

SPECIFICATION GUIDELINE FROST PROTECTION FOR PIPES



- All insulated pipes exposed to risk of freezing shall be fitted with an energy efficient, self-regulating trace heating system, as manufactured by nVent and known as the nVent RAYCHEM WinterGard System (FS-A-2X, FS-B-2X, FS-C10-2X).
- The system shall be complete with cold components, energy-efficient controls and a 5 year product warranty. The self-regulating heating cables shall be capable of demonstrating a lifetime in excess of 25 years.
- The self-regulating heating cables shall have modified polyolefin electrical insulation (radiation cross-linked, to ensure long life expectancy), tinned copper braid and modified polyolefin over jacket with metre marks for ease of installation. The self-regulating index of the heating cable shall be at least 0.25.
- All cold water services shall be frost protected with FS-A-2X (FS-B-2X on larger pipes) and installed to a maximum circuit length of 150m (105m for FS-B-2X). Interconnection and termination shall be with cold applied, insulation displacement connectors and gel type end seals, UV resistant, IP 68, 65°C rated, with audible and visual installation confirmation, as manufactured by nVent and known as RayClic.
- All LPHW services shall be frost protected with FS-C10-2X and installed to a maximum circuit length of 150m. All fatty waste services shall be protected with FS-C-2X, installed to a maximum circuit length of 90m. Interconnection and termination shall be made with heat shrinkable components and junction boxes as manufactured by nVent.
- Control of heat-tracing circuits shall be via an energy efficient, proportional ambient sensing control (PASC) thermostat, Raystat-Eco-10, on cold water services and via a programmable, energy efficient line sensing thermostat, Raystat-Control-10, on LPHW or fatty waste services, as manufactured by nVent.
- The controllers shall have the following functions - digital display, 'off site' programming capability without external power supply, 25 amp switching rating, sensor failure alarm, voltage failure alarm, low temperature alarm, selectable fail safe mode (either ON or OFF), alarm relay for remote BMS monitoring and additionally, for the line sensing thermostat, adjustable hysteresis and high temperature alarm.
- All heating cables shall be installed 'straight traced', within maximum circuit length, tested and commissioned strictly in accordance with the manufacturer's instructions, preferably by a specialist installer named by the supplier. The commissioning report must be registered to gain benefit from the 5 year product warranty.
- All pipes with electrical heat-tracing shall be provided with suitable warning signs, visible from all sections, less than 5 m apart, placed on alternate sides of the pipe.
- All heat tracing circuit shall be controlled and monitored via a multi circuit control panel, SBS-xx-SV, by nVent, integrated with MCB's (BS EN 60898 type C/D) and RCD (30 mA sensitivity, tripping within 100 ms). All connections between the electrical supply, control panel and heat tracing circuits shall be installed by an approved electrical contractor.

IN ENGINEERING NOTES COLUMN

- All exposed insulated pipes shall be fitted with an energy efficient, selfregulating, trace heating system, known as RAYCHEM WinterGard.
- Interconnection and termination shall be with cold applied, insulation displacement type connectors and gel type end seals, known as Rayclac.
- The trace heating circuits shall be controlled by an energy efficient, proportional ambient sensing thermostat (PASC), known as Raystat-Eco-10.
- LPHW or fatty waste services shall be controlled by a line sensing thermostat, known as Raystat-Control-10.
- The WinterGard circuits shall be controlled and monitored via the multi circuit control panel, SBS-xx-SV, by nVent, with integrated circuit protection.
- The self-regulating heating cables shall be installed 'straight traced', insulated, tested and commissioned strictly in accordance with the WinterGard design guide, preferably by a specialist installer named by them.

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