



ROOF & GUTTER HEAT TRACING INSTALLATION

GENERAL GUIDELINES:

Moisture penetration into the heating cable is the main cause of problems or failure with any electrical de-icing system.

Installation instructions must be followed completely to make sure all connections are properly sealed.

The heating cable must be handled carefully to avoid damage to the outer jacket that may allow for moisture penetration.

All heating cable sealing kits will provide a proper seal for the heating cable when used and installed per kit instructions. All other electrical connections should be sealed to prevent moisture penetration.

Testing and inspection of the cable and components should be conducted as part of a periodic maintenance program to avoid possible damage and system failure. Testing methods are described in the Nelson Heater Cable Installation manual.

Contact Tracer Tech at 541-385-6565 if you have question or need additional information.

HEAT TRACING ON SHINGLED ROOF:

- A. Verify that the heating cable voltage and the available power supply are the same.
- B. Install power connection (SLTLPS) to heating cable.
- C. Extend heating cable up roof (over eave) until it is 6"-12" past the exterior wall. If snow fence is in place extend heating cable past snow fence. Cable may be secured to snow fence supports if available.
- D. Install heating cable in a zig-zag pattern across roof line with 18"-24" spacing between each peak and valley.
- E. At each bottom "V" loop extend heating cable approximately 2"- 3" past roof edge to form drip loop. Bend loop so the there is a slight downward angle.
- F. Use roof clips (SLTCU, SLTCGrip) to secure heating cable to roof.
- G. Fasten clips to roof prior to installing heating cable. One clip at top (peak) and one at bottom or "V" loop.
- H. Apply water seal over nails or screws to prevent leaks.

WITH GUTTER & DOWNSPOUTS:

- A. At the bottom loop create a 1" -2" drip loop that extends over the gutter.
- B. At end of layout, route the heating cable into gutter and run cable the length of gutter.
- C. Gutters less than 6" wide require only one run of heating cable.
- D. Wider gutters require 2-3 runs of heating cable.
- E. Strips of aluminum tape (AT50) may be used at various locations of gutter to hold heating cable in place.
- F. *Loop heating cable at each downspout except at the end of gutter or heater segment run.
- G. Install heating cable hanger (SLTD) or cable support (SLTDRD) at each downspout.
- H. Create drip loop at the bottom of each downspout.
- I. If a single run of heating cable is installed in a gutter, the end seal should loop back up 12" inside the downspout.
- J. For downspouts that terminate below ground, extend the heating cable below the frost line.
** To minimize the opportunity for moisture penetration into the cable it is recommended that tees not be used on roof & gutter de-icing applications. The heating cable in all downspouts should be looped except those at the end of the gutter or heater cable segment. This method provides more heat in the downspout and is less time consuming than installing a tee kit.*

HEAT TRACE ON STANDING SEAM METAL ROOF:

- A. Verify that the heating cable voltage and the available power supply are the same.
- B. Install power connection (SLTLPS) to heating cable.
- C. Route cable up the roof seam until it is 6"-12" past the exterior wall. If snow fence is present, extend cable 6" past snow fence.
- D. Cable may be secured to fence supports.
- E. Extend heating cable over seam to the other side and run cable back along seam to roof edge.
- F. Extend bottom loop approximately 2"- 3" past roof edge to form drip loop. Bend loop so there is a slight downward angle.
- G. Run heating cable along roof edge to next seam that requires heating cable.
Note: If seams are <24" apart, skip a seam and follow (A) above. If seams are wider than 24", install heating cable on every seam.
- H. Cable may be secured to surface with seam clamps (S5-S) or with standard roof Clips (SLTCU).
- I. Attach roof clips with approved adhesive. Follow the directions for applying and curing of adhesive.
- J. Determine layout and attach clips to roof prior to installing cable.

WITH GUTTER & DOWNSPOUTS:

- A. At the bottom loop create a 1" -2" drip loop that extends over the gutter.
- B. At end of layout, route the heating cable into gutter and run cable the length of gutter.
- C. Gutters less than 6" wide require only one run of heating cable.
- D. Gutters 6"-12" wide require two runs of heating cable.
- E. Strips of aluminum tape (AT50) may be used at various locations of gutter to hold heating cable in place
- F. *Loop heating cable at each downspout except at the end of gutter or heater segment.
- G. Install heating cable hanger (SLTD) or cable support (SLTDRD) at each downspout.
- H. Create drip loop at the bottom of each downspout.
- I. If a single run of heating cable is used the end seal should loop back up 12" inside the downspout.
- J. For downspouts that terminate below ground extend the heating cable below the frost line.

** To minimize the opportunity for moisture penetration into the cable it is recommended that tees not be used on roof & gutter de-icing applications. The heating cable in all downspouts should be looped except those at the end of the gutter or heater cable segment. This method provides more heat in the downspout and is less time consuming than installing a tee kit.*

HEAT TRACE IN VALLEYS:

- A. Heating cable should be installed at least two-thirds up the length of each valley.
- B. Loop heating cable up valley and back toward roof edge.
- C. Create 1" drip loop over gutter or 2"-3" loop past roof edge.
- D. Continue cable layout along roof.
- E. Recommended loop spacing is 2"-4".
- F. Determine clip location (SLTCU) and attach prior to installing cable.
- G. Place two roof clips at top and bottom of loop.
- H. Space roof clips 5 ft.-10 ft. apart. Additional clips may be installed

HEAT TRACE AT ROOF/WALL INTERSECTION OR BELOW ROOF OVERHANG

- A. Loop heating cable at least two-thirds of the way up slope.
- B. The heating cable should be spaced approximately 3" apart with one run of heating cable 2"-3" from the wall.
- C. Secure cable with roof clips.
- D. Determine location of clip and attach prior to installing cable.
- E. Roof clip spacing may be 5 ft.-10 ft. apart. Additional clips may be installed.

FLAT ROOF with ROOF DRAINS OR SCUPPERS:

- A. Verify that the heating cable voltage and the available power supply are the same.
- B. Install power connection (SLTLPS) to heating cable.
- C. Create a “star” or “daisy” pattern with heating cable around each drain. Heating cable may be installed around the perimeter and extended up valleys leading to drain if necessary.
- D. Cable typically extends 12” out from drain.
- E. Use roof clips (SLTCU) to secure cable with an approved adhesive.
- F. Insert heating cable as specified into roof drain. Usually to the heated area of the building or where drain exits building.
- G. Install cable support (SLTDRD) at each drain.
- H. If both the roof drain & overflow drain require heating cable, it’s best to avoid the use of tees which creates a continuous run of cable.
- I. Repeat A-E above. Loop the cable in the roof drain and then extend the cable toward the overflow drain. Complete the same pattern around drain and insert cable the required length, typically to grade or below grade.
- J. *Alternative attachment method:* Use the same membrane roofing material and cut small strips or “belt loops” 2”x 8” and attach these loops to the roof using an approved adhesive. The heating cable will pass under the loop for attachment. UV-resistant cable ties may also be used to attach heating cable to belt loop.
- K. For scuppers install cable in “daisy” or “V” pattern at opening.