



Advanced De-Icing Protection for Roofs, Gutters and Downspouts

Nelson™ Commercial Roof and Gutter De-Icing

Self-regulating electric heating cables and controls, specifically designed for commercial applications.



Keep Your Facility Protected, Comfortable and Productive.



As snow accumulates on a roof in winter, subsequent water melting and re-freezing results in ice accumulation along roof edges, in gutters and through the downspouts. Over time, the cycle of melt and re-freeze develops ice dams, retaining meltwater on the roof, or in the gutter, promoting migration of that water underneath the shingles or along the roof edge.

Nelson heating cable systems by Emerson are designed for both commercial and residential applications. For over 50 years, our Nelson brand has earned the trust and satisfaction of our customers with easy-to-install, reliable heating products. We combine the latest technology, superior materials, and relentless quality control, to provide the consistent, reliable performance you can depend on.

Our Nelson self-regulating roof and gutter de-icing products are engineered to protect properties from the damage caused by ice dam formation; economically and efficiently reducing ice accumulation along roof edges, in gutters, and downspouts, by providing a path for meltwater to flow freely, from the roof to the ground.

Benefits

Nelson commercial de-icing systems prevent ice dam build-up and costly damage to buildings caused by ice formation and snow accumulation in gutters, downspouts and roof valleys. The self-regulating design of our Nelson cables offer additional benefits:

- **Application Flexibility**

Nelson self-regulating cables are generally suitable for use on asphalt or wood shingles; angled cedar, tile or terra cotta; metal roofing; or flat “membrane”-type roofing. Each cable is cut-to-length allowing for complete coverage on any roof design. Consult a roofing supplier for details.

- **Self-regulating Output**

- Heat output automatically varies as the surrounding temperature changes; warmer temperatures = less cable heat = reduced power required
- Optimum operating performance when combined with automated controls

Keeping Hot Water Flowing Through Your Pipes.



System Installation

Emerson offers the highest quality Nelson cables, controls and accessories for virtually every roof and gutter de-icing application.

Cut-to-length cable should be installed on roof areas where ice forms — along roof edges, in gutters, drains and downspouts — to provide a path for meltwater to flow off the roof. This can also include specific areas such as beneath skylights, in valleys or around dormers.

Two system control options are available: pre-set (SS-1) and programmable (SMMC-3). The SS-1 control needs to be installed in an exterior location, while the SMMC-3 needs to be installed inside a control room.

Roof and Gutter De-Icing.

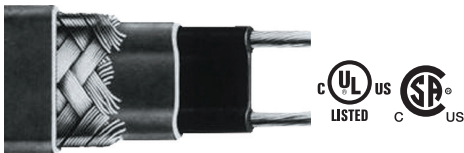


Nelson heating cables are engineered to protect commercial and residential properties from the damage caused by ice dam formations.

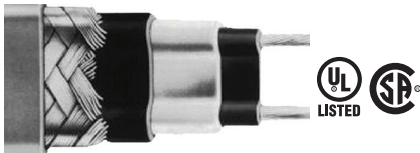
Heating Cables

Nelson electric heating cables are designed for efficient, cost-effective ice formation reduction along roof edges and in gutters, downspouts and drains by providing a path for meltwater to flow off the roof. Emerson offers the highest quality Nelson cables and control options for virtually every commercial roof and gutter de-icing application.

Nelson CLT Cable



Nelson SLT Cable



A premium de-icing solution suitable for shingle, slate, metal, wood and flat roofs with either plastic or metal gutters and/or downspouts. The parallel-resistance cable automatically varies its heat output as the surrounding temperature changes.

- Installs in wet or dry environments.
- Available in cut-to-order lengths.
- All cable outer jackets are constructed of waterproof polyolefin material.
- Can be overlapped (wrapped over itself), minimizing the risk of damaging temperature-sensitive roof coating.
- Specifically-designed installation and connection kits available.

Product Feature	CLT Cable		SLT Cable	
Nominal Power Output in Ice	CLT5-JT	9.9 W/ft @ 120 Vac	SLT-1	12 W/ft @ 120 Vac
	CLT25-JT	7.8 W/ft @ 208 Vac 9.9 W/ft @ 240 Vac 12.3 W/ft @ 277 Vac	SLT-2	9.5 W/ft @ 208 Vac 12 W/ft @ 240 Vac 15 W/ft @ 277 Vac
Max. Voltage	277 Vac		277 Vac	
Bus Wire Size	18 Gauge		16 Gauge	
Max. Single Cable Length	CLT5-JT	165 ft	SLT-1	185 ft
	CLT25-JT	330 ft	SLT-2	370 ft

Delivering the Heat That's Needed, When It's Needed.



Designed to sense both moisture and temperature, and specifically manufactured for use with Nelson heating cables.

Controls

Before activating the cables, Nelson roof and gutter de-icing controls are designed to sense the presence of both moisture and temperature, to determine if heat is actually required. These controls monitor both elements to make sure the system is on when it needs to be, while optimizing power consumption.

Pre-Set Configuration



SS-1 Controller

Nelson Heat Trace SS-1 Controller



Designed and manufactured exclusively to control heat cables in residential and commercial applications. This automatic snow/ice melting controller is ideal for roofs, gutters, downspouts, sidewalks, driveways and parking garage entrances.

- Uses microprocessor technology to reduce energy consumption.
- Sensors detect snow or ice conditions and activate the heating system through a power relay.
- LED indicator turns red if the sensor requires cleaning, turns green every time the power relay is activated (switches off automatically when not active).
- Operating temperature: +3 °C (+38 °F, +/- 1 °F).

Programmable Configuration

SMAS-1 Aerial
Sensor



SMTS-1
Temperature
Sensor



SMGS-1 Gutter
Moisture Sensor



SMMC-3 Controller

Nelson SMGS-1 Gutter Moisture Sensor



Working in conjunction with the SMMC-3 controllers, the SMGS-1 sensor detects moisture on roofs and in gutters. An integrated sensor wire design detects roof moisture using a sensing grid on the bottom of the housing detects gutter moisture.

- The sensor operates on the low voltage supplied by the controller.
- Includes 10' (3 m) of wire for connection to the controller, as well as mounting hardware.
- Connection may be extended up to 500' (152.4 m) with an appropriately rated unshielded cable.
- Working temperature: -40 °C to +65 °C (-40 °F to +150 °F).

Nelson SMMC-3 Controller



A commercial-grade, multi-zone controller suitable for monitoring snow/ice accumulation in up to three different areas, by issuing separate signals to heating cables for de-icing in each of those zones.

- NEMA 12 enclosure for commercial/industrial indoor applications.
- LCD display, programming and associated indicator lights, confirming the operation of each zone.
- TS1 temperature sensor included.
- Operating temperature: -20 °C to +70 °C (-4 °F to +160 °F).

Keep it Together.



Connection Kits and Accessories

Nelson connection kits and accessories provide maximum versatility for installers by interfacing with common electrical and construction materials.

SLT-LPS Power Connection Kit



- Provides heat shrink tubing based power connection for one cable within customer supplied junction box.
- Provides one (1) heat shrinkable end seal.
- Allows for heating cable to heating cable splice using a customer supplied junction box.

SLT-E End Seal Kit



- Provides heat shrink tubing based end seal for a heating cable circuit.
- Each connection kit contains five (5) end seals.

Do the Job Right, the First Time.



Accessories

Nelson self-regulating heating cables must be installed with appropriate connection kits. Emerson offers standard kits that contain the accessories needed to execute a successful de-icing system installation. Additional accessories are also available — the hardware you need, in the quantities required.

SLT-D Downspout Hanger



- Supports heating cable and maintains cable spacing where it enters and exits a downspout.
- Each connection kit contains two hangers.

SLT-C Universal Roof Clips



- Universal roof mounting clips are used for all types of installations.
- Clips are packaged in quantities of 25 per box.
- Order one box per 8' of eave, or one box for every 100' of cable installed on flat roofs.

SLT-RC Roof Clips and Spacers



- Attaches heating cable to roof and also assists maintaining cable spacing in gutters and downspouts.
- Each connection kit has components for 50 roof clips or 25 cable spacers.

SLT-S In-Line Splice Kit



- Provides heat shrink tubing based materials necessary to perform a splice of two roof and gutter heating cables.
- Each connection kit contains one splice.

AT-50 Aluminum Heat Transfer Tape



- Used to provide even heat distribution.
- For commercial and residential applications.

Heating cable solutions that protect commercial roofs and gutters from ice build-up.



Nelson is the cornerstone brand of Emerson's Electrical and Lighting business; trusted worldwide to make electrical installations safer, more productive and more reliable.

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