

Type SLT Roof and Gutter Deicer

UL:
Ordinary (Unclassified) Locations

CSA:
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Applications

- Nelson Type SLT heating cable provides a solution for ice dams that can build up and damage building roofs, gutters and downspouts.
- During winter months, snow and ice accumulation on roofs can prevent proper drainage of water when normal melting occurs. Water stands on the roof and can be refrozen during cold nights resulting in expansion and potential roof damage.
- Nelson's SLT ice melting heaters are designed for installation on roofs and gutters to melt a pathway for the drainage of water. The heating cable's self-regulating feature provides additional benefits as well.

Features

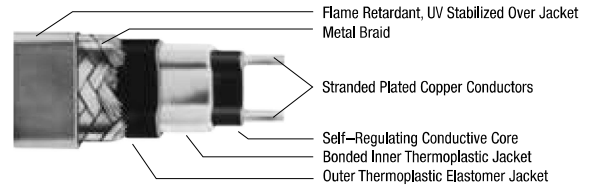
- Nelson SLT heating cable is a parallel circuit, self-regulating electric heater.
- An irradiated cross-linked conductive polymer core is extruded over two multi-stranded, tin-plated, 16-gauge copper buss wires. The conductive core material increases or decreases its heat output in response to temperature changes.
- A waterproof thermoplastic elastomer over jacket is then extruded over the inner jacket for dielectric protection and additional moisture resistance.
- A tinned copper braid is installed over the second jacket providing a continuous ground path.
- A flame retardant, UV stabilized polyolefin over jacket is then extruded over the braid.
- Lower Energy Consumption
 - The heater automatically reduces its power output as drainage tunnels are formed in the ice and snow.
- High Temperature Protection
 - Because the heater self regulates its power output as a function of temperature, it cannot overheat and melt or damage temperature sensitive roof coatings.

Accessories

- SLT-LPS: Power Connection Kit with Cable Seals
- SLT-RC: Roof Clips
- SLT-C: Roof Clips (Universal)
- SLT-D: Downspout Hangers
- SLT-S: Splice Kit – Heat Shrink
- SLT-E: End Termination Cable Seals – Heat Shrink
- AT-50: Aluminum Foil Tape, 50 Yards/Roll

Certifications and Compliances

- UL Listed: E33597
- CSA Standard: C22.2 No. 130-16
- CSA Certified: LR42103
- Other Standard: IEEE 515.1-2012



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Performance and Rating Data

The total cable length for deicing is determined by including all elements of the roof system that need protection. Use the following tables to determine the total length of cable required.

Total Cable Requirements

| Item | Feet of Cable/Ft. Item | Comments |
|-------------|------------------------|--------------------------------------------------------------------------|
| Gutter | 0.3 (1.0) | 1 Trace/6" gutter width |
| Downspout | 0.6 (2.0) | Unless downspout is on end of circuit, the cable is looped down and back |
| Roof Valley | 1.8 (6.0) | Per valley |
| Dormer | 0.3 (1.0) | 1 ft. of cable/foot of dormer perimeter |

Cable Footage Required for Roof Overhangs: (Feet of Cable per Foot of Roof)

| Eave Overhang | Feet of Cable Loop Height | Shingle Roof | Metal Roof |
|---------------|---------------------------|--------------|-------------|
| 0.30 (1.0) | 0.46 (1.5) | 0.56 (1.83) | 0.76 (2.50) |
| 0.61 (2.0) | 0.76 (2.5) | 0.81 (2.67) | 1.07 (3.50) |
| 0.91 (3.0) | 1.07 (3.5) | 1.12 (3.67) | 1.37 (4.50) |
| 1.22 (4.0) | 1.37 (4.5) | 1.42 (4.67) | 1.68 (5.50) |

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Selection Table

| Service Voltage | Power Output in Ice Watts/m (Watts/ft) | Maximum Segment Length m (ft) | Minimum Installation Temperature °C (°F) | Current Load A/m (A/ft) | | | | Catalog Number |
|-----------------|----------------------------------------------|----------------------------------|---------------------------------------------|----------------------------|-------------------------|---------------------------|---------------------------|----------------|
| | | | | -7°C (20°F) Start-Up | -18°C (0°F) Start-Up | -29°C (-20°F) Start-Up | -40°C (-40°F) Start-Up | |
| 120 | 40 (12.1) | 56 (185) | -37 (-35) | 0.554 (0.169) | 0.640 (0.195) | 0.722 (0.220) | 0.804 (0.245) | SLT-1 |
| 208 | 31 (9.5) | 113 (370) | -37 (-35) | 0.220 (0.067) | 0.251 (0.077) | 0.285 (0.087) | 0.319 (0.097) | SLT-2 |
| 220 | 34 (10.5) | 113 (370) | -37 (-35) | 0.243 (0.074) | 0.277 (0.084) | 0.314 (0.096) | 0.351 (0.107) | |
| 240 | 40 (12.1) | 113 (370) | -37 (-35) | 0.279 (0.085) | 0.318 (0.097) | 0.361 (0.110) | 0.404 (0.123) | |
| 277 | 49 (15.0) | 107 (350) | -37 (-35) | 0.346 (0.105) | 0.395 (0.120) | 0.448 (0.136) | 0.500 (0.153) | |

Circuit Breaker Selection

| Start-Up Temperature °C (°F) | Max. Length in Meters (Feet) Vs. Circuit Breaker Size | | | | | | |
|---------------------------------|-------------------------------------------------------|----------|----------|-------------|----------|-----------|-----------|
| | 115/120 Vac | | | 208/220 Vac | | | |
| | 15A | 20A | 30A | 15A | 20A | 30A | 40A |
| -7 (20) | 27 (90) | 37 (120) | 53 (175) | 53 (175) | 72 (235) | 108 (355) | 143 (470) |
| -18 (0) | 23 (75) | 32 (105) | 47 (155) | 47 (155) | 62 (205) | 94 (310) | 125 (410) |
| -29 (-20) | 21 (70) | 27 (90) | 41 (135) | 41 (135) | 55 (180) | 84 (275) | 111 (365) |
| -40 (-40) | 18 (60) | 24 (80) | 37 (120) | 37 (120) | 50 (165) | 75 (245) | 99 (325) |

Notes:

1. Maximum segment length is the maximum continuous heater run with minimal voltage drop. For breaker loading, multiple heater segments can be installed in parallel providing no individual length is longer than the maximum published segment length. For voltages other than 240Vac, divide full breaker amperage rating by amps/foot @ start-up temperature to determine maximum total footage allowed.
2. Circuit breakers are sized per Article 426-4 of the National Electrical Code.
3. National Electrical Codes require ground-fault equipment protection for fixed outdoor electrical deicing equipment. Electrical connections should be made by a licensed electrician.

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Roof, Gutter Deicer Outline

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