References

Plastic ensures condensation-free ventilation at new hospital and research facility



Uponor involvement

- 130 m ø600 Weholite pipes with 16 bends. 30 m ø1800 Weholite pipes with 3 x ø1400 manifold branches. 60 m ø3000 Weholite pipes with 3 x ø1800 manifold branches and bends.

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Hospital has high demands for ventilation and clean air
When Aarhus University Hospital's latest hospital and research department, AUH Forum, is finished, it is based on high demands on constant temperatures, good air quality and indoor climate. Uponor was chosen as the supplier for the underground ventilation solution, in which plastic ensures condensation-free pipes.

Project Facts:

Location	Completion
Denmark	2020
Building Type	Product systems
Municipal	Ventilation
Project Type	
New building	

Partners

Consultant: Sweco
Contractor: KPC
Supplier: Uponor Infra A/S

The final large piece in the construction of the new Aarhus University Hospital in under way. AUH Forum will be 14 storeys high, and will include inpatient care as well as medical research facilities. Construction is planned to be complete in mid-2022, and the site is already a hive of activity as foundations for the building's extensive ventilation plant are put down.

A building of this size and height calls for a correspondingly large exterior air intake, to meet the high demands on ventilation. The contract eventually went to infrastructure specialist Uponor Infra and its plastic Weholite pipes, as the pipes have an insulating effect and thereby counter condensation, which can lead to mould formation. Mould should be avoided in all buildings, but particular care must be taken in hospitals.

Demands for delivery time and volume

KPC Construction Manager Nikolaj Laustsen Kæmsgaard was involved in the decision to choose Uponor as the supplier of ventilation pipes for AUH Forum.

''It was soon clear in the planning phase that large, secure ventilation ducts would be needed for the project, as there were very strict requirements on the volume and quality of air being brought in. That's why it's hugely important that the pipes are tightly sealed, so the air stays clean. Uponor could deliver a solution that meets the necessary demands on tightness and insulation,'' Nikolaj Laustsen Kæmsgaard explains. He carries on:

''The delivery and assembly time was also a crucial factor in choosing Uponor. The prefabricated Weholite fittings were delivered to the building site in ready condition, so relatively few welds were needed to complete the system. Assembly only took two days, which is a huge improvement on equivalent elements in concrete, for example, where on-site casting alone can take two weeks.''

Weholite pipes from Uponor are made from reusable PE plastic with a design life of over 100 years. The elements are assembled by welding in situ, which ensures that the pipe system is tightly sealed, eliminating any risk of leakage from inside or penetration from outside.

Safety and materials are crucial

The fact that the Weholite pipes are made out of plastic is advantageous in terms of assembly. But the same is also true for cleaning and safety, as Torben Juler explains. He is the head of planning and design at Sweco, which has been the advisor on the project.

''To assure the air quality and indoor climate in the building, it is absolutely crucial that the ventilation pipes are well insulated and stay tightly sealed, that water does not collect in the pipes, and that damp and condensation are kept at bay. Plastic is a good material for this as it is smooth, secure, and has a very long design life,'' says Torben Juler, adding:

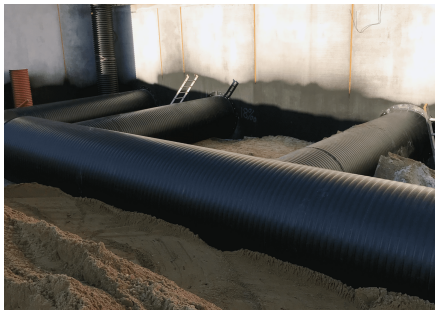
''We have good experience with Uponor from previous projects, and we had a positive exchange with them on the AUH Forum project. The combination of a reliable product, easy handling of lightweight pipes during transport and installation, and a dependable business partner made Uponor the right choice to deliver the pipes.''

Uponor Weholite pipes have documented insulation properties, protecting against condensation and minimising the risk of mould formation. Uponor is one of the only pipe suppliers to be able to calculate whether condensation presents a risk based on actual, real-life conditions, and also to say whether additional insulation might be needed.

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