

BIXBY NORTH LAGOON HEADWORKS EXPANSION

The northern lagoon of Bixby, Okla., is exposed to more than just the usual weather elements: sun, wind, rain, snow, etc. In fact, the concrete structure is also exposed to impact and abrasion as well as high levels of hydrogen sulfide (H₂S) gas and other chemicals, making the coating selection and application particularly challenging and important.

In 2002 when the city decided to construct the headworks structure for the lagoon, another product had been recommended. However, after further review planners decided to instead install a then relatively new Tnemec product, Series 434 Perma-Shield H₂S. This aggregate-reinforced, 100% solids epoxy mortar is designed for wastewater immersion/fume environments where H₂S and sulfuric acid are present.

Series 201 Epoxoprime, a 100% solids moisture-tolerant epoxy, was first used to prime the concrete prior to the Perma-Shield H₂S application. For additional protection, a glaze coat of Series 435 Perma-Glaze was then applied. A versatile, thick film, 100% solids, abrasion-resistant lining, Perma-Glaze provides low permeation to H₂S gas, protects against MIC and provides additional chemical resistance to severe wastewater environments.

In early 2007, nearly five years after completion, the products are performing as hoped and continue to withstand the effects of impact, abrasion and corrosion of the concrete.

FEATURED PRODUCTS

- Series 201 Epoxoprime
- Series 435 Perma-Glaze
- Series 434 Perma-Shield H₂S



PROJECT INFORMATION



Project Location
Bixby, Oklahoma

Project Completion Date
August 2002

Owner
City of Bixby

Engineer
Crafton Tull Associates
Tulsa, Oklahoma

Field Applicator
Luckinbill
Enid, Oklahoma

Tnemec's Perma-Shield system protects the headworks expansion in Bixby, Oklahoma, from hydrogen sulfide gas and biogenic sulfide corrosion.

