



PROJECT PROFILE

Fast curing, impact resistant coating protects steel sheet piles in splash zone



CUSTOMER

Harrison County Development Commission

Gulfport, Mississippi

PROJECT TEAM

Contractor: Dock personnel

PROJECT OVERVIEW

The splash zone is defined as the area between the year's lowest tidal mark and up to ten feet above the year's highest tidal mark. It is extremely difficult to protect steel structures against corrosion in this zone where corrosion rates have been documented to exceed 30 mils per year on unprotected steel. Coatings must cure fast due to the short time between high and low tides, cure underwater if necessary, be effective over marginally prepared steel and be tough enough to inhibit damage caused by trash in water or impact from dock vessels.

In 2002 and 2003, PolySpec, L.P. was awarded two Small Business Innovation Research (SBIR) contracts by the US Navy to develop a polysulfide modified epoxy novolac cladding for steel immersion splash zone service. The end result was Thiokol® LPE 5100. This unique coating has a 50-70% tensile elongation, 1700 psi tensile bond to steel, low water vapor permeability and outstanding abrasion resistance. The first trial installation was at the Harrison County Development Commission's Port Intraplex Barge Terminal in Gulfport, Mississippi. The coating was sprayed in one coat at 60-80 mils without sagging. Inspections have revealed that the coating is performing very well. Since then, trial applications have been made at US Navy facilities in Florida and California, both with excellent results.

KEY CONSIDERATIONS

Fast cure: The coating system was developed to cure fast due to limited coating application windows.

Impact and abrasion resistance: The coating must protect against damage from trash and vessel impact.

SYSTEM PRODUCTS

- **Thiokol® LPE 5100**
Concrete and Steel Coating, Flexible Novolac Epoxy, Splash Zone