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**SPECIAL PRINT
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Fabric forms for architectural concrete

New Solution for the Production of Monolithic Concrete Manhole Bases



Xypex Chemical Corporation, Richmond, BC V6V 2G9, Canada

Quality Septic Tanks Begin in the Forms

Some things are better off left buried and the longer the better. Septic tanks top this list. That's one of the reasons why ABC Precast & Ready Mix of Nanaimo, British Columbia, has turned to advanced sewage treatment systems to make sure concrete tanks remain the product of choice for residents of British Columbia.

A.J. Hustins, general manager of ABC Precast & Ready Mix, explains, "We've been in the tank business for almost 40 years, and the biggest problem with septic tanks is leaching causing degradation to concrete. To minimize these problems, we take special care to form our septic tanks with newer molds and high-quality concrete that exceed industry standards for thickness and strength. We also look to new industry advancements for further improvements to our final product."

ABC Precast & Ready Mix didn't have to look far. The company had been testing an additive called Xypex Admix C500, a chemical treatment for waterproofing, protection and the improvement of concrete

strength, in some of its other product lines. "The product was performing so well in terms of waterproofing and durability that we decided to put the product to the test in our septic tanks – with some impressive results," says Hustins.

Tangible Results

ABC Precast & Ready Mix tested Xypex in a variety of conditions including compressive strength and sulfate resistance. Added to the concrete during the batching process, Xypex Admix reacts with calcium hydroxide and other by-products of cement hydration in the concrete causing a catalytic reaction that generates a non-soluble crystalline formation throughout the pores and capillary

tracts of the concrete. Mixed with Xypex Admix, the concrete becomes permanently sealed against the penetration of water or liquids from any direction and deterioration due to harsh environmental conditions. Xypex Admix C-500 is highly resistant to chemicals and can seal a hairline crack up to 0.4 mm. Unlike a coating system applied to the concrete after it's formed, Xypex never has to be re-applied.

Typically, ABC Precast & Ready Mix looks to achieve a minimum 32 MPa in the tank mix design at a 28 day break. With Xypex, they average 45 MPa. Hustins noted, "The Xypex crystalline reaction helped the concrete hold more moisture over a longer period of time so we get a longer slower,



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located off the east coast of Vancouver. "The client specifically selected our septic tanks for their strength, durability...and our use Xypex," concludes Hustins.

Currently a significant portion of sewage in North America is treated with septic tanks. The need for septic tanks in British Columbia and other parts of the world is expected to grow dramatically in the next decade, and ABC Precast & Ready Mix wants to make sure it's products provide the most durable, sustainable solutions. ■



Today, ABC Precast & Ready Mix uses Xypex in all of its septic tanks which are available in volumes of 275, 400, 750, 1000, 1200, 2000 and 4000 imperial gallons

moister cure, which ultimately yields a higher strength."

Some of the benefits were visible to the naked eye. Hustins says, "We knew our tanks were working in terms of waterproofing. We'd look at a tank that was full of water and see if the color of the concrete was getting darker and showing signs of dampness. Had we seen a color change, it would have been a clear sign that water was leaching through the concrete."

Not so easily detected is the protection that Xypex provides to concrete structures against sulfate attack. Acid resistance testing shows that by blocking the penetration of acids into the concrete Xypex prevents the formation of sulfoaluminate hydrate, an expansive compound that literally

causes the concrete to self-destruct. "Bottom line, the Xypex chemical treatment provides improved acid resistance to the concrete," says Hustins.

In the Field

Today, ABC Precast & Ready Mix uses Xypex in all of its septic tanks which are available in volumes of 275, 400, 750, 1000, 1200, 2000 and 4000 imperial gallons. The Xypex Admix C500 is added at a dosage rate of 3% by weight of the Portland Cement for precast tanks. Many septic tank installers and contractors in British Columbia now recognize the difference. Recently, ABC Precast & Ready Mix was awarded a contract to supply a local registered installation company with a multiple tank system for one of the Gulf Islands,

FURTHER INFORMATION



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