

LONDON SYON PARK WALDORF ASTORIA HOTEL

PROJECT DETAILS

Client:	Hilton Worldwide
Location:	Brentford, London, England, UK
Completion Date:	May 2010
Contract Scope:	Design, Supply, Installation
Applications:	Underfloor heating; hot water temperature maintenance
Technology:	nVent RAYCHEM HWAT-M with HWAT-ECO controllers, T2Red and T2Reflecta systems, T2QuickNet mats, WinterGard cabling with RAYSTAT-ECO-10 controllers



KEY CHALLENGES

This brand new 140 bedroom five star hotel and spa was a design and build project with a number of diverse heating requirements. There was the need for single pipe hot water temperature maintenance throughout the hotel instead of a more traditional recirculation system. Efficient underfloor heating was to be provided to the bedrooms, en-suite bathrooms and floor heating in the spa area. In addition, exposed pipework was to be protected against freezing. The challenge was to meet each of these demands with individual solutions which were simple to install, reliable and could save on energy consumption.

SOLUTION

Working closely with M&E contractor The All Group, nVent was able to provide a full range of solutions.

The need for a responsive, quality hot water system was met with nVent RAYCHEM HWAT-M self-regulating cables providing electric heat-tracing for the single pipe system, with some 2.5 kilometres installed throughout the hotel. Controlled by RAYCHEM HWAT-ECO smart controllers, the system provided the benefits of energy efficiency with additional savings in material costs, labour and space.

Exposed pipework was protected by tracing with 5.5 km of WinterGard cabling with intelligent control and monitoring provided by complementary RAYSTAT-ECO-10 controllers.

For underfloor heating, a number of different systems were installed throughout the hotel to achieve maximum comfort and efficiency. The RAYCHEM T2Red with T2Reflecta system was installed in the bedrooms and combines the self-regulating heating cable with a pre-grooved aluminium covered insulation profile to reduce heat losses, provide increased energy efficiency and an even heat distribution throughout the room.



In the en-suite bathrooms, high-powered T2Quicknet 160, a thin self-adhesive heating mat, was used as it provides fast heat up time and at only 3mm thick proved ideal for installation under the tiled floors with the additional benefit that they not only heat but also dry the floors to prevent slipping. These same mats were also installed in the hotel's luxurious spa in conjunction with RAYCHEM T2 Isolecta insulation board, to offer an energy efficient, smart solution.

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.

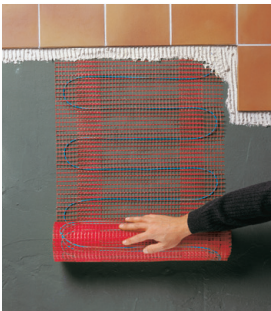
The HWAT-ECO electronic controller provides flexible temperature control, energy savings, heat-up cycle function, BMS interface, and nine predefined programs that can be customized by the user.

The RAYCHEM T2Reflecta and T2Red floor heating system consists of an insulated aluminium profile T2Reflecta and the self-regulating T2Red heating cable. It combines the advantages of both elements, resulting in a 20% extra energy saving compared to a T2Red system alone.

RAYCHEM T2QuickNet heating mats provide warm comfort to both tile and wood floors. The heating cable is pre-terminated and pre-spaced in the self-adhesive mesh to simplify installation.

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.

The RAYSTAT-ECO-10 temperature controller is designed to control heating cables used for frost protection applications. It continuously adjusts the heat-tracing output based on the ambient temperature.



BENEFITS

Energy efficient, economical DHW system

- Robust, effective frost control system
- Smart control systems
- Exceptionally responsive, low-profile UFH systems
- Overall reductions in running and maintenance costs
- Fast installation

London Syon Park is new-build 140 bedroom luxury hotel set within the estate of the Duke of Northumberland at Syon Park in Brentford, next to the Thames. The site is Grade I listed parkland and the distinctive new hotel includes extensive conference and spa facilities. The hotel was designed by Ettwein Bridges Architects; the main contractor was Bowen PLC and the heat-traced systems were supplied by nVent' distribution partner Jointing Technologies.

Reliable, responsive, energy-efficient solutions that meet the diverse heating needs of this luxurious hotel

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