

GREENSBURG WATER TOWER RECONSTRUCTION

For the City of Greensburg in southwest Kansas, construction of a new 100,000-gallon water storage tank that used fluoropolymer technology from Tnemec became a symbol of the community's recovery and regrowth following its destruction by a tornado on May 4, 2007. "The city and its existing 55,000-gallon water tower were completely destroyed by the force of the tornado," recalled Tnemec coating consultant Rick Penner. "Construction of the new water tank was put on a fast track because it was critical to the city's recovery efforts."

Typically, a water storage tower requires 120 days to design and more than 500 days to build, but given Greensburg's critical need, the new spheroid tank was designed in 45 days by Professional Engineering Consultants, P.A. and constructed in 172 days by Maguire Iron, Inc. Project engineers avoided delays from land acquisition costs and the need for an environmental impact study by constructing the new tank on the site of the original water tower.

Both interior and exterior steel were shop-primed by the fabricator with Series 91-H₂O Hydro-Zinc, a zinc-rich aromatic urethane, which is certified in accordance with NSF/ANSI Std. 61 for use on interior potable water tanks. "The steel was abrasive-blast cleaned by Maguire Iron and the primer was spray-applied," Penner explained. "After the tank was welded together, the seams were touched up with Hydro-Zinc."

Two coats of Series N140 Pota-Pox Plus, a polyamidoamine epoxy that is also certified in accordance with NSF/ANSI Std. 61, completed the interior coating system. Exterior steel received an intermediate coat of Series 73 Endura-Shield, an aliphatic acrylic polyurethane, followed by a finish coat of Series 700 HydroFlon, an advanced thermoset fluoropolymer designed especially for water tanks and exposed steel substrates. Approximately 165 gallons of Tnemec protective coatings were required for the tower that identifies Greensburg as "Home of the Big Well," which is a popular tourist attraction dating back to the 1880s.

"The engineers selected HydroFlon because the project was publically funded and they wanted a coating system that would perform as long as possible," Penner noted. "They wanted a coating system that would offer long-term color and gloss retention, decreased maintenance cost, and resistance to ultraviolet (UV) light."

On the one-year anniversary of the tornado, the new water tower was dedicated in a ceremony attended by national news media that cited the project as a tangible symbol of the city's determination to rebuild.

FEATURED PRODUCTS

- Series 73 Endura-Shield
- Series 91-H₂O Hydro-Zinc
- Series N140 Pota-Pox Plus
- Series 700 HydroFlon



PROJECT INFORMATION

Project Location
Greensburg, Kansas

Project Completion Date
May 2008

Owner
City of Greensburg

Engineer
Professional Engineering Consultants, P.A.
Wichita, Kansas

Shop and Field Applicator
Maguire Iron, Inc.,
Sioux Falls, South Dakota

The top left photo shows the devastation after the 2007 tornado in Greensburg, KS. The bottom photo shows the newly constructed water tank after being protected with a topcoat of Series 700 HydroFlon.

