

ELCOROCK®

Geotextile Sand Containers



Photo by Katrina Lawrence courtesy of the City of Greater Geelong

**User friendly solutions
to Erosion Problems**



ELCO Solutions Pty Ltd
Certification Number: 8264



Overview

ELCOROCK® are extremely robust geotextile containers designed to be filled with sand, soil, gravel, recycled material, treated materials or a combination of the above such that they form a stable, durable container. The versatility and durability provides solutions to such structures as walls, groynes, reef structures, flow control structures and other applications in marine and inland waterway environments.

The containers are based on ELCOMAX®, a specifically designed and manufactured nonwoven, needle punched, staple fibre geotextile. Enhanced filtration combined with resistance to puncture, abrasion and UV make ELCOMAX® and ELCOROCK® ideal for use in coastal applications providing maximum durability in harsh conditions. The sewn seams are uniquely configured to maximise the mechanical characteristics of the geotextile and provide long term durability in a wide range of environments.

The ELCOROCK® geotextile sand container product range covers a large range of sizes and systems ranging from hand filled 40kg containers to hydraulically filled mega sand containers and tubes.

Specialist filling and placement equipment is available for most container sizes to provide both a consistent and attractive finish.

Geofabrics Australasia has been heavily involved in the evolution of geotextiles and geotextile containers, particularly those used in coastal applications. Geofabrics has also conducted in depth flume testing producing design charts and methodology to assist engineers in specifying ELCOROCK® in coastal applications

Sea Walls and Revetments

ELCOROCK® geotextile containers are specifically designed for use in the marine environment.

The durability, permeability, stability and flexibility of the containers provide an excellent solution for constructing sea walls and revetments.

Using ELCOROCK® geotextile containers has several advantages over traditional sea wall construction methods; ELCOROCK® utilises insitu materials, reduced imported materials, reduced beach contamination, and provides a soft solution improving the amenity of the site.

A range of finishes are available from secondary dune protection using heavy duty containers to primary structures utilising highly durable, colour blending vandal deterrent geotextile containers.



Groynes and Breakwaters

The robustness and stability of the ELCOROCK® containers also provide solutions for other marine structures such as groynes and breakwaters. These structures extend out into the wave zone and provide marina and beach protection, sand movement control and river training. The size of the container can easily be selected based on the wave climate and other conditions ensuring stability, under the most extreme conditions.

As an alternative to traditional rock structures, the containers and tubes constructed with the ELCOMAX® vandal deterrent geotextiles are durable enough to not only be used in the foreshore environment, but also in the exposed marine environment. ELCOROCK® vandal deterrent containers have a soft finish and the ability to blend into the existing environment creating a more visually acceptable, amenable structure.



Riverbank Protection

Increased boating activity and public waterway use has led to increased erosion of riverbanks and lake shorelines. Similar to marine applications, the ELCOROCK® geotextile containers can be used for inland applications providing a variety of functions including; revetment structures, erosion and scour protection structures, boat ramp protection and groynes.

The flexibility of the containers allows a range of fill materials to be used whilst providing a cost effective, efficient solution. The durability, UV stability, filtration, abrasion resistance and soft finish characteristics of the ELCOMAX® geotextile make the ELCOROCK® geotextile containers ideal for use in the inland waterway environment.



ELCOROCK®

Other Applications

Custom Structures

Australian made ELCOROCK® containers can be used in many other applications. The ELCOROCK® containers can be customised to any feasible size or material type and used for such applications as artificial reefs, raised garden beds and beach access stairs. The range and capabilities of our manufacturing facility makes even the most difficult applications possible.

Temporary and Emergency Structures

The construction methods used to create the ELCOROCK® structures can also be applied to temporary structure and emergency protection measures. Temporary structures such as bunds or cofferdams can be quickly constructed and either removed or buried as part of continued construction.

The rapid deployment of the containers facilitates use for emergency protection works such as sea wall toe protection and sand dune protection. The container structure and materials provide a cheap solution which can be easily removed once the structure has served its purpose, whilst not posing injury risk to beach users. The rapid deployment, construction methods and specialised equipment allow installations in difficult areas and conditions.



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