

## CASE STUDY | Burj Al Arab Hotel, Dubai, UAE

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

Reinforcement of 1,500 SHED concrete armor units protecting the iconic Burj Al Arab hotel.

Client: Jumeirah Group

Consultants: CH2MHill.

Precast Units: Dubai Precast.

Designer: Atkins.

Year: 2015

### Project Brief

The Burj Al Arab hotel is an iconic 7 star hotel located on a man-made island in Dubai.

The Burj Al Arab hotel was completed in 1999, and is undergoing a life extension project as well as the addition of a new island facility.

As part of the Island Expansion Project, the existing energy dissipating SHED units were inspected and a number in the tidal zone were found to have cracked and collapsed.

A decision was made to replace all 1,500 SHED units in the 3 layers of the tidal zone with *mateenbar* to ensure the long term durability and corresponding aesthetic quality of the main island are retained.

Alternative proposals were considered by the design consultant Atkins, but rejected as unsuitable. These included black steel reinforcement (limited durability), epoxy coated (reliability issues), galvanized (reliability and environmental issues) and stainless steel reinforcement (increased cost).

To achieve the service life requirement, Atkins recommended the use of Pultron Composites' *mateenbar* (GFRP Rebar) to reinforce the 1.5m high SHED cubes. The project required design life is 50 years.

*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 vinyl-ester resin and ECR glass fibers.



**The ultimate reinforcement for concrete in challenging applications**

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