



## **REPAIRING HURRICANE DAMAGE AT MARRIOTT SAN JUAN AND STELLARIS CASINO**

Project Type: Commercial

Application: Repairs and restoration

Location: San Juan, Puerto Rico

Project Dates: October-November 2018

Project Owner: Marriott International

**Contractor:** AT Specialty Cements & Polymer Technologies

Project Size: 19,000 sq. ft.

## **Product:**

Rapid Set<sup>®</sup> CR Concrete Resurfacer, Mortar Mix, Concrete Mix and SET Control<sup>®</sup>

After Hurricane Maria ravaged Puerto Rico in September 2017, the state of the island's hotel and tourism industry became critical to economic recovery. The Marriott San Juan and Stellaris Casino was one of the few hotels to stay open after the devastation caused by the Category 5 hurricane, and when Marriott San Juan needed to restore its expansive swimming pool area—which generates the property's most significant percentage of profit—the hotel could not afford to close down its two pools for repairs.

Damage from the hurricane was extensive. The pool deck area was extremely uneven, with water ponding in several sections, and the floor tile was in poor condition. Contractor AT Specialty Cements & Polymer Technologies (San Juan) needed to remove the old tile and adhesives, restore the existing concrete slab and build up low areas, and add a surface drainage pitch of 1/8 inch per foot to minimize water ponding.

To renovate the 19,000-square-foot space with minimal interruptions to operations, AT Specialty Cements divided the deck into sections so that a portion of the pool area remained open to guests at all times. The contractor also used CTS Cement's Rapid Set<sup>®</sup> family of products to make repairs, specifically CR Concrete Resurfacer, Mortar Mix and Concrete Mix. After applying each of these fast-setting products, the contractor was able to move on to the next phase of work 12 hours later.

## **APPLICATIONS**

Placing the products by hand, the contractor used CR Concrete Resurfacer to level and resurface areas where the difference in elevation was between zero and 3/8 inch. The hydraulic cement-based, polymer-modified mortar is specially formulated with self-curing technology, meaning it does not require wet curing in most applications. It has a working time of up to 30 minutes and can receive foot traffic in as soon as two to three hours.

The crew also used Mortar Mix to create a mortar bedding in areas where more than 1/2 inch of depth was needed. The high-strength structural repair material sets in 15 minutes and achieves structural strength in one hour.

Concrete Mix was used to rebuild fragmented portions of slab on ground and replace old landscaping with four-inch concrete slabs to expand the deck area. Like Mortar Mix, this high-performance concrete sets in 15 minutes and can receive traffic in one hour.

## CHALLENGES

PROJECT PROFILE

Construction took place during October and November 2018, the final months of Puerto Rico's rainy season, so rainfall caused delays throughout the project. Thanks to the fast curing Rapid Set products, the contractor was able to make up for lost time every week to complete the project on time and within budget.

Also, Fall temperatures in San Juan rarely fall below 84 degrees Fahrenheit during the day and 77 degrees at night. To ensure the repair materials did not set too fast due to the heat, Rapid Set<sup>®</sup> SET Control<sup>®</sup>, a retarding admixture, was added to the mix. Rapid Set FLOW Control<sup>®</sup> was also added to increase fluidity and compressive strength. The repair materials were mixed via bucket and hand drill.

The biggest challenge was the specified slope of 1/8 inch per foot, which required work to be executed with precision.

The surface was finished with a semi-rough texture and later covered with ceramic tiles. In all, the pool deck restoration was completed in 60 days, with the entire pool area returned to service in time for the busy winter tourism season.

CTS Cement Manufacturing Corporation manufactures Rapid Set professionalgrade cement products for concrete repairs and new construction projects. Contractors, owners, engineers and architects choose Rapid Set to eliminate problems they have with other concrete repair materials, to save time and money, when superior durability is required and results need to be aesthetically pleasing. For more information about CTS Cement and Rapid Set, please visit www.CTScement.com.