

## 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/m<sup>2</sup> (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 ambient temperature, ground temperature and moisture sensors, as manufactured by nVent and known as nVent RAYCHEM VIA-DU-20. 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 VIA-DU-20.
- 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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