DANFOSS RX CONSTANT WATT HEATING CABLE SPECIFICATION FOR ROOF AND GUTTER DE-ICING

1.0 GENERAL

Supply and install a complete system comprised of heating cables, accessories and controls for keeping roof eaves, gutters and downspouts from being clogged by ice and snow.

2.0 MATERIAL

2.1 Shall be Danfoss RX kits dual conductor heating cable

2.2 Conductor: Copper or copper alloy with nickel coating.

2.3 Insulation: FEP DuPont with an average thickness not less than 0.25 mm and than layer of XLPE.

2.4 Shield: Tin coated drain wire combined with 0.050 mm aluminium foil coated with 0.012 mm PBT, 100% coverage.

2.5 Jacket: PVC with an average thickness not less than 0.75 mm.

2.6 Lead free ¼" round heating cable that is both flexible and UV protected.

2.7 Rated temperature: 220°F (105°C), maximum voltage 277V, up to 5.5 W/ft .

2.8 Shall include 6' cold lead with heavy duty grounded plug.

2.9 Shall be approved to applicable UL and CSA standards.

2.10 Heating cable circuit shall be protected by a ground fault device in accordance with section 426 of the NEC.

3.0 SYSTEM CONTROLS

Option 1: Automatic Snow Controller

The system shall be controlled by Danfoss GX850 control panel with external digital temperature and moisture sensors either directly or through an appropriate contactor.

Option 2: Snow Switch Control

The system shall be controlled by Danfoss DS-8 temperature and moisture sensor either directly or through an appropriate contactor.

  Tel: 866-676-8062, Fax: 905-285-2055

Option 3: Thermostat

The system shall be controlled by an ambient sensing thermostat Danfoss 088L3422 either directly or through an appropriate contactor.

Option 4: Manual Switch

The system shall be controlled by a manual switch either directly or through an appropriate contactor.

3.1 Automatic Snow Controller shall be microprocessor based to provide effective, economical automatic control.

3.2 Automatic Snow Controller shall have dual zone capability.

3.3 Automatic Snow Controller shall have an adjustable timer providing up to 10 hours of system operation after snowfall ceases.

3.4 Automatic Snow Controller shall have the following modes

a. Automatic

b. Constant OFF

b. Constant ON (manual timer)

3.5 Automatic Snow Controller shall have adjustable parameters

a. Melting temperature (32 °F to 49 °F).

b. Moisture sensibility (5 to 95).

3.6 Automatic Snow Controller shall be able to indicate the actual temperature and moisture levels for sensors.

3.7 Automatic Snow Controller shall have info-button for help/information.

3.8 Automatic Snow Controller shall have self-diagnosis program, which will detect faults and give an alarm.

3.9 Automatic Snow Controller shall have individual LEDs to provide indication of alarm and heater operation.

3.10 Automatic Snow Controller shall be capable of accepting four roof sensors.

3.11 Automatic Snow Controller shall have multi-language capabilities (English, Spanish and French).

3.12 Sensors shall include 50' lead.

4.0 EXECUTION

4.1 Installation

a. System must be installed per manufacturer's recommendation using method described in installation guide.

b. Place the heating mats and sensors in the surface material as per the installation guide.

c. Secure the heating mat/cable to the rebar or ground.

d. Maker plaque must indicate presence of embedded heating cables as per NEC 426-13.

e. Inspect the cable and controls upon receiving the shipment. Note any damage and ensure materials received match the order and shipping documents.

4.2 Tests

a. Refer to the manufacturer's literature for requirements for testing and documenting cable resistance and insulation-to-ground readings.

b. Take tests as outlined in the Installation Manual.

c. If problems are discovered, consult the manufacturer.

d. If unable to correct problems notify the engineer before proceeding with installation.

e. Keep record of all readings for inspection by the engineer or for submittal to the manufacturer to ensure a valid warranty.

5.0 WARRANTY

5.1 Manufacturer shall offer 2 years non-prorated warranty.

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