

CASE STUDY

Sunbelt Rentals Provides Dehumidification Systems For Famous Florida Aquarium

Spearheaded by our Pump & Power team, Sunbelt Rentals' dehumidification solution keeps the famous dolphin pool pumping at the Clearwater Marine Aquarium (CMA) in Florida. Our crew handled the design and installation of the dehumidification systems utilized during the construction of new marine animal rescue pools in 2013. The aquarium is home to "Winter," the world's most famous dolphin. Winter is the star and inspiration of the hit movie "Dolphin Tale," which was filmed on location at CMA in Clearwater.

The marine animal rescue pools are a key part of CMA's nationally-recognized marine mammal rescue program. Thousands of visitors flock to CMA each year to watch Winter inside her rehabilitation pool in the aquarium. At only three months old, Winter got caught in a crab trap line and was rescued from Mosquito Lagoon, near Cape Canaveral. Despite the overwhelming odds against survival, Winter was fitted with a prosthetic tail and learned how to swim again.

Collaboration and careful planning were required to maintain environmental conditions during the application of epoxy lining and subsequent curing process within three newly constructed marine animal rescue pools inside the aquarium. Situated on the shoreline of Tampa Bay, the location of the rehabilitation pools was plagued by a very high amount of ambient moisture in the project area. Our team successfully controlled the moisture levels throughout the construction process, maintaining conditions of less than 40 percent relative humidity and 3.0 pounds of moisture vapor pressure, exceeding the requirements set by the pool lining manufacturer. Through a combination of the sustained low moisture levels and the contractor's surface preparation efforts, the new pools were successfully lined and passed all subsequent inspections.

The lining was of particular importance, because if the material were to disband from the surface and be ingested by one of the marine animals in the pool, it could lead to extreme sickness or death. CMA's marine veterinarians were very clear about the importance of achieving a successful mechanical bond between the new concrete surface and the lining material so that it would remain tightly adhered for the expected life cycle.

According to strategic account manager Matt Barwick, this experience was highly beneficial for the team. "We've completed similar jobs with other aquatic venues, and I believe that played a key role in being selected as the provider of temporary climate control and dehumidification services for Clearwater Marine Aquarium," Barwick said. "This project has provided us with great insight into the characteristics of concrete, the importance of environmental controls during lining installation, and the challenges of working in proximity to live marine animals. Although working so closely with animals certainly presented difficulties and intricacies not found in other projects, the end result is always worth it"

Since the completion of the project, the pools have provided a safe and protected recovery area for several rescued marine animals including "Hope," a new dolphin who is now Winter's constant companion, and "Harold," a sea turtle who is visually impaired and has helped marine biologists better understand the importance of visual acuity in sea turtles.

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