

ELEVATED WATER STORAGE TANK

Project engineers typically determine the specifications for all facets of a construction process. When the City of West Des Moines, Iowa, decided to construct an additional water storage tank, however, West Des Moines Water Works had a specific request for the project engineers: ensure a Tnemec coating system is used on the tank's exterior.

The City of West Des Moines was growing, and growing fast. Apartment complexes, office parks and strip malls were beginning to close in on the area where the existing water tanks were located. These growth concerns dictated the decision for the new hydropillar construction, as well as the request for the Tnemec coating system.

"The City of West Des Moines knew that in a couple of years, there could be expansion that extended very close to the tanks," recalled Tnemec coating consultant Kevin Greteman. "They wanted a coating system that could ensure durability and provide the longevity that was needed."

Construction on the 2.5 million gallon tank began in early fall 2004. Series 91-H₂O Hydro-Zinc, a moisture-cured, zinc-rich urethane primer, was selected for the more than 150,000-square-foot total surface area because it could be utilized on both the interior and exterior of the tank's steel plates. This expedited the application process and eliminated the need for two different primers.

With the Hydro-Zinc primer in place on the exterior, Series 73 Endura-Shield, an aliphatic acrylic polyurethane, was roller-applied as an intermediate on the exterior. The finish coat selected was Series 700 HydroFlon, a fluorourethane coating designed especially for tanks and other exposed steel structures, applied at 2.0 to 3.0 mils DFT.

For the tank's interior lining, a three-coat system was airless spray-applied to the wet and dry areas. A combination of Series 20 Pota-Pox, a polyamide epoxy and Series FC20 Pota-Pox, a fast-curing polyamide epoxy, was used to accommodate the anticipated temperature fluctuations during the interior coating application.

"The performance capabilities of the coating system worked perfectly with West Des Moines' needs," noted Greteman. "They remain very pleased with the project."

FEATURED PRODUCTS

Series 20 Pota-Pox
Series 73 Endura-Shield
Series 91-H₂O Hydro-Zinc
Series FC20 Pota-Pox

Series 700 HydroFlon



PROJECT INFORMATION

Project Location

West Des Moines, Iowa

Project Completion Date

April 2005

Owner

City of West Des Moines, Iowa

Engineer

Krishna Engineering Consultants, Inc.
West Des Moines, Iowa

Applicator

CB&I
Plainfield, Illinois

Fabricator

CB&I
Des Moines, Iowa

Both the interior and exterior of the elevated water storage tank in West Des Moines, IA are protected with Tnemec high performance coatings.

