



John Goumas &
Richard Ewers are key members
of our Melbourne sales team

GEOFABRICS® JOURNAL

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Geosynthetic Analysis – Index vs Performance

With a steady increase in the acceptance and use of geosynthetics in engineering applications, it is critical to understand the methods and equipment used to evaluate the quality and suitability of these products for use in proposed applications.

Product specifications often contain only a fraction of the information required to make an informed choice about the short and long-term suitability and performance of the product under design conditions.

A number of the test methods listed in a specification are classified as “Index” tests. These are provided to assess the performance of the geosynthetic under a fixed set of testing criteria (e.g. specific loads, head pressures, test durations, test speeds etc.), thereby reducing the variability between tests and testing laboratories.

“Performance” tests, on the other hand, rely heavily on design inputs. They yield a more accurate understanding of how the product will perform under design-specific conditions.

As an example, the datasheets for geonets often refer to ASTM D 4716 to show their flow rates. But the test methodology is limited to a fixed set of testing conditions and does not take into account additional elements (such as boundary conditions or consolidation periods) that influence the final flow rates for the specific conditions of your project. A more sophisticated approach would be to model the geonet using performance testing at the Geosynthetic Centre of Excellence. A number of complicated tailings dam and landfill projects have already used our testing equipment to better understand how a geonet will work in a specific environment. The same comments apply to other geosynthetic products, whether it be geotextiles, geogrids or geosynthetic clay liners. Our Geosynthetic Centre of Excellence is one way we support our customers in helping determine the right geosynthetic solution for their project.

If you would like to have your proposed geosynthetic products assessed using design-specific criteria, please contact Warren Hornsey on w.hornsey@geofabrics.com.au or 07 5594 8600.

Geofabrics® is a registered trade mark of Geofabrics Australasia Pty Ltd.

What's New?

NEW GEOFABRICS WEBSITE LAUNCH

The launch of the new website brings excitement all around. You can check out what the excitement is all about by visiting GEOFABRICS.COM.AU

THE MASTER OF GEOSYNTHETICS VISITS AUSTRALIA

Join Dr J.P. Giroud on his national seminars in Brisbane, Sydney, Melbourne and Perth in late October and early November 2012.

For full details contact Warren Hornsey at w.hornsey@geofabrics.com.au

JOIN OUR SOCIAL NETWORK

Stay up to date with industry news & views from Australia's only manufacturer of geosynthetics via our Facebook, Twitter, YouTube and LinkedIn pages.



 **GEOFABRICS®**

GOING FOR GOLD

Congratulations to our team at our southern Queensland manufacturing plant (formerly known as ELCO Solutions), who were awarded the prestigious Gold Award for Business Excellence in late 2011.

This much sought after award is a national initiative which recognises the contributions organisations have made to their quality management systems and overall business excellence.

With an effective quality management system in place, our southern Queensland manufacturing plant impressed the judges. The plant was commended for the implementation and maintenance of its systems that ensure consistently high quality manufacturing of our innovative, geosynthetic products.

“This Gold Award is testament to ongoing efforts of everyone at the plant. This accolade highlights the motivation that the plant has for ongoing commitment to innovation and achieving a world class standard”, said Craig Sweetman, General Manager of our southern Queensland manufacturing plant.

Since 1994, the Progressing Business Institute Ltd National Gold Award for Business Excellence has been the leading national program to recognise organisations that have achieved excellence through the implementation of their management systems.

On 1 July 2012, the manufacturing operations of ELCO Solutions Pty Ltd were integrated into Geofabrics Australasia Pty Ltd to streamline our supply chain to customers for our Geosynthetic Clay Liners and coastal products.

People growth and expansion of warehousing

To reinforce the high quality sales and warehousing support we offer to customers in each state, Geofabrics has recently moved to larger premises in both Sydney and Adelaide.

The new Adelaide premises is situated north of the city at 4 Capelli Rd, Wingfield. This larger site will ensure Geofabrics is able to accommodate the increased demand for our core products, as well as the Treemax erosion control and revegetation products.

We now have a strong team of people in Adelaide which includes:

- Rod Fyfe, State Manager,
- Luke Aberley and Shaun Amber, external sales,
- John Leslie, warehouse and logistics,
- Teresa Davoren, office co-ordinator.



New Adelaide Office

Gabion wall by Prospect Contractors - www.prospectcontractors.com.au



Sydney Office

Our recently completed premises in south-west Sydney is at 34 Regent Crescent, Moorebank, and the move to a larger site has been a relief to our team in Sydney.

We have also expanded our sales team, which now comprises:

- Peter Burcher, State Manager,
- Michael Thomas, Garry Gersak and David Morgan servicing the Sydney and southern NSW markets,
- Bob Cooper (Newcastle) and Phil Micallef (Coffs Harbour) based in regional NSW,
- Joe Little providing technical support to the NSW market,
- Sam Pearce, Chantelle Smith, Donna O'Neill and Lisa Ray providing the internal sales support for our customers, and Melissa Bullock in Reception,
- David Walker, Craig Lisson and Troy O'Keefe provide the support relating to warehousing and logistics.

Our skilled people in these new locations will ensure you continue to have access to world-class geosynthetic solutions with the best possible service and short lead times.

Do Powdered Bentonites Seal Better Than Granular Bentonite? Yes! (and this video proves it).

Geosynthetic Clay Liners (GCL) are a widely used product that work with compacted clay liners and geomembranes to maximise landfill liner system efficiency.

With a number of GCL products available on the market, one noticeable difference between these products is the nature of the raw bentonite material.

In many cases, ELCOSEAL® GCLs can completely replace, or significantly reduce, the thickness of the required compacted clay landfill liner, by demonstrating an equivalency in advective leakage rate.

As the first and only GCL to be made in Australia, ELCOSEAL® has been at the forefront of environmental, civil and landfill liner applications since 1996.

A world-class GCL, ELCOSEAL® is manufactured from a premium powdered bentonite sourced from reputable Australian suppliers. Whereas other low cost GCLs may contain a granular bentonite with a much lower degree of processing and refinement.

Powdered bentonites undergo additional processing in the form of heating and pulverising the raw material, compared to granular bentonites. Research (Churchman et al., 2002; Gates, 2005 and Nzungung et al., 2001) shows that this additional processing increases the specific surface area of the powder which, in turn, enhances the reactivity or swelling to liquids and improves sealing performance.

A YouTube video highlights the superior initial sealing performance of powdered bentonite by showing a comparison of the immediate sealing performance of ELCOSEAL® powdered bentonite GCL with a GCL containing granular bentonite.



The video shows that the GCL containing granular bentonite can take up to 30 minutes to form a complete seal. Based on its performance in this test, this GCL could allow up to three litres to flow through the 100 millimetre diameter sample, over this time period. This can be potentially dangerous if liquids that have a negative effect on sealing performance, such as acids, alkalis, hydrocarbons etc, permeate through the granular GCL. The granular bentonite may never completely re-seal because the entire bentonite thickness within the GCL is exposed to these aggressive liquids.

For further information please contact John Buckley at j.buckley@geofabrics.com.au or on **07 5594 8600**

This video can be viewed on the Geofabrics YouTube channel at: <http://www.youtube.com/watch?v=pAitlQP-doc>

Geofabrics is pleased to announce the integration of Treemax and Landplan products, which became effective as of the 14th November 2011.

This integration means a much broader erosion control, sediment control and revegetation portfolio available to Geofabrics customers and existing Treemax and Landplan customers.

The Treemax™ range of products include:

- Weed suppression matting (eg. Jutemaster® Thick Mat and ReCover™);
- Grass establishment matting (eg. Jutemaster® Fine Mat, MaxBio™, and Grassroots™);
- Biodegradable tree planting mats (Jutemaster® Squares and ReCover™ Squares);
- Steel pins to suit all erosion matting and Cobber pin guns to make installation safer and faster;
- Coir Logs and Filter Fencing;
- Plastic tree guards/sleeves;
- Rigid tree guards (coreflute);
- Mesh tree guards;
- Timber and bamboo stakes;
- Tree ties.



The new product folder and pricelists are available by contacting your nearest Geofabrics office or you can view the entire range of Treemax products at www.treemax.com.au

Detention River Erosion Project

Located in northern Tasmania, Detention River is situated on the outside of a river bend that coincides with a local community. Constant erosion of the river bank has been exposing properties to undermining, as well as exposing essential services (sewage and electricity) to possible damage or contamination of the water system.

The local community and council sought out a model and design package for a revetment wall to stabilise the existing bank and prevent further erosion. A representative from Geofabrics was approached by Shaw Contracting for design support.

Shaw Contracting assessed the site and available options. These options included:

- Gabion Baskets;
- Rock Revetment - This solution was considered, however due to the local community using this section of the river, it was deemed to be an unsafe option. Access would also prove difficult for such a solution.
- **ELCOROCK®** shoreline protection system - This was the chosen solution due to its 'engineered solution', proven durability, soft amenity and ability to rapidly construct within the tight confines of the site.

Shaw Contracting contacted the Geofabrics distributor in Tasmania, Geotas Pty Ltd, for supply and support in constructing the first Tasmanian **ELCOROCK®** project.

In early February 2012, representatives from Geofabrics and Geotas were on site to provide their expertise and ensure a smooth start to construction. This support proved invaluable as teething start-up problems were quickly addressed and an effective work method was developed to suit the project and available resources.

Based on the construction and post-construction photographs, it is apparent that Shaw Contracting has done an excellent job with the filling and placement of these containers.

The use of Shaw Contracting as a competent contractor has made it possible to complete this job on time and within budget without any loss to performance or amenity of the structure.

For more information on the use of **ELCOROCK®**, please contact Dan Wishaw at d.wishaw@geofabrics.com.au or visit www.elcorock.com

