

CHALFONT NORTH WALES WATER STORAGE TANK

At the end of the 1990s, the North Wales Water Authority (NWWA) in the far northern Philadelphia suburbs knew it was facing an urgent need for more potable water storage. Philadelphia's urban growth was pushing northward fast and swelling the population. Farmland had given way to office parks, fitness clubs, Class A office buildings, and shopping and business centers.

The North Wales Water Authority purchased land in one of these new centers in the small town of Chalfont, Pennsylvania. Plans for new office buildings surrounding the tank site were already in the zoning office for approval. The NWWA knew it had to think big because of the growing demand for water, but what it didn't know then was that its hydropillar tank was to become the largest (at 4.1 million gallons) elevated tank for potable water in the world.

Three coatings challenges had to be addressed before this monolith left the drawing boards of the engineering firm. The first was to find a shop primer that would allow efficient production rates in the fabricator's shop. The second concern was the potential for damage from overspray during coating application work at the job site. The final concern was to minimize the disruption of painting operations to the business center in the future by choosing a coating system that would lengthen the normal painting cycles for both the interior and exterior coating systems.

Series 91-H₂O Hydro-Zinc, a moisture-cured zinc-rich urethane primer, was selected because it could be used on both the interior and exterior of the tank's steel plates, eliminating the need for two primers and allowing faster application.

For the tank's interior lining system, a two coat system of Series FC20 Pota-Pox, a fast-curing polyamide epoxy, was specified over the zinc-rich primer. The objective of the interior lining system was to achieve 20 years of maintenance-free service.

To prevent overspray and thus eliminate damage to cars and other objects, durable dry-fall coatings were specified for the exterior. An intermediate coat of Series 26 Ty-Cryl, an acrylic, was followed by a topcoat of Series 30 Spra-Saf EN, a hydrophobic acrylic polymer. Both products are dry-fall and provide the weathering resistance and appearance properties required by the water authority. The exterior coating system was specified to provide long-term durability and to minimize the number and complexity of maintenance operations.

FEATURED PRODUCTS

- Series FC20 Pota-Pox
- Series 26 Ty-Cryl
- Series 30 Spra-Saf EN
- Series 91-H₂O Hydro-Zinc



PROJECT INFORMATION

Project Location

Chalfont, Pennsylvania

Project Completion Date

December 2000

Owner

North Wales Water Authority

Engineer

Gannett Fleming - Harrisburg, Pennsylvania

Fabricator

Pittsburgh-Des Moines Company - Warren, Pennsylvania & Clive, Iowa

At 4.1 million gallons, the Hydropillar in Chalfont, Pennsylvania, is the world's largest elevated tank for potable water.

