EM2-XR

CONNECT AND PROTECT

Specification guideline snow and ice melting system for ramps & access ways

- All exposed ramps and walkways shall be fitted with an energy efficient, self regulating ramp heating system, nVent RAYCHEM EM2-XR, as manufactured by nVent, to prevent impeded access in snow/icy conditions.
- The system shall be complete with system components, energy efficient controls and a 10 year product warranty.
- The self regulating heating cable shall be constructed with a heavy braid and a thick, pressure extruded, modified polyolefin jacket to provide maximum resistance to installation damage, capable of withstanding a crushing force of 8900N and a cut through force of 100N/0.25 mm blade. It shall be compliant with the tests for cold bend and deformation (IEEE-515), crush and tension (VI-493), dynamic cut through and insulation resistance (CSA-22.2-130).
- The self regulating heating cables shall be capable of demonstrating a lifetime in excess of 25 years.

TO GIVE SNOW/ICE PROTECTION UNDER TYPICAL UK WINTER CONDITIONS THE SPACING AND COVER SHALL BE AS FOLLOWS:

	Cover/Depth	Spacing
Concrete	50–70 mm	300 mm (ramp on ground)
	50–70 mm	250 mm (suspended ramp)
Asphalt topped concrete	50–60 mm	300 mm (ramp on ground)
Paving Stones	80–90 mm	250 mm (ramp on ground)

- The system shall be capable of producing 300 W/m² (installation at 300 mm spacing in concrete). The ramp heating cable shall be attached to the reinforcement bar, stand-off mesh or other suitable surface to ensure the recommended design cover and spacing as above. Installed, tested and commissioned strictly in accordance with the manufacturer's instructions and preferably by a specialist installer named by them. The commissioning report must be registered to gain benefit from the 10 year product warranty.
- The ramp heating control system shall be energy efficient, with ground temperature and moisture sensors, as manufactured by nVent and known as nVent RAYCHEM Elexant 650c-Modbus. It shall have the following functions - digital display, monitoring of sensor defects, alarm relay for remote monitoring at the BMS.
- The ramp heating circuits shall be switched via a contactor and be protected with an MCB (BS EN 60898 type C or D or equivalent) and RCD (30 mA sensitivity, tripping within 100 ms). Isolators shall be provided for each circuit.
- Wiring between the control panel, the control sensors, the contactor, the ramp heating circuit's terminal boxes and the distribution board shall be done by an electrical contractor.

IN ENGINEERING NOTES COLUMN

- All exposed ramps and walkways shall be fitted with an energy efficient, self regulating ramp heating system, nVent RAYCHEM EM2-XR, to prevent impeded access in snow/icy conditions.
- All ramp heating circuits shall be controlled via an energy efficient system with ambient temperature, ground temperature and moisture sensors, known as nVent RAYCHEM Elexant 650c-Modbus.
- The ramp heating cable shall be attached to the reinforcement bar, stand-off mesh or other suitable surface to ensure the recommended design cover/spacing and be installed, tested and commissioned strictly in accordance with the manufacturer's instructions and preferably by a specialist installer named by them.

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