

CHAMPAIGN-URBANA ELEVATED WATER TANK

In 2016, Illinois American Water began construction on a new composite elevated tank to provide pressure reliability during power fluctuations at three water treatment plants and to supplement five other storage tanks and four booster stations on the distribution system. The tank was also built to provide potable water to customers in the Champaign service area.

“Because of our past experience, we were able to supply the engineer and the owner with long-lasting, low VOC, high-performance products to protect the steel and concrete substrates on this tank,” said Erik Otten, Tnemec coating consultant with Taylor Coating Sales, Inc.

The engineer was challenged with finding several coating systems that would protect the structure against the climate as well as condensation within the tank, all the while maintaining a beautiful appearance for the community.

“The interior steel on the water-bearing portion of the tank needed to be lined with coatings certified by NSF for potable water contact,” explained Otten. “The dry portion of the interior steel needed to control condensation, which can accelerate corrosion within the access area of the tank.”

After being prepared in accordance with SSPC-SP 10, interior surfaces received a prime coat of Tnemec’s zinc-rich urethane, Series 91-H₂O Hydro-Zinc, which cures quickly and can be topcoated the same day. The interior wet portion of the tank received two coats of Series N140 Pota-Pox Plus, an NSF-certified coating that offers high-build edge protection and allows for application at a wide range of temperatures.

The interior dry steel of the tank received two coats of Series 971 Aerolon Acrylic. Series 971 is an innovative, fluid-applied thermal insulating coating that is ideal for condensation control. This product was followed by Series N140 for additional corrosion protection.

The exterior concrete pedestal was coated using Series 665 Dur A Pell 100, a clear and filmless spray-applied silane water repellent ideal for protecting above-grade concrete or masonry surfaces. Tnemec’s Series V700 HydroFlon, a high-performance fluoropolymer finish, was chosen for the exterior logo and design because of its excellent color and gloss retention. The high-gloss exterior finish has outstanding resistance to ultra-violet light degradation.

The water tank’s logo, reading “Heart of Innovation,” promotes the variety and breadth of businesses and educational talent the community offers. This tank serves nearly 56,000 utility customers in the area.

FEATURED PRODUCTS

- Series 73 Endura-Shield
- Series 91-H₂O Hydro-Zinc
- Series N140 Pota-Pox Plus
- Series 665 Dur A Pell 100
- Series V700 Low VOC HydroFlon
- Series 971 Aerolon Acrylic



PROJECT INFORMATION

Project Location
Champaign, Illinois

Project Completion Date
August 2016

Owner
Illinois American Water - Champaign, Illinois

Engineer
Farnsworth Group - Bloomington, Illinois

Field Applicators
Neumann Co. Contractors, Inc. - New Lenox, Illinois

Caldwell Tanks, Inc. - Urbandale, Iowa

Among the many Tnemec coatings used on Illinois American Water’s Champaign-Urbana tank, Series 971 Aerolon Acrylic was utilized on the interior dry steel to control condensation, which can accelerate corrosion and damage any equipment below.

