

## **SECTION 32 17 43 HEAT TRACING FOR SNOW MELTING SERVICES SUPPLEMENT**

**This is intended to be a supplement to the nVent Thermal Management: Heat Tracing for Snow Melting Specifications (ElectroMelt or MI). For detailed design information, please contact your local representative, our website “[www.nventthermal.com](http://www.nventthermal.com)” or nVent Thermal Technical Support 800-545-6258.**

### **PART 1 GENERAL**

#### **1.1. GENERAL REQUIREMENTS**

- A. The Heat Trace Installer shall provide a complete engineered heat trace system including drawings, details, electrical data and literature required for a complete system, to be supplied by the manufacturer.
- B. The manufacturer shall provide the Layout Drawings in PDF format.  
(Note for Canada: All engineering deliverables to be stamped by a P. Eng. registered in the Province or State. Engineering company must be a valid holder of a Certificate of Authorization in the Province or State.

#### **1.2. DRAWING REQUIREMENTS**

- A. Snow Melt Layout Drawings: Drawings shall be provided, including:
  - 1. Location/Identification of area to be traced
  - 2. Area Dimensions
  - 3. Expansion Joints, Crack Control, Trench Locations
  - 4. Heater circuit number
  - 5. Watt Density
  - 6. Electrical load
  - 7. Heater catalog numbers
  - 8. Heater termination points
  - 9. Start-up Temperature
  - 10. Pavement profile details
  - 11. Location of all components
  - 12. Material list of all components and quantities
- B. Snow Melt Installation Detail Drawings: Project Specific Installation Detail Drawings shall be provided including details showing:
  - 1. Expansion Joint
  - 2. Crack Control Joint
  - 3. Trench
  - 4. Junction Box
  - 5. Pavement
  - 6. Sensor

- C. Control Panel Drawings: Drawings shall be provided for each control panel and shall include the following:
  - 1. Physical arrangement and structural detail drawings.
  - 2. Complete power and control wiring diagrams showing all internal wiring connections for all electrical and instrument components in each control panel. All wires, terminals, and devices shall be numbered and tagged in accordance with the system elementary diagrams.
- D. System Wiring Diagram: Project Specific drawings including:
  - 1. Interconnect of all major components
  - 2. Assignment of circuiting
  - 3. Connection of circuit wiring in terminal blocks
  - 4. Connection of sensor wiring
  - 5. Connection of external alarm wiring (if applicable)
- E. Controller Setpoint Schedule (if applicable) showing the following:
  - 1. Circuit addresses
  - 2. Circuit set points
  - 3. Circuit alarms and settings
  - 4. Circuit power test cycle time
- F. Power distribution panel board schedules (if applicable) showing the following:
  - 1. Heat Tracing Circuit allocation
  - 2. Breaker size
  - 3. Voltage and wattage
  - 4. Operating load amps
- G. O&M Manual: Complete installation, operating and maintenance manuals
  - 1. Product data sheets
  - 2. Installation and operation manuals
  - 3. Manufacturers project specific system drawings
  - 4. Manufacturers site report

## PART 2 EXECUTION

### 2.1. INSTALLATION

- A. Installation of the snow melting heating cable system to be carried out by an experienced heating cable installer. (Tracer Industries Canada Limited).
- B. Contractor shall have a minimum of 10 years of experience in the installation of such systems.
- C. In the field, all heating cables shall be meggered with a minimum of 1000 volts DC for MI cable and 2,500 volts DC for self-regulating cable. The following separate field megger readings shall be taken on each self-regulating and each mineral insulated heating cable:
  - 1. Heating cable shall be meggered when received at jobsite before installation.

2. Heating cable shall be meggered after installation, but before concrete is poured.
3. Heating cable shall be meggered while the concrete is poured.
4. Heating cable shall be meggered at final commissioning prior to being energized.
5. All results must meet manufacturer's specification.

## 2.2. FIELD QUALITY CONTROL

- A. Initial start-up and field testing (commissioning) of the system shall be performed by factory technician or factory representative per the owner's requirements.
- B. Field Tests And Inspections
  1. The system shall be commissioned in accordance to the Manufacturer's Installation and Operation manual.
  2. Field visits to be scheduled at the following intervals:
    - a. Pre-installation training
    - b. Heating cable shall be meggered after installation, but before concrete is poured
    - c. Heating cable shall be meggered after concrete pour
    - d. Final commissioning including controller programming (if applicable)
  3. The technician shall verify that the controller parameters are set to the application requirements.
  4. The technician shall verify that the controller alarm contacts are properly connected to the BMS (if applicable).

## 2.3. SYSTEM STARTUP

1. All commissioning results will be recorded and submitted.

END OF SECTION