References

Retention tanks for the multimodal terminal



Uponor involvement

- Battery of 2 tanks DN2000 with a length of 98 m each and a total capacity of 615 m3
- Technical support during the implementation of the task, welding of tanks and leak tests performed by the Uponor Infra Service Group.

Uponor Infra tanks will manage the terminal's stormwater

In Zduńska Wola - Karsznice, one of the largest multimodal terminals in Poland is being built. The most important elements of the stormwater management system of this terminal will be a battery of two Uponor Infra retention tanks.
In Zduńska Wola - Karsznice, one of the largest multimodal terminals in Poland is being built, which will cover an area of 22 ha. The terminal will provide comprehensive logistics services for container connections on the new silk route between China and Europe. The investor of this task is the PKP Cargo Terminale company and the ZUE Group is the general contractor. The most important elements of the stormwater management system of this terminal will be a battery of two retention tanks. The supply of these tanks was entrusted to Uponor Infra.

Project Facts:

Location	Completion
Zduńska Wola-Karsznice, Poland	2023
Building Type	Product systems
Transportation	Storm water

Partners

Investor:
PKP Cargo Terminale

General contractor:
Grupa ZUE

Multimodal terminal on the new silk route

One of the foundations of the functioning of the European Union is the free movement of people and goods between the countries-members of the Community. The success of these plans depends not only on the construction of roads or railway lines, but also on the so-called point elements of infrastructure, which include, among others, multimodal terminals.

Multimodal transport uses different forms of transport (e.g. rail, road and sea) to carry one load in a container. Its share in transport is growing year by year, which is why more and more intermodal terminals are being built in Poland. One of the largest facilities of this type is being built in Zduńska Wola - Karsznice (Łódź Voivodeship). The investor is PKP Cargo Terminale and the rail and road transshipment port will cover as much as 22 ha.

The choice of the place is not accidental. The terminal in Zduńska Wola will be well connected to the railway line No. 131 and the S8 expressway. In the European context, the terminal was designed at the crossroads of the Baltic-Adriatic railway routes and, looking at a wider scale, it is part of the corridor leading to China.
Ultimately, the terminal in Zduńska Wola is to handle 500,000. containers per year, i.e. over a thousand a day. Given such ambitious plans, the size of the facility, which generates a significant volume of stormwater, is not surprising.

So how do you manage stormwater?

The main plate of the transhipment port will have dimensions of 40 m x 800 m. It will also include a railway siding with a length of 2 km and a road and parking system for trucks. Transshipments will be carried out all year round, regardless of the weather, so in order to ensure the safety and continuity of the terminal operation, it is crucial to properly design and build a system to drain stormwater from paved surfaces or roofs of associated facilities.

The most important elements of the stormwater management system for this terminal will be two underground retention tanks. The general contractor, ZUE Group, entrusted their delivery to Uponor Infra sp. z o. o.
A battery of two polyethylene tanks DN2000 with a length of 98 m each and a total capacity of 615 m3 was installed under the future car parks, parallel to each other and simultaneously along the railway tracks. They were delivered to the construction site in the form of individual components, while the Uponor Infra Service Group already joined them into a single system on site by means of extrusion welding. It is worth noting that although the works were carried out in winter conditions, at temperatures as low as -20°C and with snowfall, the joining of individual elements went according to plan and unfavorable circumstances did not cause the work to be interrupted. At the end of the assembly work, the supplier carried out a simplified air tightness test of the tanks in the profile.

The method of joining tanks by extrusion welding ensures material homogeneity and 100% tightness, while eliminating the need for gaskets. From the point of view of the investment in Zduńska Wola, it is also crucial that the tanks themselves, as well as their connection points, will be resistant to dynamic loads resulting from intensive traffic over them and possible currents straying from the surrounding railway track. It is also important that tanks made of polyethylene will not overgrow and corrode, which significantly facilitates operation and reduces its costs. Their resistance to many chemical compounds, including petroleum substances, and environmental factors such as soil or groundwater pH changes, which directly affect the aging of gasket connections, are also very important, and in the case of Uponor Infra tanks they are eliminated. It has been confirmed by research that Uponor Infra solutions guarantee reliable operation for over 100 years.

The total value of the investment in Zduńska Wola is PLN 128.6 million, of which PLN 46 million is supported by European Funds under the Regional Operational Program of the Łódź Voivodeship. The terminal is scheduled to be operational in autumn 2023.

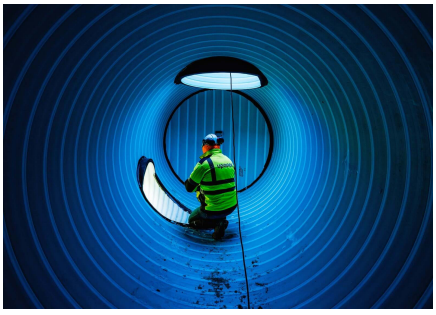
Retention tanks for the multimodal terminal













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