

ST DAVIDS II, HAYES APARTMENTS

PROJECT DETAILS

Client:	Landsec
Location:	Cardiff, Wales, UK
Completion Date:	July 2010
Contract Scope:	Design, Supply, Installation
Applications:	Underfloor heating
Technology:	nVent RAYCHEM T2Red and T2Reflecta systems



KEY CHALLENGES

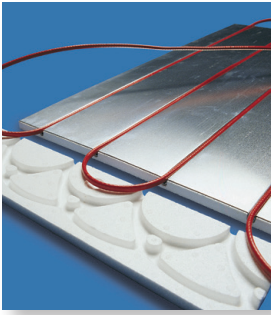
The Hayes Apartments comprise 304 studio flats, 1 and 2 bedroom apartments in seven new build high-rise towers above Cardiff's St. David's retail centre. The apartments' original design specification recommended the use of panel heaters. However, the designers subsequently considered the increased value proposition of offering a heated floor solution and the decision was made to review the floor heating options. To persuade the client to move away from a budget solution, they had to have a convincing argument that an underfloor system could provide reduced energy loss, energy savings and fast reaction times. It would also need to be a safe system for use with sensitive floor coverings.

SOLUTION

Taking a consultative approach with the engineering team, nVent was able to provide a compelling case based on the benefits of its RAYCHEM T2Red self-regulating floor heating cable and T2Reflecta insulated aluminium profile systems. With the client convinced, nVent product engineering team provided apartment-by-apartment 2D and 3D designs to simplify installation.

The implementation of the new system has provided not only a premium solution for the client and end user but also offered significant benefits during installation. The installers were all in agreement that an easier solution to install would be hard to find. A particular benefit was being able to avoid a wet installation of screed which would have increased floor heights and installation cost, whilst slowing the reaction time of the heating system. In total, 70 km of T2Red cabling and 2397 x 3m2 T2Reflecta packs were installed.

The self-regulating technology of the T2Red cabling ensured safe installation below both wood and ceramic tile floor coverings. The resultant systems also provided tangible benefits in terms of energy efficiency, with T2Reflecta's ability to reflect heat upwards while reducing downward heat losses becoming an integral part of the building's energy efficiency rating.



PRODUCTS

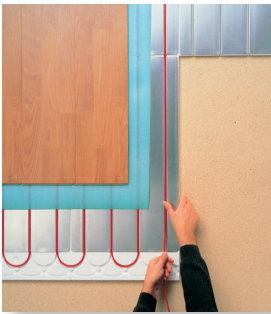
The RAYCHEM T2Reflecta and T2Red floor heating system consists of an insulated aluminium profile T2Reflecta and the self-regulating T2Red heating cable. It combines the advantages of both elements, resulting in a 20% extra energy saving compared to a T2Red system alone.

The surface of the T2Reflecta plate enables even heat distribution across the floor and, due to its low profile, it is the ideal system for installations where floor to ceiling height is an issue.

T2Red is a self-regulating floor heating cable for low profile installations. Its self-regulating technology means that the cable can be applied under any type of floor surface without a risk on overheating. Simple to design, one heating cable will suit all room shapes, it is compatible with all stable subfloors e.g. concrete, anhydrite, asphalt, plaster, ceramic subfloor, wooden subfloors (with max. heat transfer resistance 0.15 m²K/W). It is also easy to install, as it can be spliced and crossed without risk of overheating and connected with no cold lead needed. RAYCHEM T2Red has a long life and is maintenance free.

BENEFITS

- Added value system
- Exceptionally energy efficient
- Compatible with sensitive floor coverings
- Low profile
- Simple installation
- Maintenance-free system



Valued at £295 million, the St David's II development is a major retail centre in the heart of Cardiff. Together with the original refurbishment project St. David's I, the centres cover around 1.4 million square feet, making the scheme one of the largest of its kind in the UK. The design and construction teams for the Hayes Apartments comprised Foreman Roberts Manchester; Hoare Lea Bristol; Bovis Lend Lease and ISTL Engineering. The heating systems were supplied through Randall & Daniels.

The energy-efficient UFH system has added value to the development and provided a marketable sales benefit.

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