



Refurbishment of Iron, Ore & Coal Berth Services Jetty Port Qasim, Karachi, Pakistan

Strengthening for Main Beams

BUILDING TRUST



Port Qasim Services Jetty (Iron, Ore & Coal Berth) - Karachi Structural Strengthening with SIKA Carbon Fibre Systems

Project:

Port Qasim, the second busiest port of Pakistan is handling about 35% of the nation's cargo. The port provides shore based facilities and services to international shipping lines and other concerned agencies in the form of adequate water depth in the channel, berths/terminals, cargo handling equipment, godowns, storage areas. It also provides facilities for safe day and night transit of vessels. A Services Jetty at Iron and Coal Berth was constructed in year 1995 for the transportation of steel raw materials (Iron, Ore & Coal) to Pakistan Steel Mills via 12 Kilometers Metal Conveyer Bridge from Jetty to Steel Stockyard. Large cargo volumes have been handled here since inception of the service jetty.

After being operational for 18 years, structural strengthening was planned at the services jetty by the Ports and Shipping Department, Port Qasim Authority as refurbishment initiative. The initiative aimed at repairing cracks that had developed in the beams as well as the rusted and corroded reinforcement. It was an essential step taken by the management of Port Qasim to protect the heavy machinery installed at the Jetty and ensure smooth cargo handling of steel raw materials. The time allocated for completion of project was 4 weeks as it was not feasible for the contractor to hold the work at Service Jetty for long duration. The project was initiated in mid March 2013 and completed within assigned timeline of 4 weeks.

Project Requirements:

The project required structural strengthening of main beams of jetty which had lost the movement capacity by 25%. Initially inverted steel structure was approved at the main beams to support the system however the application of this system was difficult in high tides and stipulated time frame of 4 weeks.

Easy and quick application through ready to use material was

the requirement which triggered entry of Sika with its high-end structural strengthening model at the project.

Sika Solution:

As Sika had already worked with Port Qasim Authority successfully on various projects, the Client therefore approached Sika with the trust to be provided with effective solution to cater the situation.

The following Sika Products were proposed by the Sika Sales Team to fulfill the project demand.

- **SIKA CARBODUR S812**, a pultruded carbon fiber reinforced polymer (CFRP) laminate designed for strengthening concrete, timber and masonry structures. for strengthening of beams.
- **SIKADUR 30LP**, a two-part adhesive for bonding reinforcement, used as adhesive for Carbon Fiber Strips.
- **SIKA WRAP 230 C**, woven unidirectional carbon fiber fabric, designed for structural strengthening applications as part of the Sika strengthening system.
- **SIKADUR 330**, a two part, thixotropic epoxy based impregnating resin / adhesive used as an adhesive for Carbon Fiber Fabric.
- **SIKADUR 41**, a solvent-free, three-component, thixotropic patching mortar based on a combination of epoxy resins and selected quartz aggregates, used as a crack filler.

Project Name: **Refurbishment of IRON, ORE & Coal Berth (IOCB)**

Project Owner: **Port Qasim Authority, Ports & Shipping Department, Pakistan.**

Consultant: **Engineering Associates**

Contractor: **Indusmen Corporation**

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