

THE ROLLS BUILDING

PROJECT DETAILS

Client:	Delancey and Invista Real Estate
Location:	Fetter Lane, London, UK
Completion Date:	July 2006
Contract Scope:	Design, Supply, Installation
Applications:	Electric heat-tracing for DHWS and freeze protection
Technology:	nVent RAYCHEM HWAT-M, WinterGard, RayClic connections, ViaGard EM2-XR with VIA-DU-20 controller



KEY CHALLENGES

The development of a prominent landmark site in the heart of central London called for a multi-faceted solution. Consultants Aecom were seeking a supplier who could provide a single source solution to efficient hot water distribution, frost prevention of exposed rooftop pipework and ramp heating for the entrance to an underground car park. Energy efficiency was a key criterion for the water distribution system which also called for a compact design due to restricted space in the risers.

SOLUTION

nVent was able to provide effective solutions for all three areas through its RAYCHEM product range. Efficient hot water distribution was achieved via RAYCHEM HWAT-M self-regulating electric heat-trace cabling to provide a single-pipe system throughout the buildings public areas and private office spaces. The single-pipe solution provided the required energy efficiency, achieving up to 50% savings compared to a conventional recirculation system. Its compact design, eliminating the need for recirculation piping, enabled the system to be installed in restricted spaces quickly and easily with the RayClic connection system. Some 800 metres of the RAYCHEM cabling was installed.

Frost protection of exposed small and medium sized pipes was achieved by a combination of RAYCHEM WinterGard self-regulating heat-trace cabling with 300 metres of cables deployed on rooftop pipework.

The solution for snow and ice prevention on the car park access ramp was provided by 1200 metres of RAYCHEM EM2-XR self-regulating cable controlled by a VIA-DU-20 multi-sensor control unit.



The use of smart control and monitoring devices help ensure that the employed systems only consume energy when required. This is particularly pertinent with the snow melting control system which only switches on when cold weather and snowfall or rain occurs. The resulting energy savings over typical ambient temperature control methods is well in excess of 50%.

PRODUCTS

RAYCHEM HWAT are self-regulating heating cables that adjust their power output to compensate for variations in water and ambient temperatures. They replace supply-pipe heat losses at the point where the heat loss occurs, providing continuous, energy-efficient hot water temperature maintenance and eliminating the need for a recirculation system.

RAYCHEM WinterGard heat trace cable is a self-regulating electrical cable that can be used for pipe freeze protection on small and medium pipes. It offers a number of benefits; it can be overlapped, cut to length, will not burn out and saves energy.

EM2-XR is a rugged and robust self-regulating heating cable for simple, fast, and effective ramp heating to prevent snow and ice formation. The self-regulating EM2-XR cable automatically adjusts its power output in accordance with ambient conditions; more power is produced in harsh freezing conditions and less power in marginal freezing conditions.

The VIA-DU-20 is a control unit with combined moisture and temperature sensor and optional ambient temperature sensor. It is compatible with all EM snow melting systems.

The RAYCHEM RayClic connection system is a simple, fast and reliable set of connection kits which requires no wire stripping because the insulation displacement connector makes the electrical connection.



BENEFITS

- Energy efficient, economical systems
- Single source solution for diverse EHT requirements
- Overall reduction in running and maintenance costs
- Responsive smart control systems
- Fast installation

The Rolls Building houses the Business Courts for the Royal Courts of Justice. It provides 260,000 sq ft of office space, of which Her Majesty's Court Service (HMCS) occupies 145,000 sq ft. It was designed to provide 'the utmost sustainable and efficient environment' and has been awarded an 'Excellent' BREEAM rating, the highest standard for environmental performance. The building was formally opened by Queen Elizabeth II on 7 December 2011.

The use of smart control and monitoring devices ensures that the employed systems only consume energy when required producing energy savings well in excess of 50%.

North America

Tel +1.800.545.6258
Fax +1.800.527.5703
thermal.info@nvent.com

Europe, Middle East, Africa

Tel +32.16.213.511
Fax +32.16.213.604
thermal.info@nvent.com

Asia Pacific

Tel +86.21.2412.1688
Fax +86.21.5426.3167
cn.thermal.info@nvent.com

Latin America

Tel +1.713.868.4800
Fax +1.713.868.2333
thermal.info@nvent.com



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