



## GEOFABRICS CASE STUDY



# SAFER COASTAL ROADS WITH ELCOROCK SAND CONTAINERS

## PRODUCTS USED

### ELCOROCK® GEOSYNTHETIC SAND CONTAINER

- Made in Australia with Texcel geotextile - a unique staple fibre blend of polyester and polypropylene, providing flexibility and allowing the product to resist the natural forces of the marine environment
- Filled with sand and used to form a stabilising and defensive barrier against erosion in harsh coastal environments by building breakwaters, sea walls, revetments, groynes and artificial reefs
- Highly resistant to abrasion, hydrocarbon, impact damage and UV degradation
- Precise size and shape can be made to meet site specific requirements

### TEXCEL® 900R NON-WOVEN STAPLE FIBRE

- Made in Australia from a unique staple fibre blend of polyester and polypropylene, applied by itself or in conjunction with Elcorock geosynthetic sand containers or other rock structures for coastal, port and river embankment upgrades and applications
- Designed to resist impact damage and retain soil particles without significantly reducing the permeability requirements of sea wall or revetment structures
- Has high elongation and abrasion properties, minimising installation damage and ensuring effective soil contact, interaction and stability - supported by 25 years of research, development and testing
- UV-resistant and provides excellent durability when subject to constant water movement due to tidal, wave or other hydraulic forces

## PROJECT DESCRIPTION

In April 2015, Umina and Ettalong beaches on the New South Wales Central Coast experienced severe erosion due to major east coast lows. The superstorm caused a frontal dune to collapse, leaving adjacent coastal road, The Esplanade, at risk of further destruction. The local council closed the busy road to traffic and undertook urgent action to find an effective, long-term solution for the coastal erosion.

## OUR SOLUTION

Council sought advice from The University of New South Wales Water Research Laboratory in partnership with Geofabrics Australasia. Geofabrics submitted a proposal including over seven hundred 2.5m<sup>3</sup> Elcorock geosynthetic sand containers and a recommendation to apply a separation geotextile, Texcel 900R Non-Woven Staple Fibre to prevent sand from washing out behind the Elcorock sea wall.

Geofabrics supplied the Elcorock geosynthetic sand containers, a bespoke filling frame and J-Bin placement cradles. Council utilised 25-30 tonne excavators to fill and place each container, which weigh approximately 4.5 tonne when full. Within four weeks, a durable sea wall was built, capable of withstanding extreme ocean wave exposure during major storm events.

Since project completion in 2015, sand has built up and further protected the beach and the Elcorock structure. This project is one of the best examples of what can be achieved with Elcorock geosynthetic sand containers which continue to endure through the years, protecting road assets and properties for future storm events.





Following advice from coastal engineering experts, we decided that installing these sandbags, under emergency works, was the best way to quickly and effectively stabilise the sea wall and shield the local road.

Paul Anderson - Central Coast Council  
Chief Executive Officer



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