References

Lower heat losses with pre-insulated pipes laid in LECA at Lillhamra, Sweden

Uponor involvement

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Lower heat losses with pre-insulated pipes laid in LECA at Lillhamra, Sweden

In 2011 the groundbreaking ceremony in the construction of Lillhamra, a new neighbourhood in east Västerås, took place.

Project Facts:

Location
Västerås, Sweden

Completion
2010

Building Type
Single family home

Product systems
Local Heat Distribution

Project Type
New building

Partners

Installer
Peab Anläggning AB
Sweden

A new concept for Uponor's low thermal loss culvert, embedded in LECA, is being tested here for the first time.

Background

The entire area will be permeated by ecological sustainability and energy-efficient buildings. The neighbourhood will consist of a mix of buildings, including apartment buildings, terraced houses, semi-detached houses and detached houses. All houses will be classified as low-energy houses, i.e. they will be very well insulated, have a high air tightness, efficient ventilation and will recycle heat from the exhaust air in heat exchanger units. The neighbourhood is expected to be ready in 2017.

Solution

''During the first stage 22 terraced houses will be built, and each house will be fed using a new low thermal loss concept for culverts,'' says Sami Kallio, product manager for culverts, comfort panels and sprinklers at Uponor. ''Lillhamra is unique from Uponor's point of view since it is the first time our culvert will be embedded in LECA. The LECA will be encapsulated with a non-woven fabric and covered with a normal filler. ''An independent consulting company has calculated the thermal losses with the Uponor culvert system embedded in LECA, and it demonstrates a very good insulating effect,'' says Kallio.

Heating to the area will be distributed by the local energy company Mälarenergi. ''This is a solution which means our culvert system meets Mälarenergi's requirements regarding low thermal losses for an energy-efficient residential area,'' says Kallio.

Result

Uponor's culvert system was installed in this case by Peab Anläggning. ''The culvert was convenient to lay, despite some intricacies with the couplings,'' says Martin Landås, supervisor at Peab Anläggning. ''The LECA worked well too. It was quicker to lay it compared to normal aggregate since it did not need to be processed before the culvert was embedded.''

Ulrika Eriksson, worker at Peab Anläggning, was part of the team who installed the low thermal loss culvert in Lillhamra. ''It was the first time we worked with culverts but it worked out fine. We did the culvert training at Uponor Academy just before we started working a Lillhamra, and the training was really useful. The LECA was easy to work with. We tried spraying it in from the truck, but it was easier when it came in cartridges,'' says Ulrika Eriksson.

About Uponor culvert systems

- Easy to handle and lay, especially compared to heavy solutions made of steel and copper
- Long life
- Entirely corrosion-free
- Utility pipe made of PEX tolerates heavy flows and does not erode
- The range includes both wells and t-couplings so that an optimal solution can be created for every project
- Plastic and air as insulation provide for flexibility and make it easy to adapt the culvert to the environment
- Insulation properties do not change over time

About Uponor

With solid experience, product know-how and specialist expertise, Uponor sets the standard for private and public projects. We work behind the scenes, but the results of our knowledge and products are encountered on a daily basis. Uponor plumbing offers functional, environmentally friendly solutions for heating, water and cooling that improve people's quality of life. Following many years in the industry, we know that expertise and commitment are our most important assets when it comes to developing and improving our systems and our clients' projects. As an Uponor client, you will also have access to skilful technical support, a strong local market organisation and our own centre of expertise, Uponor Academy.

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