



PORTMIAMI TUNNEL MIAMI, FLORIDA

Owner: Florida Department of Transportation
Architect: AECOM, Miami
Design Architect: ArquitectonicaGEO, Miami
Contractor: Bouygues Civil Works Florida, Miami
Structural Engineer: Wheaton and Sprague Engineering, Inc., Stow, Ohio
PPG *IdeaScapes* Products: **Duranar**® XL coatings and **Duracron**® coatings
Metal Fabricator: Metalwërks, Kennett Square, Pennsylvania



Duranar XL and Duracron coatings by PPG were specified for use in the PortMiami Tunnel, South Florida's newest landmark, because they combine bright color with exceptional resistance to abrasion, salt, humidity, car exhaust and fading.

PROJECT BACKGROUND

With an expected lifespan of 150 years, the *PortMiami Tunnel* is designed not just to look good, but to do so for a long time. With the help of **Duranar XL** and **Duracron** coatings by PPG, the architect for this new South Florida landmark believes it is destined to achieve both goals.

Opened in August 2014, the *PortMiami Tunnel* pairs two 4,200-foot-long passageways that travel under Miami's Biscayne Bay, connecting the port on Dodge Island — known as both the “cruise capital of the world” and the “cargo gateway of the Americas” — to the

MacArthur Causeway on Watson Island, as well as interstates 95 and 395.

While the project incorporates concrete entrance portals, U-walls, flood gates and landscaping, its signature design element is a series of murals inside the tunnel that depict the ocean life, including sea grass, turtles and sharks, that resides just outside its walls. A network of 4,000 solid-aluminum plate panels painted with **Duranar XL Crystal Blue** coatings provides the backdrop.

Christine Zavesky, an associate with ArquitectonicaGEO, said **Duranar** XL coatings, which are typically reserved for high-end storefronts and other monumental architectural applications, were chosen for this project, not just for their range of colors, but also for their proven track record of durability.

“We worked closely with manufacturers of the metal surfaces inside the tunnel to select durable finishes capable of withstanding heat and impact,” she explained. “We also wanted colors that would soften the harsh transition from light to dark. **Duranar** coatings have a good track record in South Florida, and you cannot beat the consistency of coil coatings, especially for a project this large.”

Phil Buhr, PPG product manager, coil and building products group, said that while it is rare for **Duranar** XL coatings to be used for infrastructure projects such as the *PortMiami Tunnel*, their performance advantages made them a good fit.

“**Duranar** XL coatings have qualities that will help the tunnel withstand harsh environmental conditions, including exposure to salt air, humidity and automobile exhaust,” he explained. “The coatings’ cleanability, longevity and warranty coverage in seacoast environments are ideal for high-visibility applications like this.”



The 4,000 solid aluminum plate panels lining the tunnel were painted with **Duranar** XL Crystal Blue coatings, while the lattice work was coated with durable **Duracron** coatings.

Duranar XL coatings are three-layer systems consisting of a urethane primer coat, a decorative color coat and a protective fluoropolymer clear coat. In addition to providing decades of colorfastness and gloss retention, they offer flexibility and exceptional resistance to abrasion, chalking, fading, chipping and peeling in challenging building environments.

The metal panels that line the tunnel and the hidden lattice-like framework behind them were fabricated by Metalwërks, Kennett Square, Pennsylvania. The decorative panels were painted by Precoat Metal, St. Louis, and the lattice work was finished by Spectrum Metal Finishing, Youngstown, Ohio, with **Duracron** coatings.

Duracron acrylic-based coatings are designed to meet American Architectural Manufacturers Association (AAMA) 2603 specifications, and offer good film integrity, color control and mar resistance. **Duranar** XL coatings are engineered to meet the AAMA 2605 specification, the industry’s highest performance standard.

For more information about **Duranar** XL coatings, **Duracron** coatings or PPG’s full line of high-performance coil coatings, visit www.ppgideascales.com or call 1-888-PPG-IDEA (774-4332).



In addition to durability, the Crystal Blue color of the **Duranar** XL coatings blends well with a series of murals inside the tunnel that depict ocean life.