

PROJECT BRIEF

Retrofit to Existing Steel Piles at a Jetty Facility of Petrokimia Nusantara Interindo (PENI) with the TYFO® Fibrwrap® Composite System



Cilegon-Banten,
Indonesia
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Facing the Java Sea, Indonesia's petrochemical hub lies along the coast of Cilegon-Banten where major petrochemical manufacturers have their manufacturing plants. To facilitate transportation of raw materials to plants, and finished products to other parts of the world, these plants are equipped with their own ports and jetties.

The jetty facility of Pt. PENI was constructed over 15 years ago with steel piles protected from potential corrosion by concrete jacketing. With its proximity to the sea, the concrete jackets experienced corrosion with major deterioration and signs of spalling at a majority of the steel piles. A structural investigation of steel piles beyond the concrete jackets showed that corrosion had already taken place. This condition signalled the urgency for the technical department of Pt. PENI to look into an immediate solution to retrofit the piles and protect them from further corrosion.



The technical team looked into various methods and systems to solve the problem; the TYFO® Fibrwrap® System was introduced by Pt. Huls Tirtacitra, Fyfe Asia's Indonesian applicator, to retrofit the piles. The unique features of this system such as light weight, easy installation, and most importantly suitability for underwater installation made the TYFO® Fibrwrap® System a top favourite over other proposals. In addition, the economic benefits of using the TYFO® System satisfied the client's main requirement. Hence, the proposal for retrofit to the steel piles by TYFO® Fibrwrap® Systems was accepted readily by the technical department and management.



As per the strict guidelines for installation of the TYFO® Fibrwrap® System, the existing concrete jackets were removed and the steel piles sand-blasted to remove all corroded surfaces. The uneven steel surface was levelled by Tyfo® SW-1 underwater curing mortar for a flat, even surface to ensure effective bond of the system to the steel. All 112 piles were completed within the required time frame and satisfied all requirements of the client.

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