References

Underfloor cooling adds value to new construction



Uponor involvement

Uponor underfloor heating and cooling system, Uponor Tacker -solution, wireless Uponor Smatrix Wave Plus thermostats

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Postitalo, the former post office building in downtown Tampere, got a new look in 2017 when it was renovated into new commercial premises and a block of flats was built on top. The heat distribution system of choice was Uponor's underfloor heating and cooling system, which was installed in all flats.
Investing in a high-quality heat distribution system makes everyone happy – underfloor heating and cooling is silent, draft-free and needs minimal maintenance, which benefits the designer, developer and resident alike.

Project Facts:

Location	Completion
Tampere, Finland, Finland	2017
Building Type	Product systems
Multifamily homes	Radiant Heating & Cooling
Project Type	
New building	

Located at Rautatienkatu 21, Tampere's former post office underwent extensive expansion and renovation where 89 flats and about 1,000 m2 of office space were built as an addition reaching up to nine storeys. In addition, all the old office spaces and commercial premises in the building were remodelled. The new building is home to the Asunto Oy Tampereen

Posteljooninpuisto housing association on floors 2–8, with shops and office spaces on the ground and first floors. The project, commissioned by the Keskinäinen Vakuutusyhtiö Fennia insurance company, was completed towards the end of 2017.

Uponor's underfloor heating system was installed in the flats as the heat distribution system. In the warmer seasons when heating is not needed, the system is also used for cooling. Combining chilled air intake with district cooling, the evenly distributed cooling of the system significantly improves the comfort level in the flat in the summer by keeping the floor surface at a comfortable 21–23 degrees and the surrounding room temperature below 27 degrees, the latter being a requirement of the national building code.

High-class site, top-of-the-line building services

Underfloor cooling both guarantees pleasant indoor conditions and meets the increasing demands of apartment building construction in a way that is both cost and energy efficient.

– The former post office is prime real-estate, and underfloor cooling is the requirement du jour in high-price flats such as these. Since underfloor heating was also on the wish list, the ability to combine the two was a perfect match. The site also has district cooling, which works well with underfloor cooling, says Juha Laine, who works as an HVAC design project manager at ALL-Talotekniikka Oy.

– We wanted the flats to be first class, with high-quality solutions from the facade to the interior. This is why we selected underfloor heating and cooling, confirms Fennia's Building Developer Timo Vasa.

Seamless cooperation with the designers

Uponor provided the underfloor heating and cooling system as a practical, comprehensive turnkey delivery. The delivery included the installation of the Uponor Tacker floor system, which meets modern day requirements for heat insulation and soundproofing. Uponor also delivered manifold cabinets to the site in pre-assembled, watertight form, which sped up installation. The Uponor Smatrix Wave Plus wireless room control system was included for room-specific control of underfloor heating and cooling. In addition, the expertise provided for designers formed an important part of Uponor's services.

– We were involved as early as the project design phase and worked jointly with the developer and other stakeholders. We simulated the heating and cooling efficiency based on initial data from the HVAC designers, and we assisted them in the project from start to end. At the Posteljooninpuisto site, the simulation was done in the flats with the highest heat load from sunlight. These simulations allowed the system to be scaled to level that was documented to keep temperatures within the current building regulation guidelines, says Sami Matikka, Uponor's building services project sales manager.

– Uponor was able to guarantee the best possible conditions for cooling. During the design phase, we fine-tuned our calculations and both parties proposed a variety of solutions. Our mutual cooperation was very smooth, says Laine.

Underfloor heating and cooling – two solutions with just one investment

Underfloor heating with cooling is an excellent alternative to the more conventional combination of fan coils and radiators.

– An underfloor heating and cooling system is silent, draft-free and requires less maintenance: there are no filters to replace, for instance. From the construction perspective, the best part is being able to get two systems in one and with just one investment, Laine points out.

Building Developer Vasa agrees. – Underfloor cooling is draft-free, which makes for very comfortable living. From the perspective of maintenance work and costs, this makes financial sense for the developer. We also want to be pioneers of high-quality, energy-efficient solutions, Vasa points out.

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