Röchling

Industrial

Project Report

Round tanks for aggressive brine made of Polystone® G black HD

Chemical processing industry

Round tanks for aggressive brine

Fast planning, coordination & production

Fast switch-overs are essential for a tank builder. Every customer query involves new requirements: What media are being stored? What static loads apply? Where will the tank stand? How fast does the tank have to reach the customer? And what construction material provides the maximum process reliability and durability under these conditions?

"Every tanks has different requirements," said Mario Erdec, Managing Director at Erdec d.o.o. "Close consultation with our customers is always the first step. Only in this way can we take the right decisions during design, and plan and construct tanks that fit perfectly in the given time." In the final analysis, reacting quickly to customer requirements means above all one thing for the tank builder: a competitive advantage.

"We work every day on building better tanks."

As a developer and manufacturer of tanks for the chemical industry, swimming pools and fish farms, Erdec d.o.o. has established itself as a flexible provider for different market requirements. At the location in Durdevac, Croatia, the company produces round and rectangular tanks according to customer's drawings in various dimensions. With this know-how, Erdec is often asked to develop new applications by international clients, too. In such cases, tanks are needed at short notice – for example, for the construction **of tanks for storing aggressive brine** for Magyar Közút, the biggest public road maintenance company in Hungary.

Choosing the right material

If there is a risk of slippery roads, Magyar Közút's road salters are filled with brine and ensure the roads are safe. The brine solution based on **sodium chloride (NaCl), calcium chloride ($CaCl_2$) or urea** is mixed and stored in the round tanks. During the planning and construction of the tanks, the experts of Erdec have to take two factors above all into consideration: high resistance to brine and high UV and weathering resistance, since the tanks are deployed outside. Magyar Közút also has to be able to rely on the planned **service life of the tanks of several years** under these conditions. Therefore, choosing the right material is decisive.

Close coordination

But also the close project coordination plays just as important a role: special mixing and filling technology is installed in the tanks produced by Erdec. For this installation RASCO d.o.o., from Kalinovac, Croatia, is responsible. The company is a world leader in the road service sector and provides a wide range of snow plows, road sweeping and road salting vehicles. RASCO has developed special matching mixing and storage tanks for them. RASCO has the tanks produced at Erdec and then installs the technology itself.

The experts of Erdec visited RASCO on site and **familiarised themselves with the requirements** over several meetings. Mario Erdec explained, "We coordinated the design within a short period and produced the tanks so that RASCO in turn could quickly supply Magyar Közút. Having a reliable partner at your side is very helpful for projects like this."

Mixing tanks for liquid salting vehicles: a brine solution is produced with modern technology, based on sodium chloride (NaCl), calcium chloride ($CaCl_2$) or urea

Polystone® G black HD (PE-HD)

Erdec got advice from Röchling at its location in Planá nad Lužnicí, Czech Republic, in choosing the material. As a long-standing customer, Erdec has for many years been using various Röchling tanks materials made of everything from PE to PP. Röchling recommended Polystone® G black HD (PE-HD) for the application. The material was specially developed to build tanks, providing **high resistance to chemical media** and exhibiting very good **UV and weather resistance**. The material withstands the brine solution over the long term and is suitable for the outdoors. It is in use worldwide for the construction of tanks.

"Having a partner at your side with great experience in tank construction is a clear competitive advantage."

Fast production

Röchling supplied the sheets and matching welding rods at short notice. It also performed the dimensioning for the design of the tanks with the software for tank building RITA®. The programm "RITA® 4.0 - Röchling's Integrated Tank building Assistant" developed by Röchling and certified by TÜV Nord calculates free standing, pressureless circular and rectangular tanks under consideration of the current guideline DVS. Erdec coordinated the final design with the RASCO engineers. Thanks to the close cooperation between Erdec, RASCO and Röchling, it was possible to deliver the tanks at short notice.

"We are pleased to have fulfilled the requirements of RASCO. We work at building better tanks every day," summed up Mario Erdec. "Having a partner like Röchling at our side, which has great experience in tank building, is a clear competitive advantage. We can react quickly to differing market requirements."

High chemical resistance:
storage tanks for brine solution made of Polystone® G black HD

Plastics for chemical tanks construction

Röchling thermoplastics have been in use for decades in the chemical industry as material for plants and tanks. Röchling provides a complete system consisting of sheet material, square tubes, U-Profiles and different welding rods, the tried-and-tested tank calculation program RITA®, and expert advice in selecting the correct material. Furthermore, Röchling has a comprehensive database and many years of experience with chemical resistance and the successful use of thermoplastics. The most important areas of use are tanks for the storage of liquids, galvanic plants, steel-pickling plants, water-treatment systems, exhaust-air cleaning plants and ventilation plants.

www.roechling.com

RITA® 4.0

Software for tank building

The RITA® 4.0 program developed by Röchling calculates free standing, pressureless circular and rectangular tanks under consideration of the current guideline DVS.

Request demo now:
RITA@roechling.com | www.roechling.com/RITA

Project overview

Round tanks for aggressive brine

Initial situation

Planning and construction of round tanks for mixing and storing brine for the maintenance of public roads in Hungary. The road salters are loaded with the brine and make sure the roads are safe in the event of slippery conditions.

Requirements

- The tanks must have a high chemical resistance to brine based on sodium chloride (NaCl), calcium chloride ($CaCl_2$) and urea
- High UV and weathering resistance for outdoor use
- Simple processing

Material used

Polystone® G black HD

Project partner

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