BOYNTON INLET BRIDGE

Florida's State Road A1A is designated a National Scenic Byway, but over the years corrosive conditions had left the coastal highway's fixed span bridge across Boynton Inlet in need of a major restoration with a high-performance protective coating system from Tnemec. "The bridge was in really bad shape," Tnemec coating consultant Mike Kendig said. "They were having trouble with pitting and severe corrosion issues. The project was fairly extensive and required the bridge to be shrouded while all of the existing coatings were blasted off during application of the new coating system."

Structural steel on the bridge was prepared in accordance with SSPC-SP5/NACE No. 1 White Metal Blast Cleaning to remove the old coatings, mill scale, rust, oxides and corrosion from the surface. Containment prevented blasted materials and overspray from recreational boaters passing under the bridge, as well as the steady stream of vehicles driving over it.

The steel was primed with 122 gallons of Series 90-97 Tneme-Zinc, an advanced technology two-component, moisture-cured zinc-rich polyurethane, which offers ease of application and rapid curing. Approximately 90 gallons of Series 135 Chembuild, a modified polyamidoamine epoxy, were used as an intermediate coat, followed by 53 gallons of Series 1070 Fluoronar, a high-solids fluoropolymer coating that offers an ultra-durable finish. "The finish coat was Safety Blue," Kendig noted. "They wanted good corrosion protection for the bridge members and good color and gloss retention. This project was a test case for the Florida Department of Transportation to see how this system will perform in the tough coastal environment right on the Atlantic Ocean."

A similar coating system has been used in Florida to protect water tanks, light poles, metal roofs, handrails and several Western Beltway SunPass gantries from abrasion, ultraviolet (UV) light and exterior weathering. The elevated gantries are equipped with electronic toll collection (ETC) technology, lights and cameras. "The first five gantries specified a metallic aliphatic acrylic polyurethane finish, which is highly durable," according to Kendig. "Recently, they have switched to a solid color fluoropolymer finish coat."

The gantries are owned and operated by Florida's Turnpike Enterprise, which is part of Florida Department of Transportation. "Like Boynton Inlet Bridge, the SunPass gantries are highly visible structures because of the constant traffic along the tollway," Kendig added. The State Road A1A Bridge connects the towns of Manalapan and Ocean Ridge and serves as an emergency evacuation route. The lowest structural member restricts clearance beneath the bridge to approximately 18 feet above the mean water line.

FEATURED PRODUCTS

Series 90-97 Tneme-Zinc
Series 135 Chembuild
Series 1070 Fluoronar

PROJECT INFORMATION

Project Location
Boynton Beach, Florida

Project Completion Date
June 2010

Owner
Florida Department of Roads
Fort Lauderdale, Florida

Engineer
Florida Department of Roads
Fort Lauderdale, Florida

Field Applicator
Worth Contracting, Inc.
Jacksonville, Florida

A high-performance coating system from Tnemec was applied to the fixed span bridge across Boynton Inlet in Florida to restore the bridge after years of corrosion had built up on the structural steel.

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