

CASE STUDY | Dibba Harbour, Sharjah, UAE

- non-corrosive • cuttable • non-conductive • non-magnetic • high-strength • lightweight •

Marina development with a 600m long access canal for a housing project near the beaches of Dibba Harbour, on the east coast of the United Arab Emirates.

client: Government of Sharjah, Directorate of Public Works.

consultant: Halcrow.

contractor: Darwish Engineering.

designer: VSL.

year: 2011

Main Quantities

Earthwork Excavation: 108,000 m³.

Concrete: 2,200 m³.

mateenbar GFRP Reinforcement: 15t

Geo Textiles: 180,000 m².

Rock Materials: 9,000 m³.

Gravel: 1,440 m³.

Paving Blocks: 4,320 m².

Design Life: 75 years.



Project Brief

To form the canal, soil is excavated to a 6m depth, the canal banks are then retained by Mechanically Stabilized Earth (MSE) quay walls. Required service life of the MSE quay wall is 75 years.

Alternative proposals were initially considered, but rejected for the quay walls. These included black steel reinforced pre-cast concrete panels (reduced durability) and mass concrete panels (increased cost).

To achieve the service life requirement, the consultant decided on the use of Pultron Composites' *mateenbar* (GFRP Rebar) to reinforce over two thousand 220mm thick pre-cast decorative quay wall panels. The total solution gives a design life of over 100 years. Concrete cover requirements can be reduced using non-corrosive *mateenbar*.

mateenbar is a rust-free, salt resistant reinforcement rod, and is an ideal application for marine environments.

mateenbar is manufactured of high performance composite materials including vinylester resin and ECR glass fibers.

The ultimate reinforcement for concrete in challenging applications

mateen@mateenbar.com

www.mateenbar.com

Dubai, United Arab Emirates | +971 4 880 9533

Gisborne, New Zealand | +64 6 867 8582

pultrusion technology

