Kilburn Residential Development, London, UK

Uponor upgrades district heating network at South Kilburn residential site

The multi-residential properties Swift House and George House in South Kilburn, London, were in need of new pipes to connect the buildings to the district heating system that supplied the two site's 300 apartments with hot water.

This upgrade was required as the existing pipes were leaking, making the heating system both inefficient and ineffective. As well as supplying the new pipes that would fix the leaking, Uponor also played a pivotal role in devising an installation process which would significantly minimise disruption to the residents.

Key points

- Leaking district heating network at multi-occupancy residential development in London repaired with Uponor's specialist pre-insulated pipe solutions
- Innovative plan required to minimise disruption to the site's residents while swapping out the old pipes for the new
- Prior to the installation, Uponor conducted tests and checks to design a new system and ensure that it would be up to the task at hand

Products supplied

- Ecoflex Thermo Single
- Ecoflex Thermo Twin
- Riser RS2
- Riser RS3
- 243m of MLCP (up to 90mm)
- Q&E Shrink-Fit joints

Key parties

- Bouygues UK (main contractor)
- L&Q Group (developer)

Specification and Installation

Uponor's solutions were originally specified for the project when the buildings were first built and the district heating system installed. However, during the initial construction an alternative fusion weld system was utilised instead which was incorrectly installed. This led to significant leakage from the underground pipes that connected the decentralised plant room to the building.

To solve the leaking, it was decided that the old pipes should be replaced. Recognising the benefits of the products selected in the original specification for the building, the contractor, Bouygues UK, opted to swap the old pipes with Uponor's pre-insulated pipe solution: Ecoflex Thermo.

Ecoflex Thermo's flexibility and durability allows it to maintain a high-performance connection between a decentralised plant room or energy centre and a building. The system's flexibility means that it not only accommodates changing ground conditions, but that it can also be navigated around obstacles without causing any leaks.

A representative of Bouygues UK, said: *"We replaced the existing pipes with the Uponor specified products, as these are proven to be much more durable and therefore would be able to maintain a reliable, effective long-term supply of heating and hot water. We were particularly impressed with how robust the pipes were, which would help to avoid future leaks below ground."*

"It was important to complete this project as safely and quickly as possible to meet the client's requirements. To achieve this, not only would the quick, easy-to-install nature of Uponor's solutions be a benefit, but Uponor worked on a strategy that would drastically reduce the amount of time the heating and hot water would be turned off for residents.

"This strategy involved firstly installing a temporary above-ground network of pipes and then connecting them to parts of the above ground network which did not require replacement. Once the temporary pipes were connected to maintain heating and hot water, the redundant underground pipes were then dug out and replaced with the new Uponor pipework."

300 metres of Uponor's Ecoflex Thermo pipes were used to create the temporary connection and then a further 283 metres of piping was installed in the underground trenches where the previous pipes lay. These new pipes connected the district heating network to the ground floor communal areas, service areas and to the building's main risers. Uponor's multi-layer composite pipes (MLC) were used to connect the risers, also supplied by Uponor, to the heat interface units (HIU) that were already installed in the apartments.

Uponor coordinated the work so that it could be done quickly and efficiently despite the tight working spaces. This efficiency was essential in order to get the new main line from the plant room operational as soon as soon as possible after the old line had been turned off. The result was that no residence was cut off from the heating network for any longer than 12 hours.

Despite careful planning to ensure that all materials were onsite and ready when required, Uponor's logistical abilities were tested by the fact that phase two of the project took place during the first COVID-19 lockdown. Despite this, thanks to its robust supply chain, the team was able to ensure the reliable delivery of materials throughout the project. The team also conducted strict risk assessments and developed new onsite operating procedures to ensure that the project could continue to be delivered in a COVID-secure manner.

Benefits

- The flexibility of Ecoflex Thermo means that it can be used to connect a decentralised plant room or energy centre to a building without joints, as the pipe can be laid over bumps or around obstacles which for alternative systems would require multiple connections.
- The insulation and design of Ecoflex Thermo minimises heat and energy losses, making it a highly efficient system which reduces energy wastage and minimises heating costs.
- Uponor's design services and logistical support ensured that the project ran smoothly and provided peace of mind in the long term reliability of the site's heating network.

Moving Forward

Uponor is a leading global solutions provider for the delivery of safe drinking water as well as energy efficient heating and cooling systems. Founded over 100 years ago, Uponor remains the industry's market leader, pushing the boundaries of innovation and supplying the highest quality products to the construction industry in the UK and globally. Uponor's products can most commonly be found in the commercial, residential and industrial sectors.

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