

HUTCHINSON WATER TREATMENT CENTER

When groundwater contamination required the construction of a new 10 million gallons per day water treatment plant in Hutchinson, Kansas, the design featured a new reverse osmosis membrane filtration system and advanced coating technology from Tnemec. "You can tell by looking at the treatment plant that aesthetics were important to the designers," Tnemec coating consultant Rick Penner acknowledged. "The facility was constructed with durable materials including concrete and masonry, which are energy efficient and easier to maintain with the proper protective coatings."

The solid-color coating system for the concrete floors utilized Series 281 Tneme-Glaze, a modified polyamine epoxy that protects against mild chemicals, impact, and abrasion. "The double broadcast system was applied by brush, roller, and squeegee," Penner recalled. "In addition to its high-gloss aesthetics, the coating system is skid resistant. These floors will frequently be wet, so a non-skid surface that is easy to clean was important."

Concrete and steel surfaces that come in contact with potable water were lined with Series N140 Pota-Pox Plus, an innovative polyamidoamine epoxy, which is certified by NSF International in accordance with ANSI/NSF Std. 61. The plant's masonry walls were sealed with Series 130 Envirofill, a waterborne cementitious acrylic block filler, followed by a coat of Series 113 H.B. Tneme-Tufcoat, a waterborne acrylic epoxy that offers abrasion-, chemical-, and moisture-resistance.

The exterior surfaces of the facility's steel tanks and piping were primed with Series 1 Omnithane, a modified aromatic polyurethane containing micaceous iron oxide and zinc, and topcoated with Series N69 Hi-Build Epoxoline II, an advanced generation polyamidoamine epoxy with excellent resistance to abrasion. Exterior metal received a finish coat of Series 1075 Endura-Shield II, an aliphatic acrylic polyurethane that's highly resistant to abrasion, wet conditions, and exterior weathering. "Several hundred gallons of protective coatings were required throughout the plant," Penner explained. "All of these coating products were specified for easy maintenance, durability, and corrosion against chemicals."

The plant's reverse osmosis filtration system uses membrane filtration treatment to clean contaminated groundwater at a molecular level. Reverse osmosis treated water is blended with municipal wellfield water, adjusted for pH and disinfected with chlorine gas to produce a high-quality water with roughly 135 parts per million (ppm) of total hardness. When the plant went online in April, 2009 the reverse osmosis system was unique to Kansas, as well as the Midwest.

FEATURED PRODUCTS

Series 1 Omnithane
Series N69 Hi-Build Epoxoline II
Series 113 H.B. Tneme-Tufcoat
Series 130 Envirofill
Series N140 Pota-Pox Plus

Series 222 Deco-Tread
Series 281 Tneme-Glaze
Series 284 Deco-Clear
Series 1075 Endura-Shield II



PROJECT INFORMATION

Project Location
Hutchinson, Kansas

Project Completion Date
April 2009

Owner
City of Hutchinson

Architect/Engineer
Professional Engineering Consultants P.A.
Wichita, KS

Floor Coating Applicator
Epoxy Coating Specialists
Kansas City, Kansas

General Coating Applicator
Hartwood Painting
Wichita, Kansas

The concrete floors, masonry walls, and steel tanks were protected with various high-performance coatings from Tnemec.

