

Miami Science Museum Aquarium

Hycrete Waterproofs Miami Science Museum Aquarium Including 500,000 Gallon Saltwater Tank



Hycrete was used to waterproof the concrete slab of the Planetarium and help protect the enclosed rebar from corrosion.

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Using Hycrete’s waterproofing admixture in the concrete enabled us to meet all of the desired concrete specifications and deliver waterproofing protection all-in-one. The aquarium and planetarium contains Hycrete Endure WP in the slab and walls for waterproofing and corrosion protection.

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Central Concrete Supermix, Inc.

HYCRETE360 PROVIDES LONG-TERM CONCRETE PROTECTION

Structure: Museum and Seawater Tanks

Applications: Slabs, perimeter walls, concrete pads, tanks, large pools

Architect: Rodriguez & Quiroga Architects

Engineer: Arup

General Contractor: Suffolk, Skanska

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Introduction

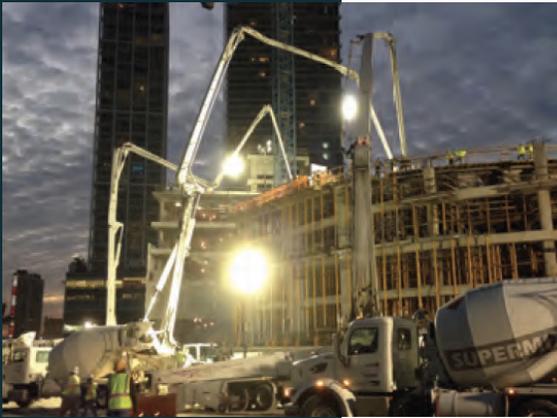
Miami Science Museum, located in Downtown Miami in Bicentennial Park, is a 180,000 ft² facility that includes a planetarium, 500,000 gallon natural seawater tank, wildlife exhibits and venue spaces. The elliptical pool, 100 feet in diameter and housing exotic fish, features a large underwater viewing window. In addition, waterproofing and corrosion protection was needed for the perimeter walls, slabs and pools in other areas of the site.

Challenge

The tank’s elliptical shape and viewing window made finding a durable waterproofing solution both challenging and critical. Also, it was important that the tank’s constituent materials and construction not impact the wildlife species housed in the tank. Finally, because the tank contains seawater, protecting the steel reinforcement from corrosion was an important design consideration.



The two-story conical aquarium required a solution that would provide lasting protection and not disrupt the wildlife.



Solution

The project consultant recommended the use of Hycrete360 (formerly System W), Hycrete's integral waterproofing system, to provide protection in the concrete backed by the company's performance warranty. Hycrete's integral admixture also provides corrosion protection throughout the concrete mix by both reducing absorption and protecting the surface of the steel reinforcement. Hycrete Endure WP is Cradle to Cradle Certified CM Gold and NSF/ANSI-61 certified (approved for use in potable water tanks), an important consideration for the sensitive wildlife contained in the tanks.

Result

In addition to waterproofing the seawater tank, Hycrete was used in perimeter walls, slabs, and pools in other areas of the site. The tanks and pools are leak-free, and the concrete mix produced excellent results, meeting all of the important performance parameters required by the specifications. The owner has a long-term solution throughout the concrete mix that is environmentally-friendly and compatible with the sensitive needs of the fish species living in the pools and tank.

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Hycrete was easy to use and the tanks are leak-free. Because Hycrete admixtures are NSF/ANSI 61 certified, and approved for use in potable water tanks, Hycrete proved a great solution for the pools containing sensitive fish species.

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— Central Concrete Supermix, Inc.



The 500,000 gallon seawater tank has a 100-foot diameter and underwater viewing window. Hycrete Endure WP waterproofing admixture was used integrally in the concrete mix as a part of Hycrete360's comprehensive waterproofing solution.



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