LOUISIANA STEEL STORAGE TANKS

Concerned over the rate of interior corrosion in 38 steel storage tanks for petroleum and other chemicals, officials at a crude oil refinery in Louisiana ordered them relined using protective coatings with proven "high octane" performance from Tnemec. "Some of these tanks had a corrosion rate on their carbon steel of up to 25 mils per year," reported Tnemec coating consultant Eddie Borne. "Typically, the floor thickness of a storage tank is about 250 mils, so they would have had holes in the floor of these tanks within six or eight years, which is why this project was initiated."

Ranging in size from 100,000- to 300,000-barrel capacity, the storage tanks required nearly 5,000 gallons of protective coatings that included:

- Series 330 Tank Armor, a modified amine epoxy lining formulated for corrosion control and restoration of petroleum storage tanks.
- Series 350 Tank Armor, a high-build phenolic epoxy with excellent resistance to a broad range of chemicals, solvents and petroleum.
- Series 351 Tank Armor, a polysulfide/novolac epoxy repair and base coat putty for seams, rivets and chime areas.
- Series 365 Tank Armor, a 100 percent solids, reinforced novolac epoxy lining for steel storage tanks containing concentrated acid solutions and alkalis.

Prior to coating, each tank's interior was prepared in accordance with SSPC-SP5/NACE1/ISO SA 3.0 White Metal Blast Cleaning, with a minimum angular anchor profile of 2.5 to 3.5 mils. Both Series 330 and Series 350 were spray-applied at 30 mils dry film thickness (DFT), except in areas where 50 mils were required under the American Petroleum Institute (API) 652 and 653 standards. Series 365 was spray-applied at 40 mils DFT. A Graco Xtreme plural component proportioning pump was used to spray-apply each of these coatings, except for Series 351, which was trowel-applied.

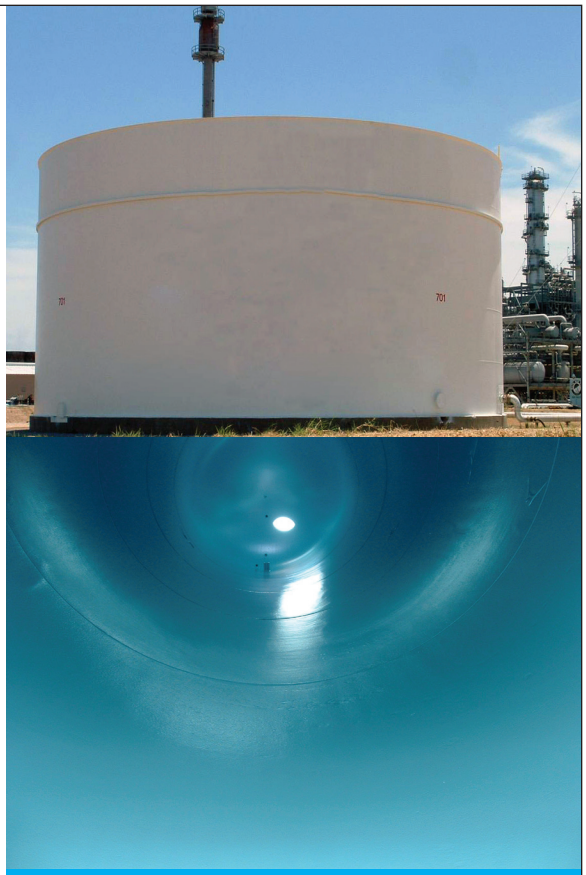
"This refinery uses these products almost exclusively," Borne noted. "On tanks that are pitted, these high-build liners have proven effective in creating a monolithic protective surface with few if any voids detected during high-voltage spark testing."

"The site manager at this facility said he never had tank liners that were so easy to install and performed as well as the Tank Armor coatings," Borne added. "The plant's metallurgist reported that the Tank Armor products have exceeded all of his expectations."

In addition to relying on Tank Armor interior linings for more than five years, the refinery has used several Tnemec coatings almost exclusively on the exterior of its steel storage tanks, piping and other structural components that make up this vast complex. The list of primary exterior coatings includes Series 30 Spra-Saf EN, Series 66 Hi-Build Epoxoline, Series N69 Hi-Build Epoxoline II, Series 90-97 Tneme-Zinc, Series 1028 Enduratone and Series 1074 Endura-Shield II.

FEATURED PRODUCTS

Series 330 Tank Armor
Series 350 Tank Armor
Series 351 Tank Armor
Series 365 Tank Armor



PROJECT INFORMATION

Project Location
Louisiana

Project Completion Date
December 2007

A variety of Tank Armor linings protect the interior of 38 steel storage tanks at a Louisiana refinery from corrosion.

TNEMEC®

Tnemec Company, Inc. 123 West 23rd Avenue North Kansas City, Missouri, USA 64116-3094 +1 816-483-3400 tnemec.com