

# SOUTH WATER PURIFICATION PLANT

Known in the Chicago area for its “green” initiatives, the South Water Purification Plant achieved Leadership in Energy and Environmental Design (LEED) NC Version 2.2 certification for a facility built with environmentally friendly materials, including protective coating systems from Tnemec. “The project involved a new water purification plant chlorine building, which provides reliably disinfected water to millions of people,” according to Tnemec coating consultant Erik Otten. “Tnemec was able to submit coatings to assist in obtaining LEED EQ 4.2 credit related to low-emitting materials such as paints and coatings.”

The building’s interior concrete and masonry was prepared in accordance with SSPC SP-13/NACE No. 6 Surface Preparation of Concrete, followed by two coats of Series L69 Hi-Build Epoxoline II, a polyamidoamine epoxy, which has less than 100 grams per liter of volatile organic compounds (VOCs). The primer and intermediate coats were spray- and back-roll-applied. The finish coat was Series 297 Enviro-Glaze, a ceramic-modified, low-VOC, aliphatic polyurethane, which was spray-applied. More than 2,000 gallons of Series L69 and 500 gallons of Series 297 were used to protect the concrete and masonry against chemical fumes.

Two coats of Series L69 were also brush- and roller-applied to exterior ductile iron pipe, which was prepared in accordance with the National Association of Pipe Fabricators (NAPF) 500-03 Surface Preparation Standard for Ductile Iron Pipe and Fittings Receiving Special External Coatings and/or Special Internal Linings. Nearly 85 gallons of Series L69 were used on the pipes to protect them against possible sweating and chemical fumes. Series 6 Tneme-Cryl, an acrylic emulsion, was roller-applied to exterior pipe for protection against ultraviolet (UV) light.

Concrete for secondary containment was prepared in accordance with SSPC SP-13/NACE No. 6, primed with Series 201 Epoxoprime, a high-solids modified polyamine epoxy, followed by two coats of Series 282 Tneme-Glaze, a highly chemical-resistant polyamine novolac epoxy.

Exterior cast stone was treated with a spray-applied coat of Series 636 Dur-A-Pel 20, a silane/siloxane blend, to protect against rain, freeze/thaw spalling and stain damage.

The South Water Purification Plant is one of two water purification plants that serve nearly 5 million people in the City of Chicago and 118 suburbs. When it was placed in operation in 1947, a large part of the treatment plant was constructed with a “green roof” that covered more than 10 acres. In 2010, the newly constructed facility housing water disinfection equipment was awarded “LEED Certified” status by the U.S. Green Building Council. The project was also a finalist in the ACEC 2010 Engineering Excellence Award, Water and Wastewater.

## FEATURED PRODUCTS

Series 6 Tneme-Cryl                      Series 297 Enviro-Glaze  
Series L69 Hi-Build Epoxoline II    Series 636 Dur-A-Pel 20  
Series 201 Epoxoprime  
Series 282 Tneme-Glaze



## PROJECT INFORMATION

### Project Location

Chicago, Illinois

### Project Completion Date

April 2010

### Owner

City of Chicago Department of Water

### Engineer

Greeley & Hansen - Chicago, Illinois

### Field Applicator

Nikolas Painting - Bridgeview, Illinois

Tnemec coatings were used on the South Water Purification Plant in Chicago, which was able to achieve LEED NC Version 2.2 certification.

