

SECTION 15770 / 16855 / 238313.16

ELECTRIC EMBEDDED SNOW MELTING CABLE / MATS – by WarmlyYours Radiant Heating

**PART 1 GENERAL**

1.1 SECTION INCLUDES

- A. Electric radiant snow melting mats or cables embedded in outdoor concrete or asphalt slabs, or buried under brick/stone pavers within a sand, stone dust, or mortar bed.
- B. Controls, sensors, and relay panels.
- C. Electric radiant snow melting system components, accessories, and associated installation materials.

1.2 RELATED SECTIONS

- |   |                                     |
|---|-------------------------------------|
| A. Section 013300 – Submittal Procedures    | G. Section 321216 – Asphalt Paving  |
| B. Section 014100 – Regulatory Requirements | H. Section 321400 – Unit Paving     |
| C. Section 014300 – Quality Assurance       | I. Section 260620.16 – Electrical   |
| D. Section 017000 – Execution and Closeout  | J. Section 260620.23 - Electrical   |
| E. Section 033000 – Cast-in-Place Concrete  | K. Section 262200 – Low Voltage     |
| F. Section 321313 – Concrete Paving         | L. Section 312300 – Excavation/Fill |

1.3 REFERENCES

- A. National Electrical Code ( NEC )
- B. Canadian Standards Association ( CSA )
- C. Underwriter’s Laboratory ( UL )
- D. Radiant Panel Association ( RPA )
- E. American Society of Concrete Contractors ( ASCC )
- F. WarmlyYours Snow Melting System Installation Manual

1.4 PERFORMANCE REQUIREMENTS

- A. Electric snow melting mats/cables must generate 45 watts per square foot at a minimum. Mat/cable heaters that generate less than 45 w/sq ft, will not be acceptable.
- B. Mat substrate material must be open cell type polypropylene, allowing mortar/concrete through the open mesh to make a direct bond to the base ( when mats are used ).
- C. Heating wire must be at least ¼” diameter, 2-conductor style. Heating wires with smaller diameters will not be acceptable for this application.
- D. All heating mats must be standard sizes, and readily available. Custom mat sizes will not be acceptable for this application. All mats/cables shall include 20 ft cold leads. Cold leads shall be factory spliced to the hot section, and must be a different color from the hot section, and tagged with a UL Label ( showing ohms, voltage, amps, length ).

1.5 SUBMITTALS

- A. Submit under provisions of Section 013300
- B. Provide General Contractor, Architect, MEP Engineer, and Owner with all the Manufacturer’s product data sheets, warranty, and installation instructions.
- C. Provide General Contractor, Architect, MEP Engineer, and Owner with all relevant Shop Drawings, Samples, Mock-Ups, and Electrical Schematics.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications & Services:
  1. 5 years of experience ( minimum ) with electric radiant snow melting systems.
  2. Snow melting mats/cables, controls, sensors, relays, and related items shall be provided by one manufacturer.
  3. Must provide 24/7 technical installation support, and free design assistance.
- B. Installer Qualifications:
  1. Must have verifiable experience successfully completing projects of similar size, and /or has been trained or certified by a manufacturer's representative.
  2. A licensed electrician shall complete all electrical rough-in, and electrical connections required to complete the system installation.
- C. Regulatory Requirements and Approvals - Electric Snow Melting Systems. Provide an electric snow melting system that complies with the following requirements:
  1. Snow melting cables/mats for installation in concrete, asphalt, or under pavers shall be Listed to UL 1673, UL 515, ANSI/IEEE 515.1 and CAN/CSA -C22.2 No. 130.
- D. Pre-Installation Meetings:
  1. Coordinate work with other trade representatives ( general, electrical, paving, and other trade contractors ) to verify areas of responsibility ( scope of work ).
  2. Review project timeline and construction deadlines to ensure project will comply with all manufacturer's installation instructions and warranty requirements.

## 1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- B. Store materials protected from exposure to harmful site conditions, and in an area protected from vandalism and theft.

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. WarmlyYours PH: 800-875-5285 FX: 800-408-1100  
 2 Corporate Drive, Suite 100  
 Long Grove, IL 60047  
 Web: [www.warmlyyours.com](http://www.warmlyyours.com) Email: [gjazwinski@warmlyyours.com](mailto:gjazwinski@warmlyyours.com)
- B. Substitution requests must be approved 15 days prior to bid due date.  
 Alternative equipment manufacturer must provide all relevant product data sheets, warranty, installation instructions, shop drawings, samples, and electrical schematics. Alternative equipment must meet specified material standards.

### 2.2 ELECTRIC RADIANT SNOW MELTING MAT/CABLE

- A. The WarmlyYours Heating Cable consists of a two-conductor stranded copper alloy resistance wire covered by primary fluoropolymer insulation. A braided metal sheath surrounds the primary insulation, and serves as a ground, before a second ( final ) layer of PVC, EPR, or Zero Halogen Polyolefin jacketing, which serves as the outer shell. The heating cable is taped in a serpentine pattern to a flexible polypropylene mesh at 3" on center spacing ( for mats only ). The 20 Ft cold lead return wire is factory installed ( spliced ) at one end of the mat/cable. All hot section must be green in color. All cold lead section must be black in color, and include a UL label for identification.
- B. The WarmlyYours Snow Melting Mat/Cable shall be 120 VAC or 240 VAC, producing 45 watts per square foot ( min ) and be UL Listed. Multiple mat systems must be wired in parallel by the installer. Each mat/cable heater must have a minimum 10 yr manufacturers warranty.

## 2.3 CONTROLS, SENSORS & ACCESSORIES

- A. SCP-120 automatic snow melt control shall be 120 VAC, UL Listed, have multiple sensor capability, have remote control/monitoring option, and include a manual override cycle push button for easy activation. Control shall be able to control electrically held relay panels for additional load switching to accommodate for larger systems.
- B. AIR-SS aerial mounted snow sensor shall detect snow and ice, utilizing a heated moisture sensing grid, and an ambient air temperature sensor. Sensor shall be of solid state design, combined with rugged housing and epoxy potting. Sensor is a NEC Class 2 low voltage device for simple installation up to 2,000 ft away from the SCP-120 control panel.
- C. OT-SENSOR slab mounted over-temp sensor shall be provided with the SCP-120. This sensor shall be inserted into ¾" rigid metal conduit ( capped off ), and positioned between two of the snow melting cables/mats. Sensor must be replaceable. Sensor shall not be installed in asphalt slabs, until after the slab has cooled lower than 120 degrees F.

## **PART 3 EXECUTION**

### 3.1 MANUFACTURER'S INSTRUCTIONS

- A. Comply with manufacturer's product data, including product technical bulletins, installation instructions and design drawings.

### 3.2 EXAMINATION & PREPARATION

- A. Installer shall verify field measurements are as shown on Shop Drawings(s).
- B. Any revisions needed to Shop Drawings, or product provided, must be corrected prior to proceeding with the installation.
- C. Prepare your base, as per the standard guidelines set forth by the American Society of Concrete Contractors. Remove any rip-rap, glass, or other sharp objects, that may damage the heating mat.
- D. Installer shall verify that the required power, is available, in proper location, and ready for use.

### 3.3 INSTALLATION

- A. Complete installation must conform to appropriate manufacturer's installation instructions, National Electrical Code, and appropriate local codes.

### 3.4 FIELD QUALITY CONTROL

- A. Test each mat/cable heater for ohms, with a digital ohms meter and Meg-ohm meter before and after the installation of the paving. Record these values on the warranty form provided at the end of the WarmlyYours Installation Manual.
- B. Start-up ( first-time activation ) must wait for the mortar, concrete or asphalt to be fully cured.
- C. During "Start-Up", voltage and amps should be tested by a licensed electrician.
- D. All testing records should be copied, and provided to the Owner.

END OF SECTION