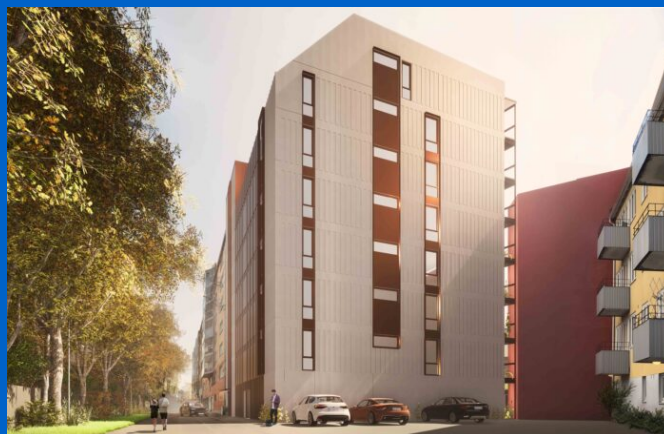


Residential project with underfloor heating adapted for apartments



Uponor involvement



- Underfloor heating (Klett)
- Underfloor heating controls system Smatrix Base PRO (Modbus connection)
- Tap water installation with Q&E fittings system
- Prefabricated cabinets for both underfloor heating and tap water

Residential project with underfloor heating adapted for apartments

The Bävörn block, located in the center of Karlstad, is a residential building that was completed in early 2023. Skanska, who built the homes, chose Uponor underfloor heating instead of radiators and also a variant that is completely new on the Swedish market and is adapted for multi-family buildings.

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In the Haga district in central Karlstad, a new housing block was completed in early 2023 with a total of 26 apartments. The developer Skanska chose to build with floor heating from Uponor with associated prefabricated floor heating cabinets, where the installers had to work with a completely new system adapted for apartments. In addition, the apartments have Uponor's tap water system; distribution cabinets with plastic manifolds, Q&E fittings in PPSU and Combi Pipe tap water pipes in PEX.

The design of the residential building was central and each apartment has large windows, which presented some heating challenges. Underfloor heating became a good solution, allowing the windows to take up space and not be covered by radiators. In addition, the solution offers significant energy savings as the supply temperature can be reduced by up to 22%, without compromising the comfort of the end user.

"The plumbers were skeptical at first because they had never tried similar underfloor heating, but after the first floor they were positively surprised by how easy it was to lay the pipes with Velcro, and that the pipes were attached to the installation panel very well", says Kim Berg, Sales Manager at Uponor.

Leif Lindeberg, a construction project manager at Skanska, became interested in choosing the Klett floor heating system partly because of the quick installation time. The pipes are covered with Velcro and then attached to an installation panel. Quick and easy and without any special tools, the installation time is said to be up to 30% faster installation compared to traditional laying methods.

"When you go into new applications there is a threshold, but overall it was great! Training is important at an early stage, but

the Klett system was great and underfloor heating in general is a good choice as it facilitates both the furnishing for the residents, temperature control and avoiding radiators that collect dust", says Leif Lindberg, construction project manager at Skanska.

The installers were given a system that they had never worked with before, which is not always straightforward as it requires the installers to learn something new. In the end, however, it was the right choice, according to Leif Lindberg.

He goes on to say that there is still a lot of prejudice that underfloor heating is more expensive in apartment buildings. But if you coordinate and educate so that the developer understands what it can mean in terms of time and energy savings, you can change the industry's way of building.

"I can definitely see us using this underfloor heating system again now that we have seen the end result and know how it works," says Leif Lindberg.

Project Facts:

| | |
|------------------------------------|---|
| Location | Completion |
| Karlstad, Sweden | 2023 |
| Building Type | Product systems |
| Multi storey building | Radiant Heating & Cooling, Flexible Pipe Systems |
| Address | Project Type |
| Mariedalsgatan 3B, 652 20 Karlstad | New building |

Partners

Skanska
Karlstads Rörmontage AB



"When you enter new applications there is a threshold, but on the whole it was great! Training is important at an early stage, but the Klett system was great and underfloor heating in general is a good choice as it facilitates both the furniture for the residents, temperature control and avoiding radiators that collect dust", says Leif Lindberg, construction project manager at Skanska.

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