

Case Study

Project: Narrowneck Reef
Location: Surfers Paradise, Queensland, Australia
Client: Gold Coast City Council
Contractor: McQuade Marine
Consultant: International Coastal Management
Date: 1999 - 2000



ELCOROCK® Mega Containers

The construction of Narrowneck Reef, using ELCOROCK® Mega Containers, is the largest and most ambitious project of its kind in the world.

The reef is 450m long by 250m wide consisting of 400 containers laid in 3 lifts, which constitutes 80,000m³ of encapsulated sand. The mega container dimensions were 20m long by diameters between 3m and 4.5m. The containers were placed using a split hull barge and located using GPS, accuracies of 0.5m can be achieved using this system.

The sand containers were pre-manufactured by ELCO Solutions Pty Ltd, which meant no time consuming closure was required on board the barge.

The heavy needle-punched non-woven ELCOMAX® geotextiles high elongation characteristic prevents stress concentrations during placement. Less than 2% of the containers were damaged during placement and this figure is expected to reduce on future projects as many lessons were learned during construction.

The reef has proven very effective in stabilising the beach capacity and has withstood a number of severe storms. The reef has also provided the added benefit of attracting sea life to the area.



Placement of ELCOROCK® Mega Containers

Seaweed began to grow on the containers within weeks of placement and the reef is now home to a number of fish species.

An ongoing monitoring system is in place to ensure the effectiveness of the reef.



Aerial view of containers



Aerial view of reef – April 2000

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