures average 10 degrees Fahrenheit or below. Conversely, when these daytime temperatures are above 10 degrees, then the heat sinks are not necessary. This breakthrough technology eliminates the need for a second heat cable at the bottom of a gutter.

Prior to installing the drip edge over the heat cable, lift up Gutterglove IceBreaker with any type of support brace (A), then start snapping in the Heat Sinks (B). You can use just about anything to use as a spacer to lift up IceBreaker. You could even use a small piece of wood.



Once the heat sink is snapped in, it easily slides over to the edge of the gutter support hanger with the push of a finger.

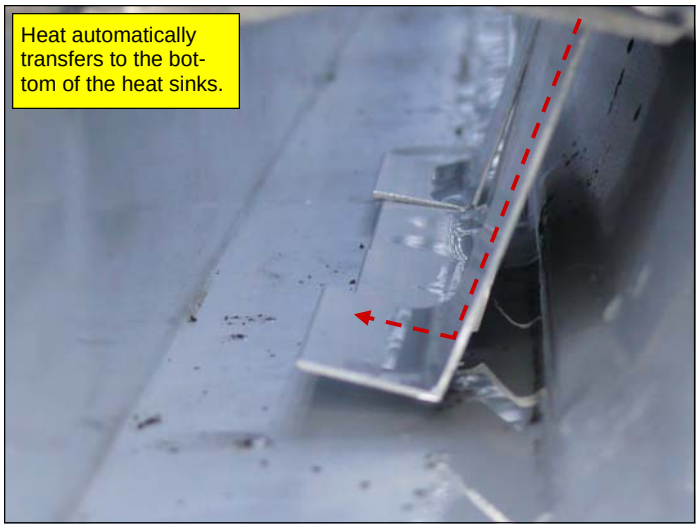
Fill in the entire length of Gutterglove IceBreaker with the Heat Sinks.

Snap-on Heat Sinks are only recommended when <u>daytime</u> temperatures (between 10am - 2pm) are at 10 degrees Fahrenheit or below for weeks on end.

The reason the Snap-On Heat Sinks are so effective is because aluminum alloy 6063 is used, it conducts, transfers and radiates heat better than any other aluminum alloy available. 6063 is also the same alloy used in heat sinks in computers and electronic equipment because of their increased performance in heat transfer characteristics. Essentially what is happening, this aluminum transfers the heat from one point to another.

Remove the spacers.

Lower IceBreaker back down on the gutter.



Heat automatically transfers to the bottom of the heat sinks.

Screw down the drip edge.

Before & After Photos Of This Job After It Snowed


Before


After


Before


After