# Specification: SNOW MELT ELECTRIC HEAT TRACE SYSTEMS

# 16850 – ELECTRIC SNOW MELT SYSTEMS

# PART 1-GENERAL

## Work Included

### Furnish and install a complete UL listed heat tracing system for surface snow and ice melting including heaters, components, controls and accessories.

## Design

### Heating system shall deliver a minimum of 34 watts per sq. ft. over the heated surface at 32°F slab temperature.

### Circuit breaker sizing shall be based on a start up at 0°F slab temperature.

### Service voltage: As indicated by branch circuits provided for snow melt heat tracing on project drawings.

## Related Work Specified Elsewhere

### National Electrical Code (NEC)

### Underwriter’s Laboratories (UL)

### ASHRAE guidelines for electric snow melt

## Submittals

### Catalog Sheets

### Cable Layout example drawings

### General Wiring Schematics

### Installation and maintenance check list

### Operation and Maintenance Manuals

# PART 2 - PRODUCT

## 2.1 Heater Cable

### Heater cable shall be series resistant, constant wattage output type, with one or two solid conductors and a continuous metal shield over-jacket. Copper sheathed MI cables or plastic jacketed MI cables are not acceptable.

### Heating section and cold lead connection shall be factory fabricated.

### Heater, component, and connection system selection shall be consistent with manufacturer’s published recommendations.

### Heater cables shall have a 10 year warranty against manufacturing defects.

### Acceptable Manufacturers: Nelson, Raychem/Tyco, Chromalox, or approved equal.

## 2.2 Controls and Monitoring

### A. The snow melt system shall automatically operate with the use of a control and sensors that will energize the system when both low ambient temperature and moisture conditions exist. Use electrical contactors as circuiting requires.

### B. Ground fault protection is required through the use of GFEPD panel breakers or a control that features ground fault circuit protection.

### C. Acceptable Manufacturers: Nelson, ETI, or approved equal.

# PART 3 - EXECUTION

## 3.1 Heater cable shall be installed directly in the paving surface at a depth of 1½-3 inches.

## 3.2 Heaters shall be attached to rebar, wire mesh or adobes with metal tie wire. Installation shall conform to manufacturer’s published installation instructions, recommendations and current NEC.

## 3.3 The heater shall be meggered at 500-1,000 VDC (1) before installation, (2) after installation but before pavement is installed, and (3) directly after pavement is installed. Minimum insulation resistance is 20 megohms regardless of heater length. Megger readings shall be recorded on check sheet provided by supplier.

# END OF SPECIFICATION