References

Ilmalanlinna, Helsinki



Uponor involvement

- Underfloor heating with Uponor Siccus 12 underfloor heating plates

The underfloor heating solution designed for the renovation of detached houses can also be adapted to a new, ultra-modern office building

Due to the interest rates of the floor structures, underfloor heating at Uponor's new head office required a solution that would raise the floor surface as little as possible. A functional result was achieved with an unusual implementation, low-structure underfloor heating plates, which are mainly used in renovations of detached houses, and which increase the floor height by only 15 millimetres.

Project Facts:

Location	Completion
Helsinki, Finland	2023
Building Type	Product systems
Office	Radiant Heating & Cooling

Partners

Rakennuttaja: Koy Ilmalanrinne

Pju-urakoitsija: Consti
Korjausrakentaminen

Pääsuunnittelija: Parviainen
Arkkitehdit

Rakennuttajakonsultti: Sweco PM

Rakennesuunnittelija: Sweco
Rakennetekniikka

LVIS-urakoitsija: Are Oy

Automaatiourakoitsija: Consti
Talotekniikka

The underfloor heating solution designed for the renovation of detached houses can also be adapted to a new, ultra-modern office building

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In early May, Uponor's head office moved from Äyritie in Vantaa to Ilmala in Helsinki, on the edge of the new Ilmalantori square in Ilmalanlinna, which was completed in early 2023.

The ultra-modern office building has been designed based on ecology, responsibility and employee well-being, and both LEED Gold environmental certification and WELL Platinum Core certification, which emphasises the health and well-being of property users, have been applied for. For example, Ilmalanlinna has been designed with its own New Normal concept, the idea of which is to improve the hygiene of the premises with carefully selected materials and functional solutions.

Ecology has been at the core of both building services and service design. The building is energy class A, and all energy sources used – solar panels, geothermal heat, district heating and district cooling – are renewable. Attention has also been paid to low emissions and recyclability in material and furniture solutions.
The total floor area of the six-storey office building is just over 12,000 square metres. In addition to office space, the tenants have access to plenty of common space, various meeting and working spaces, as well as a yoga hall and a bright light centre, among other things.

Quick installation saves time and costs

The building is heated and cooled by an energy-efficient radiant panel system that circulates heat and cooling energy inside the house.
Radiant panels have also been installed at Uponor's head office on the fourth floor, but some of the premises were heated with water-circulating underfloor heating. However, due to the height of the premises, conventional solutions were not suitable: a structure was needed that would raise the floor surface as little as possible.

"Since the floor was cast at a certain height, the 17-millimetre pipes most commonly used in new construction would have raised the floor surface too high. We decided to try a slightly more exceptional solution and implement underfloor heating with thin Uponor Siccus 12 renovation panels, especially those used in renovations of detached houses," says Site Manager Miika Sipiläinen from Uponor.

Uponor Siccus 12 panels are particularly suitable for renovation projects where the floor height should increase as little as possible. The pipes used in the panels are 12 millimetres, and the height of the floor structure is increased by only 15 millimetres.

The floating, dry structure solution is very quick to install, as there are few work phases and there is no need for concrete castings or pump screeds, for example. The heat release boards are pre-glued to the insulation board, and floor materials over 15 millimetres thick, such as parquet, can be installed directly on top of the board. A thinner surface material needs, for example, floor drywall.

"In renovation projects, the work is made much easier when the floors do not necessarily need to be torn open all the way to the foundation, but the underfloor heating plates can be installed directly on top of the old floor. A thin renovation board mounted on top of the floor covering also reacts to desired temperature changes faster than thicker solutions," says Saija Nieminen, Product Group Manager at Uponor.

An excellent solution even for a large project
"Of course, when installing plates, you have to think carefully about the routes of the supply pipes, but otherwise installation is easy and quick – the pipes are simply pressed into the prepared grooves of the plates. Although casting is not needed on top of the plates in principle, it can of course be done. Also in Ilmalanlinna, thin concrete casting was placed on top of the panels," Miika Sipiläinen says.

According to Sipiläinen, after a little practice, the installation work went smoothly and effortlessly.
– A similar solution had not previously been implemented on this scale, so now we have good experience that such a solution can also work excellently in larger sites.

Saija Nieminen says that a new renovation solution with a diameter of only 9.9 millimetres will be launched on the market this year. The novelty is a ready-to-install product designed especially for renovations of detached houses.

Project information
Country: Finland
Location: Helsinki
Graduation: 2023
Project type: New building
Building type: Office building
Uponor Division: BLD
Installed Uponor systems: Underfloor heating with Uponor Siccus 12 underfloor heating plates

Involved in collaboration
Developer: Koy Ilmalanrinne
Pju contractor: Consti Renovation
Chief designer: Parviainen Architects
Construction consultant: Sweco PM
Structural Designer: Sweco Rakennetekniikka
HVAC contractor: Are Oy
Automation contractor: Consti Talotekniikka

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