WarmlyYours

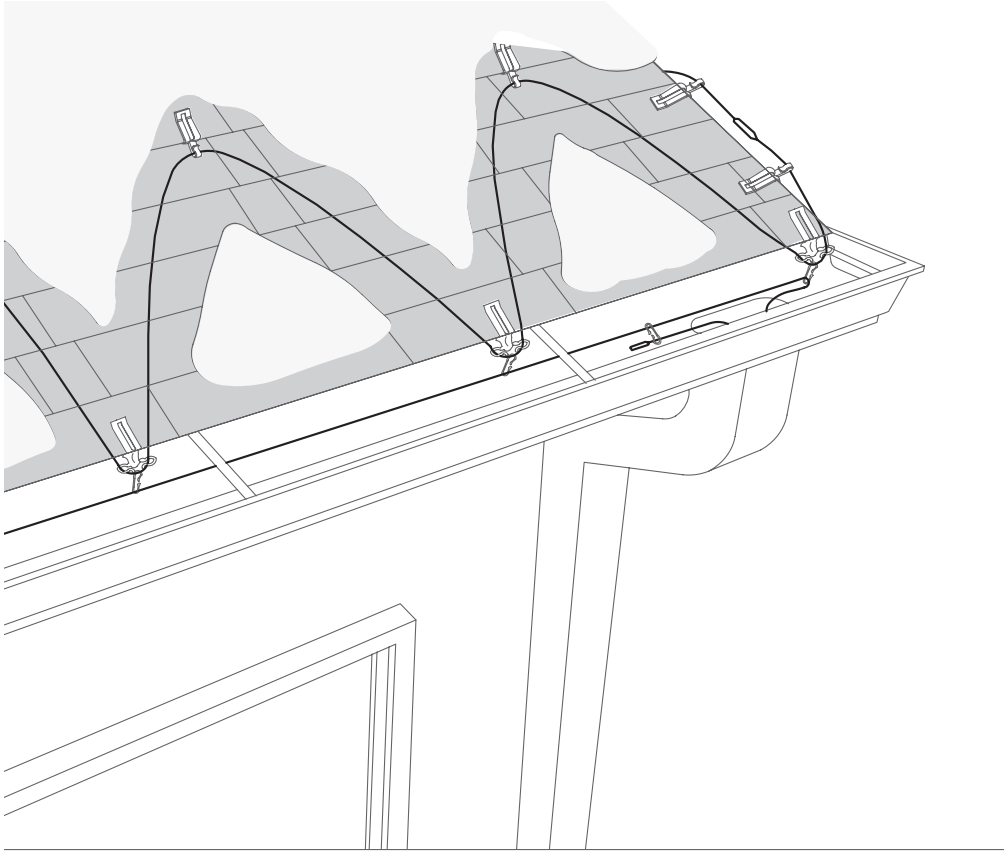
Radiant Heating Systems

Experts since 1999

Deicing Kit for Roof & Gutter ETC

Installation Manual

USE AND CARE GUIDE



Questions, problems, missing parts?
Call the WarmlyYours 24/7 Technical Support Team

1-800-875-5285

WARMLYYOURS

THANK YOU

We appreciate the trust and confidence you have placed in WarmlyYours through the purchase of this [deicing kit.].
We strive to continually create quality products designed to enhance your home. Visit us online to see our full line of products available for your home improvement needs. Thank you for choosing WarmlyYours.

Table of Contents

Safety Information

WARNING: Improper installation, use or maintenance of this heating cable may result in personal injury or death from electric shock or fire. It may also result in property damages. Read and follow all instructions described in this manual. After carefully reading this instruction manual, if you still have questions, contact WarmlyYours for assistance. Keep this manual for future references.

To properly and safely use this electrical heating cable, adhere to the remainder of the precautions listed in this Safety Information section.

NEVER: Use an extension cord or a damaged cable. If you do not understand the electrical requirements needed regarding the electrical receptacle plug, contact your local electrical inspector or a licensed electrician.

Avoid overheating the cable:
Do not allow the heated portion of an operating heating cable to touch or overlap itself or to touch another heating and/or deicing cable.
Do not operate the cable in warm weather (above 50°F or 10°C).
Do not install the heating cable where it might be warmed by any source of heat, such as an exhaust vent or chimney.

Do not cut or modify the cable in any way:
Do not cut or splice the cable.
Do not paint or expose it to chemicals, such as glue, caulk or adhesive.
Do not install this product to remove ice dams that have already formed or to clear the roof of ice and snow. Do not use this deicing cable for any other purposes than the one explain in this manual.
Do not use this heating cable for melting snow on sidewalks or for preventing pipes from freezing.

ALWAYS: Use an 120 Volt AC outdoor receptacle.

The heating cable system has to be grounded.

The heating cable has to be ground fault protected.

The heating cable has to be on a circuit that has an appropriate current (amp) rating.

The heating cable has to have an on/off switch that has an indicator light (pilot light).

The heating cable has to be protected from water and/or bad weather.

The receptacle box has to be within 6 ft. of the heating cable starting point. The starting point of the cable has to be on the roof.

See Electrical Requirements section on pages 4-5 for the details.

NOTICES: Keep all combustible materials away from the cable: (leaves, pine needles, seeds or wind trash).

Do not attach the cable to combustible material (anything with wooden parts of the leaf).

If you are installing gutter guards leave at least 1/2 in. clearance between the gutter guard and the heating cables.

Do not use or install a cable that is damaged. Signs of damages include such things as cuts, cracks, discoloration, and bare wire.

Use this product only as intended and described in this manual.

To prevent creases, it should be assured that the minimum bending radius is 1 in..

LIMITED WARRANTY AND LIABILITY

The manufacturer warrants that if there are any defects in material or workmanship in this product during the first twenty four (24) months after the date of its purchase, we will replace the product with an equivalent model, not including any labor or other installation costs.

Our obligation to replace the product as described above is conditioned upon (a) the installation of the product conforms to the specifications set forth in our installation instructions and (b) the product not having been damaged by unrelated mechanical or electrical activities.

Product replacement as described above shall be your sole and exclusive remedy for a breach of this warranty. This limited warranty does not cover any service costs relating to repair or replacement.

We shall not be liable for any incidental, special or consequential damages as a result of any breach of this warranty or otherwise, whether or not caused by negligence. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

The warranty above is exclusive and makes no other warranties with respect to description or quality of the product. No affirmation of fact or promise made by us, by words or action, shall constitute a warranty. If any model or sample was shown to you, the model or sample was used merely to illustrate the general type and quality of the goods and not to represent that the goods would necessarily be of that type or nature. No agent, employee or representative of ours has authority to bind us to any affirmation, representation or warranty concerning the goods sold unless such affirmation, representation or warranty is specifically incorporated by written agreement.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE THAT MAY ARISE IN CONNECTION WITH THE SALE OF THIS PRODUCT SHALL BE LIMITED IN DURATION TO TWENTY FOUR (24) MONTHS FROM THE DATE OF PURCHASE. WE DISCLAIM ALL OTHER IMPLIED WARRANTIES, UNLESS WE ARE PROHIBITED BY LAW FROM DOING SO, IN WHICH CASE ALL SUCH IMPLIED WARRANTIES SHALL EXPIRE AT THE EARLIEST TIME PERMITTED BY APPLICABLE LAW. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or province to province.

To obtain a replacement under this warranty any inoperative product or component must be returned, with proof of purchase, to WarmlyYours. Buyer is responsible for all costs incurred in removal and re-installation of product and must pre-pay shipment to factory or point of purchase.

PRE-INSTALLATION PLANNING & INFORMATION

A. The Purpose of the Heating Cable

This deicing cable is designed to prevent ice buildup, known as ice dams, from forming on roofs and in gutters and downspouts. When properly installed and operated, this product creates a path for melted snow or ice (“melt water”) to drain from the roof to the ground.

B. Who Should Install This Heating

A licensed electrician if you are unsure about the requirements listed below or what you may need to do is to meet all applicable electrical codes and ordinances.

C. When to Install the Cable

The deicing cable may be installed when:

□ There is no ice or snow on the roof
This cable was designed to make a clear path for snow and ice that is already melted.
To prevent future ice dams, you can install the deicing cable once the ice and snow have melted and before the next winter season.
Do not use this cable to melt snow and ice that has already formed on your roof or in your gutters or downspouts, as you would not be able to attach the cable properly with the clips.

PRE-INSTALLATION PLANNING & INFORMATION

☐ The temperature allows for lifting of the shingle tabs
In general, the temperature should be between 32°F and 80°F (0°C and 27°C). Below 32°F (0°C), shingles are brittle and may break off when lifted to install the cable clips. Above 80°F (27°C), shingles may be hot and may tear when lifted to install the cable clips.

D. Determining Where the Cable Should be Installed

The cable should be installed on roof areas where ice dams or excessive snow are likely to form. An ice dam is where snow has melted on an upper roof surface, but the area below is still snow and/or ice covered.

Cable should also be installed in any nearby gutters, downspouts and/or valleys so that a clear path is provided for melted water.

If your previous ice dam problems have only included ice forming in the gutter and there are no ice dam problems on the roof, install the cable in the gutter and downspouts only.

E. The Heating Cable Length Checking Should be Installed

After you have determined what areas need the installation of the heating cable see

Appendix A to verify the length of cable that will be needed.

ROOF, GUTTER & DOWNSPOUT MATERIAL REQUIREMENTS

This kit is only designed for use on:

☐ Metal or plastic gutters/downspouts
☐ Inclined roofs
☐ Roofs with noncombustible shingles (Ex.: asphalt shingles) that meet national building codes

WARNING: Use of this kit on any other type of roof, gutter or downspout increases the risk of ice dam formation or injury or death from electric shock or fire.

Do not use this kit on any other type of roof, gutter and downspout, including:

- ☐ Roofs with wooden shingles
- ☐ Rubber or rubber membrane roofs
- ☐ Composite (tar and gravel) roofs
- ☐ Wooden gutters or downspouts
- ☐ Flat roofs
- ☐ ETC cable cannot be used on slate, stone, metal and ceramic roofs.
  These types of roofs require special installation or the use of a self-regulating cable If you are not clear of the material used for your roof, gutters and downspouts, call a professional roofing contractor.

ELECTRICAL REQUIREMENTS

Ask your local licensed electrician if you are not certain on how to install this heating cable. The installation has to meet all applicable electrical codes.

ELECTRICAL REQUIREMENTS (continued)

This cable must be plugged into a 120 volt A/C outdoor receptacle that:

- □ Is grounded. This cable is equipped with a three-prong plug that has a grounding prong to reduce the risk of fire and electric shock. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local electrical codes. Do not modify the plug.

- □ Is ground-fault protected. A ground-fault protected outlet reduces the risk of fire or electric shock by stopping the electrical current when the GFCI senses that the current is wrong in the cable.
  If you are not sure if your receptacle has ground-fault protection, ask your local electrical licensed electrician.

- □ The cable is plugged in a circuit that has enough current (amp). Do not use this cable on a circuit whose circuit breaker or fuse is rated at more than 20 amps. Limiting the circuit to a maximum of 20 amps will reduce the risk of fire and electric shock if the cable becomes damaged. While a 20 amp circuit is the maximum allowed, you also need to check that the circuit can supply enough current without being overloaded. Overloading a circuit can lead to a tripped breaker or a blown fuse. To avoid overloading the circuit, do not use more than 80% of the circuit's rated capacity See Table 1 below for the current needed for your cable length. If you do not have a circuit with an appropriate rating, contact a licensed electrician.

Table 1 Required Amps Based on Product Model

Catalog Number	Required Amps
ETC120-5W-020-WY	0.8
ETC120-5W-030-WY	1.25
ETC120-5W-060-WY	2.5
ETC120-5W-080-WY	3.33
ETC120-5W-100-WY	4.17
ETC120-5W-120-WY	5
ETC120-5W-160-WY	6.7
ETC120-5W-200-WY	8.3
ETC120-5W-240-WY	10

□ On/off switch with an indicator light. The indicator light should be wired to light up when the cable is energized. Turning on the cable in warm weather can cause it to overheat and may increase the risk of fire or electric shock.

□ Is protected from the weather. The connection between the plug and receptacle must be protected from rain, snow or other elements. You may use either:

1. a receptacle in a location that is protected from the elements.
2. a receptacle that has a weatherproof enclosure, similar to that shown below.

□ Is within 6 ft. of the cable starting point on the roof. The cold lead of the cable is 6 ft., and the rest of the cable is heating cable.
The outlet should be within 6 ft. of the start point of the heating portion of the cable on the roof (only).
It is recommended that you do not use an extension cord with this cable.

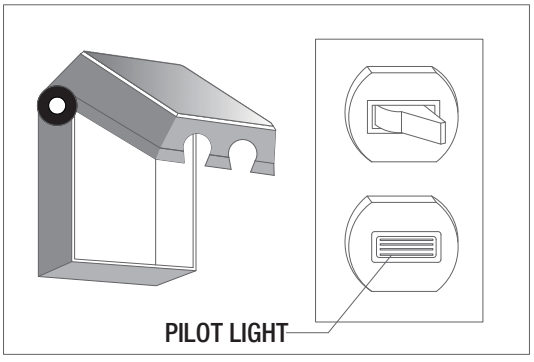


Figure 1A.
On/Off switch
with indicator light

Figure 1B. In-use
outlet cover

MATERIALS NEEDED FOR INSTALLATION

A. ETC KIT MATERIALS

This Kit contains: Cable
Cable spacers
Shingle clips

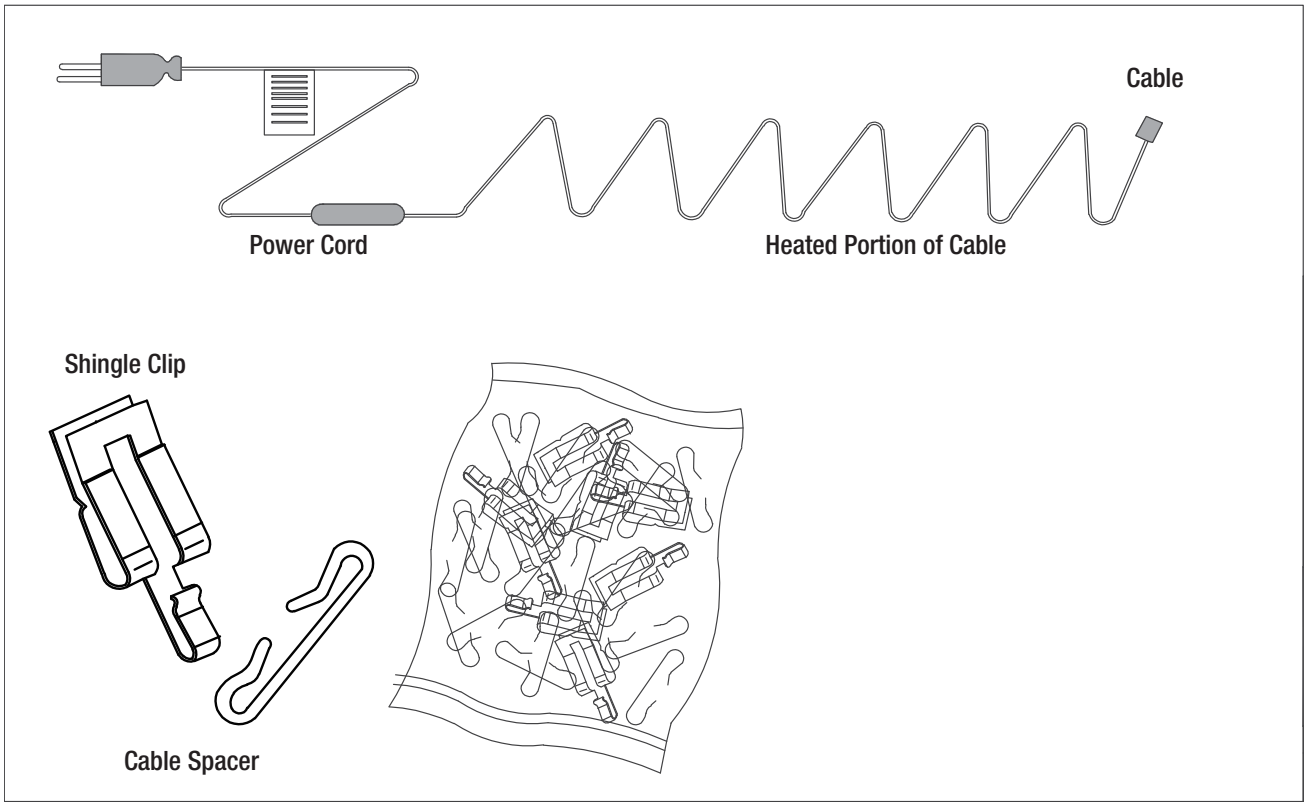


Figure 2. ETC Kit Materials
If any component of this kit is missing or damaged, contact Customer Service.

B. Additional Tools and Materials Required

You will also need:
Tape Measure, to measure lengths of roof edge, overhang, etc.
Putty Knife, to pry up shingles
Marking Chalk, to mark cable pattern on shingles
Weighted String to measure cable needed in downspouts and to pull the cable through downspouts
Filing tool, to remove sharp edges along gutters and downspouts. Ladders if necessary

INSTALLING THE CABLE

WARNING: Failure to follow these instructions to install, handle, and arrange the heating cable may result in ice dam formation which can lead to serious injury or death from electric shock or fire.

A. PLANNING YOUR CABLE INSTALLATION

Before laying out and attaching the cable to your roof, it is important to plan how the cable will be fixed.

To prevent ice dams, the cable pattern must leave a clean channel so that the meltwater flows from “warm areas” of the roof through the “cold areas” down into the downspouts and to the ground. A “warm area” is where snow and ice does not freeze because of heat loss through inadequate roof venting and/or insufficient ceiling insulation. “Cold areas” are where ice typically accumulates, such as above overhangs and in gutters.

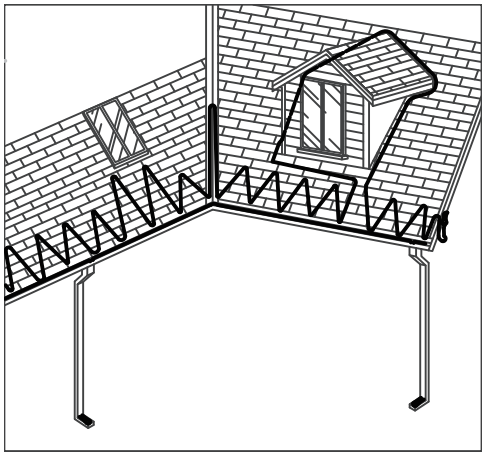
WARNING: Cable overheating;
Do not allow any part of a cable to pass through the inside of any area of a building, including an attic. Do not install the cable in a downspout that has a section that passes through a building. Do not install cable where it might be warmed by sources of heat, such as an exhaust vent or chimney. Keep the cable at least 12 in. from these sources of heat.

WHERE TO START:

The cable starting point must be away from any passing person. For more information on selecting a location for an electrical outlet, see Electrical Requirements on pages 4-5. If an electrical outlet exists in an appropriate location, then that is your starting point. If not, select an appropriate starting point and have an electrical outlet installed with a GFCI. (See Electrical Requirements on pages 4-5)

Planning the layout or pattern on the roof.

Different ways for fixing the cable on the roof are provided on the following pages. Always install cable in valleys that are a part of any problem area on your roof.

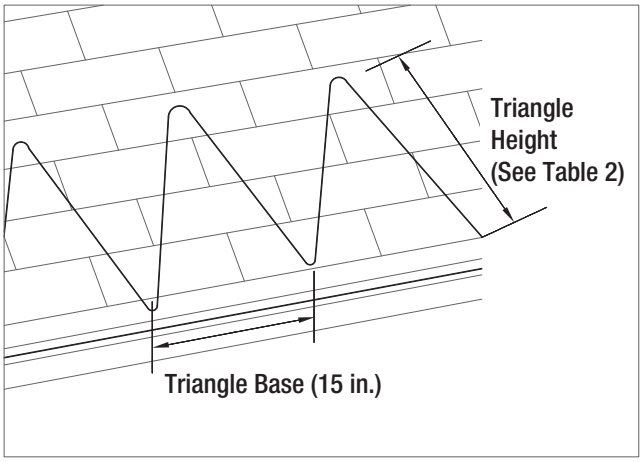


□ Figure 3. Installation techniques along roofline and in gutters/downspouts

Mark the cable pattern with chalk and then arrange the cable. A Drawing before arrangement will be helpful

Pattern for the roofline:
Cable is installed in a triangular pattern (see Figure 4). The cable must extend above the overhang into the warm section of the roof. To determine the height of the triangles, measure the depth of the overhang. The triangle heights are measured by the number of shingle rows from the roof edge (based on the standard 5-1/2 in. shingles). Using Table 2, determine the height of each triangle. Using this method, the triangles will extend at least one shingle row (5-1/2 in.) into the warm roof area.
The base of each triangle is most of the time 15 in. wide. If you have nonstandard shingles contact Customer Service for assistance.

INSTALLING THE CABLE (continued)

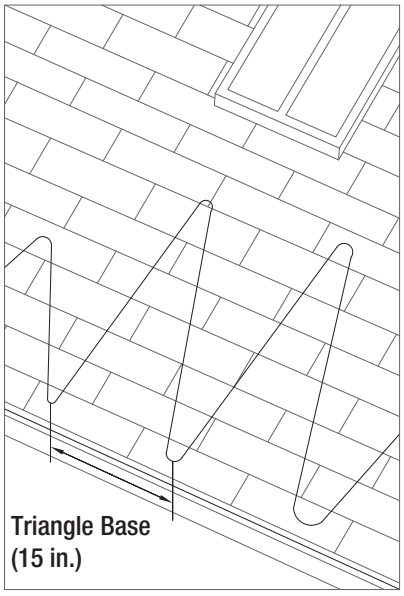


□ Figure 4. Triangle pattern along roofline

Pattern for skylights:
Skylight areas are also installed with the "triangle pattern". The triangle height must extend to one shingle row 5-1/2 in. below the skylight. The triangle base is maintained at 15 in. (See Figure 5).
Triangle heights must not exceed 20 ft. The clips provided with the kit are not designed to attach triangles this large. For problem areas that are more than 20 ft. from the roof edge, commercial grade deicing cable should be installed by a professional installer.

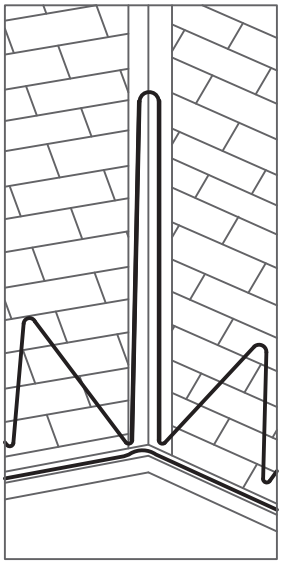
□ Table 2 Triangle Heights for Overhangs

Overhang	Triangle Height
(in.)	(Shingle Rows)
12 or less	3
12-18	4
18-24	5
24-30	6
30-36	7
36-42	8
42-48	9
48-54	10
54-60	11
60-66	12
66-72	13



□ Figure 5. Triangle pattern near skylight

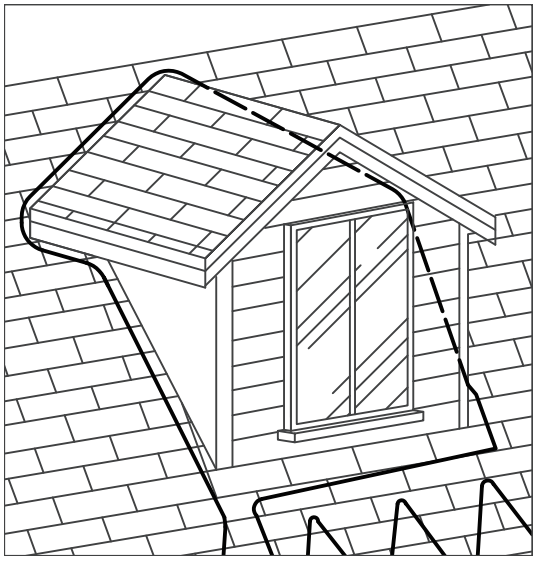
Pattern for valleys:
If a valley exists in a problem area of your roof, you must route cable up and back down the valley a minimum of 3 ft., as shown in Figure 6. Extend the cable higher if the warm area of your roof is higher.



□ Figure 6. Cable pattern in a valley

Pattern for dormers:
The cable should be arranged up and around the dormer as shown in Figure 7.

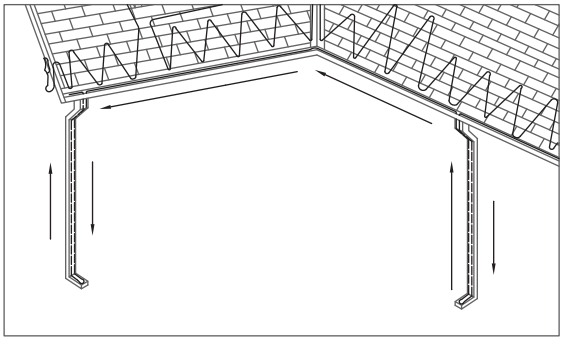
INSTALLING THE CABLE (continued)



□ Figure 7. Cable pattern around a dormer

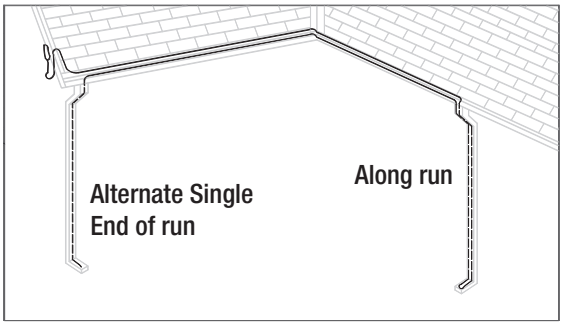
Installation techniques for other special roof areas:
Always keep the triangle base at 15 in. The triangle height can extend at least one shingle row (5-1/2 in.) into the warm roof section.
Triangle height must not exceed 20 ft. The clips provided with the kit are not designed to attach triangles this large. For problem areas that are more than 20 ft. from the roof edge, commercial grade self-regulating deicing cable should be installed by a professional installer.

Installation technique in the gutters and downspouts:
For each roof area that a heating cable has been installed, the corresponding gutter must also have heating cable. After fixing the cable along the roofline, the cable will need to be installed back along the treated roofline through the gutter. Plan to install the cable down into and back up the inside of any downspouts along the way. If there is a downspout at the end of the roofline, you need only route the cable down the inside of the downspout and back up. However, if the cable is to short, only route the cable down the inside of the downspout and not back up. The cable must terminate at the end of the downspout.



□ Figure 8. Cable installed back along the roofline in the gutter and Downspouts

If the icing problems are only in the gutter, install the cable only in the gutter and downspouts using the double run technique shown in Figure 9. This figure shows single run technique.



□ Figure 9. "Double cable run" in gutter and downspouts

About the number of the cables.
If separate areas are being treated, it may be more practical to use separate cables. When planning your cable installation, consider where each cable will be installed depending on its length.
It is also possible to use the same cable for both areas; the cable can be installed from one area to the next either in the gutter or horizontally attached to the shingles. Do not install the cable over the roof.

The cable shortage or excess.
For light shortages, triangles can be made smaller in areas less sensitive to ice dams. If a downspout is present at the end of the roofline, the cable may be routed in a single run down, or as recommended run down and back up. The cable must terminate at the end of the downspout. See figure 22.

B. PROPER HANDLING & CARE OF THE CABLE

- Do not step on the cable.
- Do not bend cable more sharply than required for use with the clips included with the kit and according to the installation instructions. Sharp bends can damage the heating element.
- Do not allow the heated portion of an operating cable to touch, cross over or overlap itself or to touch another deicing cable.
- Do not cut, splice or alter the de-icing cable in anyway.
- Do not cover or insulate any part of the cable.
- Do not paint or expose the cable to chemicals such as glue, caulk or adhesive.

C. TESTING THE CABLE

You may want to test the cable before installation. To do the test, uncoil the heat cable completely so it does not touch, cross over or overlap on itself. Do not plug in the cable until it has been completely uncoiled.
Plug cable in, and in approximately 5 minutes, it should feel slightly warm to the touch. Then unplug the cable.

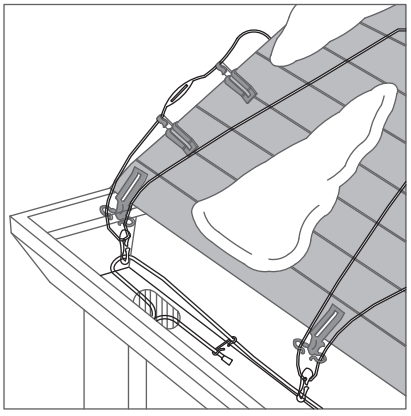
D. PREPARE YOUR ROOF, GUTTERS & DOWNSPOUTS

BEFORE installing the deicing cable, follow the below steps:
- Remove any existing de-icing cables, or heating cables, clips and cable spacers in the area where the new cable will be installed. (See Removing the Cable on page 12-13.)
- Remove any combustible debris from the roof, gutters and down spouts, such as leaves, pine needles, seeds or windblown trash.
- Look and feel for sharp or jagged edges along gutters and downspouts that could damage the cable. Sharp or jagged edges could include gutter edges, downspout fittings or screws. Remove sharp or jagged edges by either filing or bending them down.

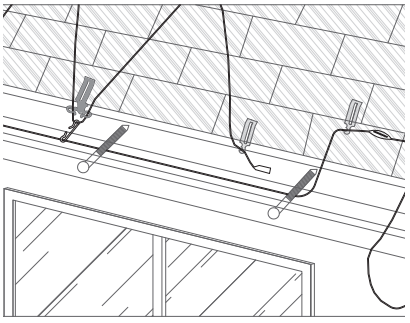
E. ATTACHING THE CABLE

Use only the clips and spacers provided to attach the cable. Do not attempt to staple or nail the cable or attach the cable with materials such as glue, caulk or adhesive.
While the cable is being laid-out on the roof, loose attachment of the clips and spacers is recommended in case adjustments must be made.

Attaching the cable at the starting point.
Near the outlet, first, attach the cable to the edge of the roof near the outlet using the clips as shown in Figure 10 or 11. Do not plug in the cable at this time.
Then, install your cable as planned on your roof or in your gutter and downspouts. Details on clip and spacer attachment are provided in the following sections.



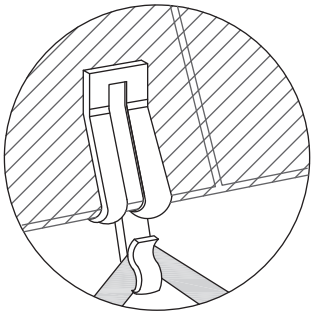
□ Figure 10. Starting point near roof edge



□ Figure 11. Starting point along gutter edge

Attaching the cable with clips and cable spacers.
Without breaking shingle, lift it gently and evenly using a putty knife. Lift the shingle just enough to insert clip.
Press shingle back down firmly.

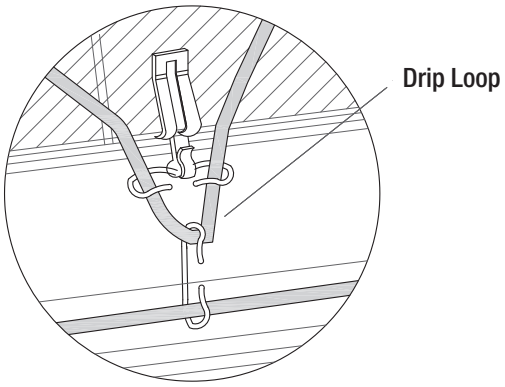
Note: Shingles will reseal in hot weather.



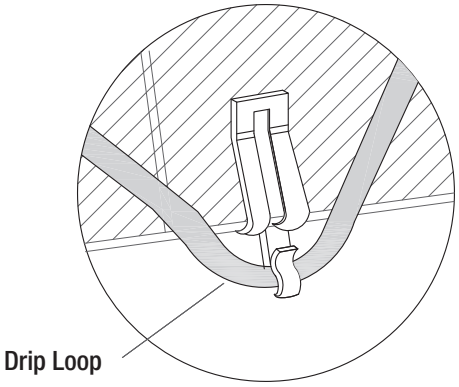
□ Figure 12. Attaching clips to shingles at top of triangles

At bottoms of triangles along edge of roof
Make a loop over roof edge to direct melt water into the gutter or to the ground. There should be a minimum of 2 in. between the bottom of the drip loop and the bottom of the gutter.

INSTALLING THE CABLE (continued)



□ Figure 13. Attaching Clips to shingles at edge of roof with gutters



□ Figure 14. Attaching clips to shingles at edge of roof with gutters

Along the rise of large triangles

For triangles that are larger than 3 ft. in height, also attach clips every 3 ft. up the height of the roof.

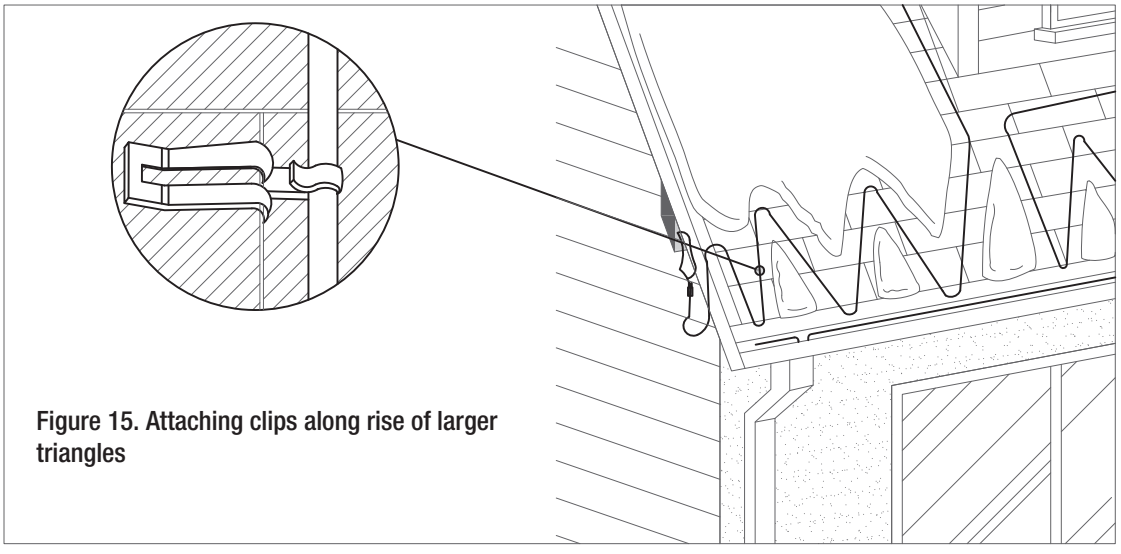


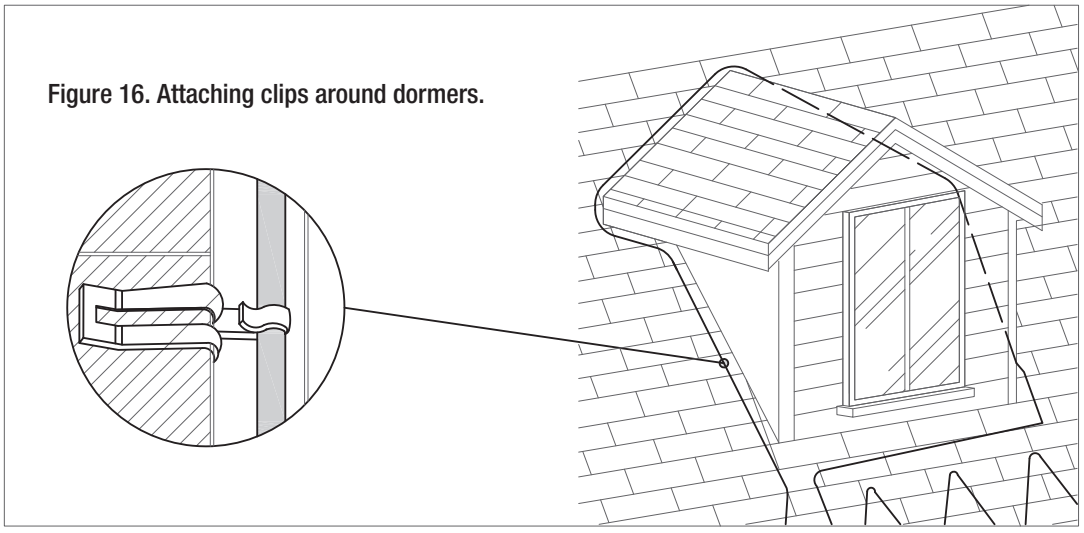
Figure 15. Attaching clips along rise of larger triangles

Around dormers

Figure 16 shows how to use a clip to attach the cable when the cable is running vertically around a dormer. Lift the side edge of the shingle to gently insert the clip sideways.

INSTALLING THE CABLE (continued)

Figure 16. Attaching clips around dormers.



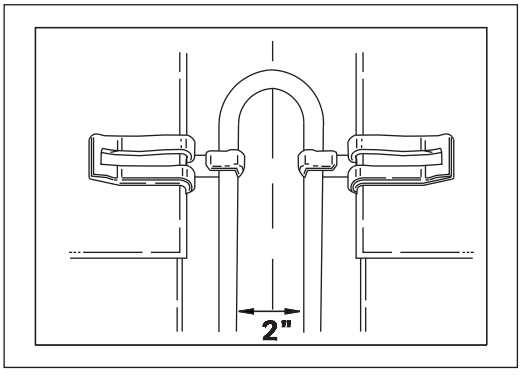
Near skylights

Triangles of cable are attached near skylights the same way as shown in Figures 12, 13 and 14. If the skylight is high up the roof (making the triangles larger than 3 ft. in height), clips must also be attached every 3 ft. up to hold the cable, as shown in Figure 15.

Up and down valleys

Figure 17 shows how to use a clip to attach the cable up and down the valley. Lift the edge of the shingle to insert the clip sideways.

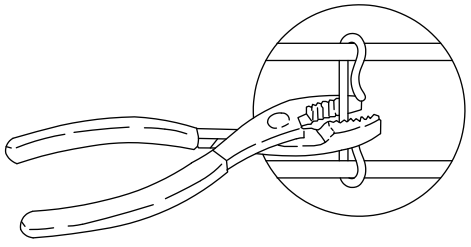
□ Figure 17. Attaching clips in valleys



Installing the cable in the gutter using cable spacers.

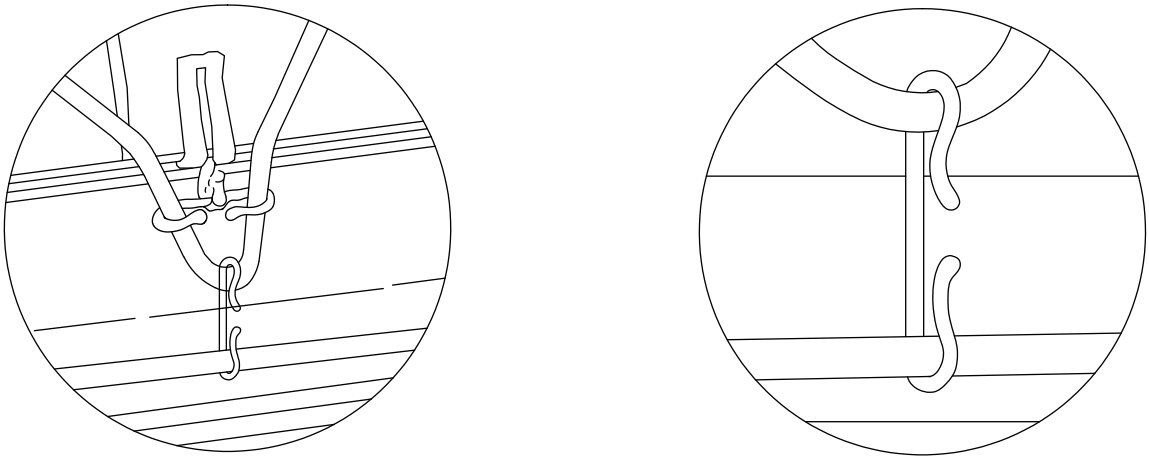
When installing the cable in the gutter, the spacers can be tightened with fingers or pliers. If you use pliers, squeeze gently and use care to avoid pinching, crimping, cutting into the cable. This will damage the cable (see Figure 18).

□ Figure 18. Squeezing spacers with pliers



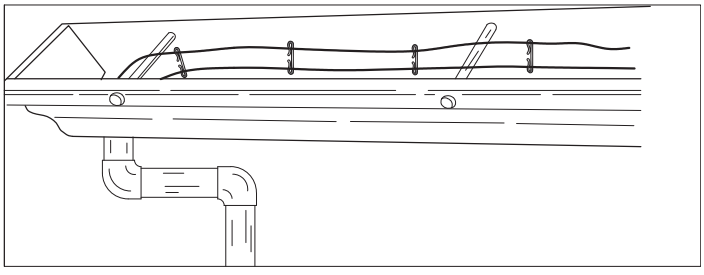
Install the gutter cable to the bottom of each drip loop you have formed. See Figure 19. Keep the cable in the gutter tight and off the bottom of the gutter to prevent heat loss.

INSTALLING THE CABLE (continued)

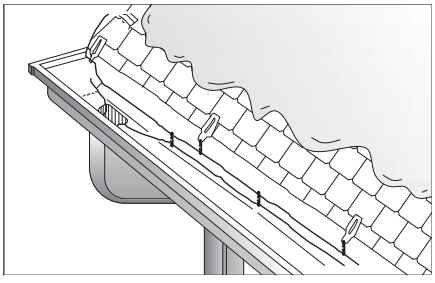


□ Figure 19. Attaching clips in gutters

If only the gutters need deicing, use a “double-run” of cable in the gutters and downspouts.
Figure 20a shows a gutter installed with gutter nails. Install the cable under and over the gutter nail to keep the cable suspended off of the bottom of the gutter. Spacers should be attached every 12 in..
Figure 20b shows a gutter with external gutter clips. Use the clips and spacers to keep the cable suspended off the bottom of the gutter. Clips should be attached every 3 ft. along the roof.



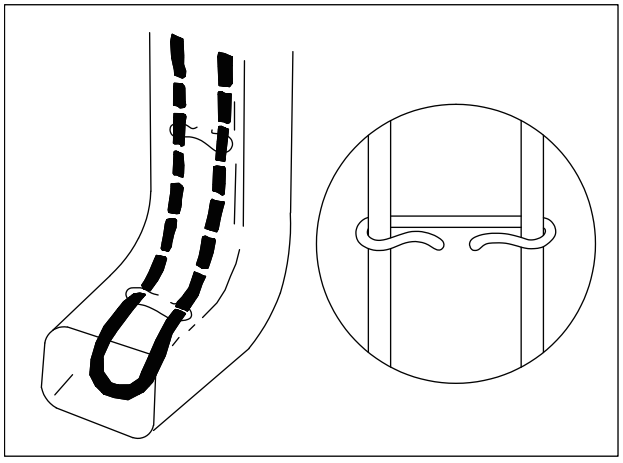
□ Figure 20a. Double run of cable in gutter-only applications (gutters with gutter spikes)



□ Figure 20b. Double run of cable in gutter-only applications (gutters without gutter spikes)

Installing the cable in downspouts using cable spacers

For downspouts that are along the run of the roofline, the cable must be installed down and back up the inside of the downspout. Do not wrap the cable around the downspout or otherwise attempt to attach it to the outside.
The cable must be flush with the end of the downspout. No cable may be extended out of the downspout.



□ Figure 21. Double cable run in downspouts “along run”

Once you know the length of cable needed, the next step is to install spacers and lower the cable into the downspout. Spacers must be attached to the cable every 6 in. to prevent the cable from touching each other in the downspout. You must tighten the spacers before the cable is lowered in the downspout. (see Figure 18). Pull the cable into the downspout using a weighted string.

“End of run” downspouts. If a downspout exists at the end of the run of the roofline, it is recommended that the cable should be installed down the inside of the downspout and back up. (see Figure 22). If at this point you find that you have excess cables, triangles on the roof can be made larger (up to 20 ft. in height) or cable loops in valleys can be extended.
If you have a shortage of cable (the end of the cable does not reach to the bottom of the downspout), you may reduce the height of the triangles on areas of the roof that are less susceptible to ice dams. It is possible in this scenario to only have a single run of cable in the end downspout, termination at the end as shown in Figure 22.

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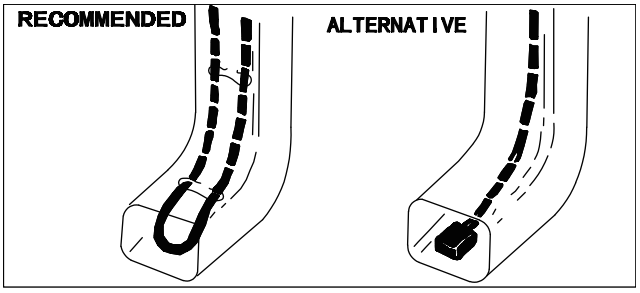

□ Figure 22. Cable in “end of run” downspouts

F. FINAL INSTALLATION STEPS

Check to be sure the cable has not been moved from its intended position. The heated portion of the cable must be positioned entirely on the roof and must not touch, cross over or overlap itself.

MAINTENANCE AND OPERATION OF THE CABLE

A. PRE-SEASON VERIFICATION

At the beginning of the winter season you should:

Check and remove all combustible debris from roofs, gutters and downspouts, such as leaves, pine needles, seeds and windblown trash.

Check to be sure the cable has not been moved from its intended position. The heated portion of the cable must be positioned entirely on the roof and must not touch, cross over, or overlap itself.

Without removing it from the roof, visually inspect the entire cable, including the plug. Discontinue to use and remove the cable if it shows any evidence of damage or deterioration, including cuts, brittleness, charring, cracking, discolored surfaces, or barewires. If there appears to be a problem inside a downspout, remove the cable to inspect it.

If no damage is presented, plug the power cord into the receptacle. Arrange the cord to form a drip loop using a spacer (see Figure 24). The purpose of the drip loop is to prevent melt water from tracking along the cord and into the receptacle.

Test all ground-fault protection devices (see the instructions provided with the device).

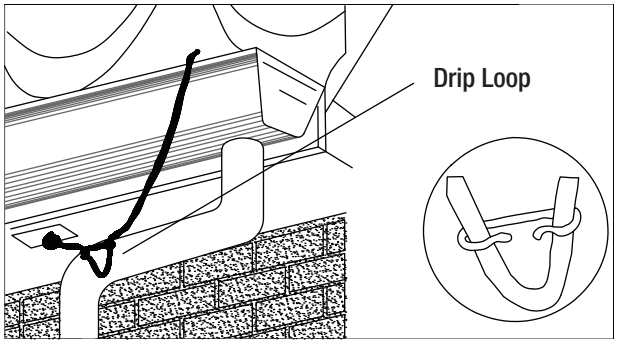

Figure 24. Forming a drip loop near the starting point.

B. TURNING THE CABLE ON AND OFF

During the winter season, turn on the cable only when conditions are favorable for ice dams to form. The cable should only be operated when:

Snow or ice on the roof is melting, and

The outside temperature is between 15°F and 35°F (-9°C and 2°C). Below 15°F (-9°C), very little melting will normally occur, and in very cold conditions, the cable may not generate enough heat in some roof sections to prevent melt water from refreezing. This may result in ice dam formation which may cause water to backup under your shingles.

Once turned on, the cable should be shut off when the melt/freeze condition stops, usually above temperatures of 35°F (2°C). The cable should be kept off until the melt/freeze conditions return.
The cable can be operated usingan on/off switch (with an indicator light).

C. CHECKING OPERATION AND CONDITION OF CABLE

During the winter season and when snow or ice on the roof is melting, check to ensure a complete path is available for melt water on the roof to get to the ground. If icing problems persist, the cable pattern may need to be modified.

To adjust your cable pattern, first unplug the cable. Remove the cable by opening the clips and spacers with pliers, as needed, to rearrange and supply more cable to the needed areas.

During operation, the ground fault protection device may trip if the cable is damaged. One way in which nuisance tripping can occur is if parts of the electrical circuit become wet. This can happen if driving rain or blowing snow enters the electrical receptacle. Use of a weatherproof in-use receptacle may help eliminate this (see page 7).

Before resetting the ground fault protection device, unplug and inspect the entire cable for damage. Dispose of the cable if it shows any evidence of damage or deterioration. If you cannot see damage on the cable, reset the ground fault protection device. If the device trips again and there is no other explanation for it, call a licensed electrician to check the cable and the circuit. A licensed electrician can determine if the cable is damaged or if there is some other problem with your electrical system.

As needed during winter season, unplug the cable and check for and remove all combustible debris from roof, gutters and downspouts.

About once a month during winter season, unplug the cable and perform the same checks as outlined in the Pre-Season Check section on page 9. Do these checks when weather and roof ice conditions allow.

D. RESETTING CIRCUIT BREAKER/REPLACING BLOWN FUSE

At any time during operation, if the circuit breaker trips, stop using the cable. Unplug and inspect the entire cable for damage. Dispose of the cable if it shows any evidence of damage or deterioration. Even if you cannot see damage on the cable, call an electrical contractor.

MAINTENANCE AND OPERATION OF THE CABLE (continued)

E. OFF-SEASON USE

The cable may remain on the roof year-round. However, do not operate the cable when outdoor temperatures begin to remain above 50°F (10°C) .Unplug the cable.

REMOVING THE CABLE FOR ROOF REPAIR

The cable must be removed prior to replacing roof shingles, starting roof repair, modifications, additions of antennas or any other items. To remove cable, wait for weather conditions to allow. Then, unplug the cable. Open the clips with pliers and remove the cable. Inspect the entire cable before replacing it on the roof. If cable is in good condition, it may be replaced on the roof, according to the instructions. If a replacement deicing kit is purchased, use only the new clips provided with it.

APPENDIX A: ESTIMATING THE CABLE LENGTH YOU NEED

If you need to apply the cable on a roof with gutter, downspouts, valleys, and/or dormers, follow “A. For Typical Roof Applications” below.

If you only need to install the cable in the gutters only, follow “B. For Problems in the Gutter Only” on page 15.

If you need to install the cable on a roof with special roof areas such as a roof with skylights, follow “C. For Roofs with Special Roof Area Applications” on page 15.

A. FOR TYPICAL ROOF APPLICATIONS

Step 1. For each area listed in Table B-1, measure the required dimensions (see Figures B-1 and B-2) and calculate the length of cable needed. Add each “area” calculation to determine the total cable length needed.

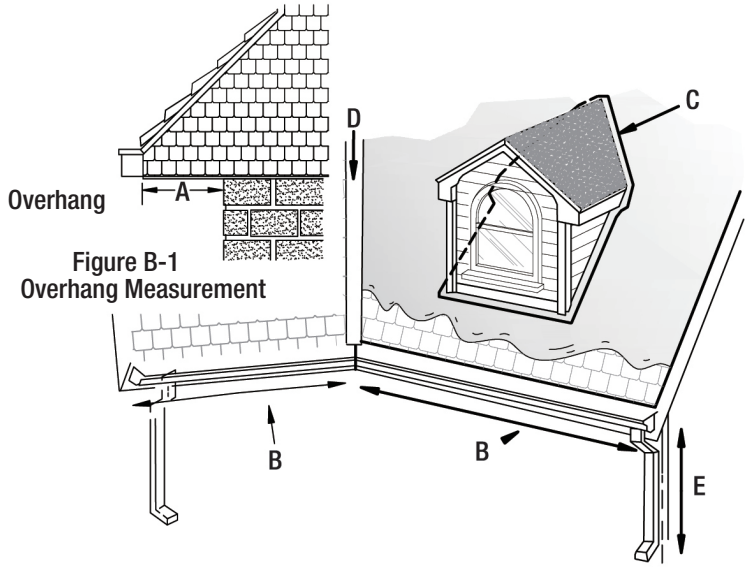

Figure B-1
Overhang Measurement

APPENDIX A:
ESTIMATING THE CABLE LENGTH YOU NEED (continued)

Table B-1 Cable Length Estimation Formula for Typical Roof Applications

Area	What to measure	How to calculate
Along Roof	Overhang (A) Length along roof (B)	Length of roof (B) X Over-hang Multiplier (see Table B-2)
Dormer	Distance around dormer (C)	Number of dormers X Distance around dormer(s) (C)
Valley	Number of valleys (D)	Number of valleys (D) X 6 ft. or 1.8M
Downspouts	Number of downspouts Length of downspouts (E)	Number of downspout (E) X 2

Table B-2 Overhang Multiplier

ROOF Less than 12 in.	OVERHANG Less than 30 cm	Multiplier For roof with gutter 4.0	Multiplier For roof without gutter 3.0
12	30	4.0	3.0
24	60	5.3	4.3
36	90	6.8	5.8
48	120	8.1	7.1
60	150	9.6	8.6
72	180	11.2	10.2

Note: For overhangs not listed, estimate multiplier. For example, for an 18° over-hang with a gutter, multiplier will be about 4.7.

STEP 2. Use the estimated cable length to choose the right deicing cable from Table B-3. Normally, choose the longer cable if the length you need is between two cable sizes. If the difference is smaller than 5 ft. use the shorter cable.

If ice dams are problematic in different roof areas that are far apart, it is recommended to use a separate cable for each location. Also, if the roof areas are important, use separate cables for the roof area and the gutter area.

Table B-3 Deicing Kits

Catalog Number	Length Ft.	M
ETC120-5W-020-WY	20	6
ETC120-5W-030-WY	30	9
ETC120-5W-060-WY	60	18
ETC120-5W-080-WY	80	24
ETC120-5W-100-WY	100	31
ETC120-5W-120-WY	120	36.5
ETC120-5W-160-WY	160	49
ETC120-5W-200-WY	200	61
ETC120-5W-240-WY	204	73

B. FOR ICING SUTUATION IN THE GUTTER ONLY

If ice is building up in gutters only, (see Figure B-2) calculate the length of cable needed for each area listed in Table B-4. Add each “area” calculation to determine the total cable length needed.

APPENDIX A:
ESTIMATING THE CABLE LENGTH YOU NEED (continued)

Table B-4 Cable Needed for Gutter Only Ice Situations

Area	How to Calculate
Gutter	Length of gutter (B) X2
Downspouts	Number of downspouts X Length of downspout (E) X2

C. FOR ROOFS WITH SPECIAL ROOF AREA APPLICATIONS

STEP 1. For each area listed in Table B-5, measure the required dimensions (see Figure B-1 on page 17 and Figure B-3) and calculate the length of cable needed. Add each "area" calculation to determine the total cable length needed.

Table B-5 Cable Length Estimation Formula for a Roof with Special Roof Areas

Area	What to measure	How to calculate
Along Roof	Overhang (A) Along roof (B)	Length of roof (B) X Overhang Multiplier (see Table B-2)
Dormer	Distance around dormer (C)	Number of dormers X Distance around dormer(s) (C)
Valley	Number of valleys (D)	Number of valleys (D) X 6 ft. or 1.8 m
Downspouts	Number of downspouts Length of downspouts from roof to ground (E)	Number of downspouts X Length of downspout (E) X 2
Special roof areas (such as skylights)	Distance from roof edge to bottom of special roof area (F) Width of ice dams that form along special roof area (G)	Distance from roof edge to bottom of special roof area (F) X Width of ice dams that form along special roof area (G) X Special Roof Area Multiplier (see Table B-6)

Note: Do not include the width of special areas (G) in this measurement.

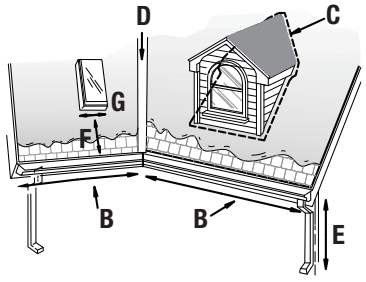

Figure B-3. Roof Measurements

STEP 2. Use the estimated cable length calculated above to select the proper deicing cable from Table B-3 on page 17. In general, choose the longer cable if the length you need is between the sizes offered. If the difference is small (less than 5 ft. or so), the shorter cable can be used. You cannot change the cable length by cutting, splicing or altering it in any way.
If ice dams are occurring on roof areas that area significant distance apart, you may want to use a separate cable for each location, rather than choosing one large cable. Also, if roof areas are large, separate cables for the roof area and gutter should be used.

APPENDIX A:
ESTIMATING THE CABLE LENGTH YOU NEED (continued)

Table B-6 Special Roof Area Multiplier	
Multiplier	**Multiplier**
for roof with gutter	for roof without gutter
2.6	1.6

Important Notice for Québec Consumers: WarmlyYours does not provide repair services for this product. The only replacement parts available are installation clips and spacers; the heating cable itself is not available as a replacement part. If your roof and gutter deicing cable fails within the warranty period, we will replace the entire unit according to our warranty policy. Our technical support team is available 24/7 by phone for installation and troubleshooting assistance. For full details, see our Return Policy. This notice is provided in accordance with Québec's Consumer Protection Act, section 39 (as amended in 2025).

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