

PROJECT BRIEF

Pile Corrosion Protection at a Marine Container Terminal using the TYFO® SW Composite System



Manila, Philippines
October 2004



This important marine container terminal is one of the country’s largest cargo handling facilities, and is owned by the Philippines Port Authority (PPA). The PPA leases out parts of its piers to private logistics and cargo handling companies, who cannot afford lengthy downtimes for maintenance. The facility has been in operation for over 20 years. The steel piles supporting the pier, having lost their original protection, were severely corroded and needed protection from further corrosion.

The original proposal called for the 160 steel piles to be protected using a conventional system to line existing steel piles with a sacrificial concrete jacket in the splash zone. However, experience dictated that this concrete lining usually deteriorates and spalls in a few years leaving the steel piles exposed once more.

Fyfe Asia Pte Ltd along with its Philippines experienced applicator, EC Structural Composites Inc., proposed an alternative using the TYFO® SW composite jacketing system. The TYFO® SW composite system uses aerospace technology and materials, i.e. carbon/glass/aramid fibres and specialty underwater curing epoxies and works on the principle of wrapping members such as steel piles to form a durable inert physical barrier to protect the piles from further corrosion.

For this project the PPA management opted to use this alternative method for corrosion protection. This unique system was accepted for its speed of application, cost effectiveness and durability as the TYFO® SW system can be applied directly underwater, saving length shutdown times. The entire project was completed in less than 3 months, with minimal disruption and to the satisfaction of the client.

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