

SYNTHO-SHIELD™

CORROSION PROTECTION OF 48" STEEL PILINGS AT LNG SEA TERMINAL



Problem

A newly constructed LNG sea terminal located in Manzanillo Mexico required a robust splash zone corrosion coating to preserve the structural integrity of the 48" steel columns. Traditional liquid coating systems & concrete coatings used in the past on these steel pilings had been damaged due to abrasion and impact action caused by tidal changes, adverse weather conditions, wave action, wind blown salt & sand and impact from floating logs and other debris. Even when supplementary cathodic protection systems were used on these pilings they failed to provide adequate corrosion protection to area above the waterline. Leaving bare steel holidays in the epoxy coating or cracks to form within the concrete coat jeopardizing the structural integrity of the steel columns.

Conditions

The 48" steel columns were suffering from corrosion caused by impact damage that cracked the protective outer concrete coating and scrapes within the epoxy coating that originated from impact and abrasive damage from floating debris within tidal zone region.

Solution

The surface of the steel columns were prepared by removing the concrete coating, epoxy coating and removal of the localized rust. A cold applied Petrolatum Tape was applied as the primary coating providing water-proofing and corrosion protection 2.5 meters below and 2.5 meters above the tidal zone. Syntho-Glass® was then applied over the 5 meter application of Petrolatum Tape providing superior mechanical and impact strength to the underlining corrosion coating system. A metal protective cladding and supplementary cathodic protection system was installed over the Syntho-Shield™ system to help ensure long-term corrosion protection.

Result

The Syntho-Shield splash zone corrosion coating system was applied over a total of twelve 48" steel columns. All twelve of the 48" steel columns at the LNG sea terminal are corrosion free and esthetically appealing.



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