References

PE tanks reduce carbon footprint at new water plant



PE tanks reduce carbon footprint at new water plant and secure future supply

Novafos' new water plant in Ballerup, Lautrupvang Water Plant, is currently under construction. PE tanks from Uponor, part of the George Fischer Group, have been chosen for the project. The tanks solve economic and building aesthetic challenges, reduce CO2 emissions by up to 50 % compared to traditional tank solutions and increase security of supply.

Project Facts:

Location

Ballerup, Denmark

Completion

2025

Building Type

Municipal

Project Type

New building

Partners

The project is in collaboration between Uponor Infra A/S, Novafos and Krüger A/S.

Water utility Novafos is currently building Lautrupvang Water Plant in Ballerup, taking a step towards a more sustainable and secure water supply. For the project, they have chosen water storage tanks based on parameters such as CO_2 reduction, chemical resistance, robustness of the material and the possibility of underground installation.

- "With the choice of PE tanks from Uponor, we have set a very clear direction for the water plants. PE tanks can be installed underground as the material has a high corrosion resistance. This means that we avoid having to build a building up to 14 metres high, which we would have had to do with non-underground tanks. This allows us to create a more aesthetic expression where the building blends in with its surroundings. It is our impression that the solution has been crucial to the approval of the local plans along the way," says Bo Lindhart, Director of Water at Novafos. He elaborates:

- "We are setting the cornerstone for a more economically efficient construction, and together with the tanks' drinking water approval and their durability and minimal maintenance needs, we are increasing the level and security of supply. This is the cornerstone of our structural plan, which replaces ten smaller outdated waterworks with three larger ones.

CO_2 reduction, durability and financial savings

Uponor's Weholite PE tanks, made from polyethylene, differ from traditional solutions such as concrete and steel tanks in that the material is flexible and resistant to mechanical loads and chemical influences. At the same time, the tanks are lighter, ensuring easier and faster transportation and installation. Krüger are the consulting engineers behind the project, which helps to streamline the economic aspects.

- Economically speaking, it costs roughly the same to build a tank in steel, PE or concrete. But if you look at the building construction, there are savings in choosing underground PE pipes, as you avoid building a large and tall building," says Jørgen Christian Iversen, Project Manager Utility East at Krüger.

Lautrupvang Water Plant's core task is to secure the future water supply for Ballerup municipality. The project is a significant step towards a greener water supply, and the choice of PE tanks was based on an increased focus on CO_2 reduction in the tender documents.

- "We are doing something dramatic in terms of sustainability. Our calculations show that we achieve a CO_2 reduction of up to 50 % with the PE tanks compared to other tank solutions that require a building. It's about taking responsibility for the sustainability we need to build on in the future. This is an important development for the water supply sector," says Jørgen Christian Iversen.

A step towards the sustainable water supply of the future

Uponor, a designer and manufacturer of water management solutions, is supplying the eight Weholite PE tanks to Lautrupvang Water Plants a total of 220 metres of Ø3500 mm pipe. The solution is part of Uponor's Flowise concept, which aims to help professional utility companies ensure drinking water quality for citizens. Uponor sees the project as an example for the future of water supply that can handle both economic and sustainability challenges.

- Water supply is an area that requires innovative solutions to ensure new standards for water supply in Denmark. Our Weholite PE tanks are designed in a lightweight, high-strength material which ensures that they are easier to transport and can be welded together on site. At the same time, they are corrosion-free and have a long lifespan, making them economically viable," says Bent Rønfeldt, Project Engineer at GF. He elaborates:

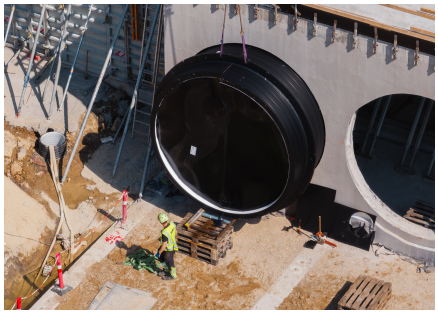
- "It is crucial for us to think long-term, economically and sustainably to future-proof our water supply. That's why we are constantly looking for innovative solutions.

Novafos galleri















"By choosing PE tanks, we avoid having to build a structure up to 14 metres high, like for concrete chambers. The underground solution allows the waterworks to blend naturally into the landscape and has been crucial for local planning approvals. At the same time, the durability, drinking water approvals, and low maintenance requirements of PE strengthen both economic efficiency and security of supply."

- Bo Lindhart, Director of Water and IT & Automation at Novafos

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