

PPG Profiles

Grove at Grand Bay
Coconut Grove, Florida

Case Study

Owner

Terra Group, Miami

Architect

Bjarke Ingels Group (BIG), New York

PPG Metal Coatings

PPG DURANAR® Coatings

PPG Certified Coatings Applicator

TECNOGLASS, Miami

Project Overview

When building a high-rise to face a lifetime of difficult, yet inevitable, challenges, architects and curtain wall fabricators know it pays to work with people and products they can count on. That's why the two twisting condominium towers now soaring over Miami's exclusive Coconut Grove neighborhood feature window walls fabricated by Tecnoglass and finished with PPG DURANAR® coatings.

Designed by globally renowned Bjarke Ingels Group (BIG), Grove at Grand Bay features two swiveling 20-story towers, each housing 49 upscale condominiums highlighted by expansive views of Biscayne Bay and its lush tropical surroundings.

At first glance, the towers' swirling shapes may appear as a stroke of whimsy from an architect known for his startling and innovative building design, yet there are two vital reasons for the structures' fanciful twists. The first is to provide each residence in both towers with an ocean view and an expanded living space, a feat that would not have been possible with two conventional north-south rectangular towers, stacked one behind the other.

The second, and clearly more important, reason is to provide both buildings with formidable protection against the area's famously volatile weather, which combines daily exposure to corrosive and humid salt air with the perpetual summertime threat of multiple hurricanes.



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To protect against the latter, the architect and engineers designed the two towers with diagonally slanted concrete columns reinforced with composite cores of concrete and steel internal plates for the shear walls. Additional stability is provided through the use of camber floor plates, each of which arches slightly in relation to the floor below; hat-trusses for each roof, where girders are cantilevered from the tower cores and connected to the columns; and pressure-injected auger-cast pilings that are driven, on average, 80 feet into the soft south Florida soil.

To maximize views, exterior aesthetics and balcony space without compromising weather and corrosion protection, Tecnoglass, a PPG CERTIFIED APPLICATOR PROGRAM™ member, engineered hurricane-resistant window walls, glass doors and metal framing systems finished with *Duranar* fluoropolymer coatings by PPG.

Carlos Amin, vice president of sales for Tecnoglass, said the selection of *Duranar* coatings for this critical project was never in question. “We specify PPG coatings 100 percent of the time due to their superior product quality and service,” he explained. “We rely on PPG for important jobs like this because they always respond to the demands of each project, from quick turnaround times and color formulation, to application and technical support, color-matching and job-site delivery.”

As a member of the PPG CAP network, Tecnoglass is one of a select group of exceptional coatings applicators whose facilities and processes are quality-audited by PPG to help achieve color consistency and deliver the highest possible levels of product quality, customer service and technical expertise. The company has worked on dozens of high-profile towers in Miami and throughout South Florida.

“This was a demanding application that required the use of the very best materials,” Amin added. “Our engineers designed 12-foot-tall floor-to-ceiling windows and sliding glass doors with three panes of coated, ultra-clear glass. The balcony railings were laminated with two lites of the same glass. In addition to protecting the metal framing with *Duranar* coatings, we hermetically sealed everything at the factory and installed custom-made rollers on the doors to make sure they operated properly. Everything is hurricane-resistant and insulated.”



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Based on a 70-percent polyvinylidene fluoride (PVDF) formulation that has protected thousands of buildings, including many globally recognized landmarks, for more than 50 years, *Duranar* coatings offer the proven seacoast corrosion performance required for projects like Grove at Grand Bay.

Unfortunately, it was less than a year after the buildings opened that Grove at Grand Bay faced its first major test. With a four-foot tidal surge and 100-mile-per-hour winds, Hurricane Irma hit the complex as a Category 4 storm on September 10, 2017. Jason Gilg, senior development manager for Terra Group, the project's developer, said the towers came through the event relatively unscathed. "Overall, the two structures did extremely well – including the hurricane-impact glass," he reported.

The architect, who has specified *Duranar* coatings for other high-profile projects such as VIA 57 West in New York, selected two colors – *Duranar* Bone White and *Duranar* Acadia Silver coatings – to harmonize with the glass and other exterior elements of Grove at Grand Bay. More than 22 tons of the product were used on the project.

About Tecnoglass S.A.

Tecnoglass is a leading manufacturer of architectural glass, windows, and associated aluminum products for the global commercial and residential construction industries. Headquartered in Barranquilla, Colombia, Tecnoglass is the leading architectural glass transformation company in Latin America and the second largest glass fabricator serving the United States.

The company serves more than 900 customers in North, Central and South America and operates out of a 2.7-million square-foot, vertically-integrated, state-of-the-art manufacturing complex. To learn more, visit www.tecnoglass.com.

PPG Certified Applicator Program

To contact a member of the *PPG Certified Applicator Program*, or to learn more about *Duranar* coatings, visit www.ppgmetalcoatings.com or call 1-800-258-6398.



Tecnoglass selected *Duranar* coatings for the Grove at Grand Bay because they offer the proven seacoast corrosion performance required for projects in humid, salt-air environments.



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