

ROADS | SMARTER SOLUTIONS

GEOFABRICS®

**THE
GEOSYNTHETICS
SPECIALISTS**



**Geofabrics are committed to
providing smart solutions**



**excellence and innovation,
solutions for the roads sector.**

It's about working





smarter

For over 35 years we have supported the Australasian road infrastructure sector on nation building projects like EastLink in Victoria, the Pacific Highway in NSW and the Wellington Northern Corridor project in New Zealand. On these projects, and every project we undertake, we have a singular focus: to provide smarter infrastructure solutions for our clients.

For us smarter infrastructure is about using smart products, smart solutions and smart people to help our clients develop value engineering opportunities for their projects. We believe this delivers greater opportunities to lower risk, cost and construction time frames whilst increasing maintenance cycles and whole of life opportunities.

Sino Iron Ore Mine Services Corridor, Cape Preston, Western Australia

Mirafi PET High Strength Woven Geotextile utilised for construction of a basal reinforced embankment on soft soils.

ROAD PAVEMENT SOLUTIONS

Reducing the cost of road construction whilst maintaining pavement design life is the holy grail for engineers, contractors and asset owners.

Geofabrics are able to provide geosynthetic solutions for all parts of the pavement formation which can reduce construction costs by up to 30% whilst improving design life by up to six times.

Separation & Filtration

Weak or variable ground usually presents considerable challenges for subgrade stabilisation. Geofabrics' subgrade stabilisation solutions include bidim non woven geotextiles to provide separation and filtration between the subgrade and base layers.

Subgrade & Base Stabilisation

Tensar TriAx geogrids are used to provide effective confinement of granular fill in subgrades. This results in a stiff mechanically stabilised layer, capable of controlling differential settlement, reducing aggregate depths by up to 30%, capping weak deposits and increasing bearing capacity.

Asphalt Reinforcement

Increased traffic imposes higher strains within asphalt pavements. These strains result in increased fatigue of the asphaltic layers. A consequence of this is asphalt cracking and resultant water penetration into the pavement which can lead to further deterioration.

Asphalt reinforcement provides fatigue resistance, mitigating subgrade rutting and reducing cracking through improved shear resistance.

Geofabrics offers Tensar AR-G a proven pavement reinforcement technology for retarding cracking and controlling deformation as well as the specialist range of GlasGrid asphalt reinforcement products that can be used in asphalt overlays as thin as 40 mm.

Surface Sealing

Crack reflection and water penetration are a major cause for concern for road engineers. Geofabrics offers a solution in Sealmac, a geotextile paving fabric that is impregnated with bitumen to act as a stress absorbing membrane under chip seals and asphalt pavements as well as Bitac bandage strips used under asphalt to control crack reflection and seal construction joints.

Subsoil Drainage

MegaFlo panel drain provides the dimensional stability and field-proven structural strength for quick, effective subsurface drainage.

Performance is the distinguishing feature of the panel drain due to its ability to rapidly collect and remove water. Compared to 100 mm diameter round pipe, MegaFlo has twice the inflow capacity for an equivalent length and will drain water in less than 60% of the response time. Its slim 40 mm wide profile permits faster and more cost effective installation in a narrower trench.

Road Edge Drainage Design

To allow engineers to easily incorporate the superior performance of MegaFlo into road design Geofabrics Australasia has developed a web-based road design app focused on drainage cost calculation and performance.

The Subsurface Drainage Design Software (SuDDS) produces net cost and design comparison reports based upon user-entered project/design data. The program summarises the notable calculations and can include CAD files of drainage profiles.

To register and use SuDDS for free go to:

www.sudds.com.au



Calder Freeway, Melton, Vic

Sealmac paving fabric installed as stress absorbing membrane under chip seal resurfacing

SLOPE & WALL SOLUTIONS

Geofabrics offers a range of engineered slope, wall, embankment and retaining wall solutions of use in road infrastructure projects.

Retaining Walls & Slope Stability

For slopes over 70°, Maccaferri Gabions can accommodate significant differential settlement. The mesh baskets form a monolithic structure that acts as one homogeneous unit, which is permeable and suitable for use in high stress hydraulic applications.

To minimise road closure timeframes a number of projects have been completed utilising Maccaferri gabions which have been prefilled nearby and then lifted into place.

For reinforced slope systems and mechanically stabilised earth walls Maccaferri Terramesh and is a versatile, modular system that can be a more cost effective solution than the mass gravity Gabion wall because of the speed of installation and reduced rock fill requirements.

For mechanically stabilised earth slopes and embankments that require a vegetation the front face of Maccaferri Green Terramesh can be filled with soil and planted, creating a green wall.

In situations where block faced retaining walls are required the Keystone TW3 Wall System can be used. Keystone TW3 features a unique high strength positive connection system which securely locks Tensar uniaxial geogrid to the modular block face. This positive connection satisfies the design requirements for use in road infrastructure projects in areas subject to seismic events and has been proven in projects worldwide.

For slope and wall reinforcement Geofabrics offers a suite of solutions including:

- » Tensar RE uniaxial geogrids
- » TenCate Mirafi flexible geogrids
- » Maccaferri ParaLink Linear Composites.

Erosion Control

Enhancement of erosion performance of vegetated cover material on dry land slopes can be achieved using a range of different geosynthetic solutions. These include Enkamat, a synthetic turf reinforcement mat, Macmat R and Grassroots, a synthetic erosion control matting designed to withstand higher-velocity water flows.

Where there is insufficient soil on the slope to sustain vegetation ,Geoweb can be installed, filled in with soil and planted.

Embankment Solutions

When constructing embankments over soft ground there is often risk of foundation failure if the shear strength of the foundation material is exceeded.

Geofabrics provides a range of soil reinforcement solutions including TenCate Mirafi PET and RSi woven geotextiles which can be placed at the base of the embankment to improve stability whilst reducing settlement timeframes.

For embankment stabilisation linear composites such as Maccaferri ParaWeb enable soils to accommodate greater loads and stand at steeper angles.

Hydraulic Solutions

Reno Mattresses and Gabions offer a hard solution for hydraulic applications such as weirs, and for scour protection along riverbanks and embankment stability in channel linings.

For vegetated hydraulic structures such as drainage ditches, spillways and vegetated channels the combination of Geoweb, a synthetic expandable 3-dimensional cellular structure that can be filled with soil, and Grassroots, a synthetic turf reinforcement mat, can withstand high shear forces and intermittent longer duration velocities.

Design Support

To support design of retaining walls, slopes, embankments and rockfall protection we offer an advanced suite of software free to our clients.

To assist engineers with the design process, the Geofabrics team of engineering specialists are available to give technical advice in the use of the software as well as provide in-house or seminar training.

Our team can also provide certified design if required.

Slope Stability & Rockfall Protection

To respond to the different problems associated with instability of rock faces, Geofabrics has a broad range of independently verified rockfall mitigation systems designed and manufactured by Maccaferri. The range includes:

Rockfall Netting / Drapery Systems

Steelgrid and Steelgrid HR drapery systems offer significant flexibility in anchor positioning, saving time and cost on site.

High Energy Absorption Panels

For applications where low deflection and high strength are required High Energy Absorption Panels offer containment of unstable rocks with minimal deformation.

Dynamic Rockfall Barriers / Catch Fences

When a drapery systems cannot be installed due to access, topographical or economic considerations Dynamic Rockfall Barriers/Catch Fences offer a rockfall protection solution for intercepting and stopping falling rocks and boulders.

Hybrid & Attenuator Systems

In situations where there is available "run-out" space beneath a rockfall barrier in which the rocks can ultimately stop or be collected harmlessly Hybrid and Attenuator Systems combine the energy absorption capabilities of a dynamic rockfall barrier with the reduced maintenance advantages of drapery mesh on slopes.

Rockfall Embankments

Rockfall embankments provide protection to infrastructure and property over of a wider area than barrier fence systems. They are also able to contain or divert larger volumes of rock falls than stand alone barrier fences. Rockfall protection embankments are ideal solutions where it is not possible to intercept or prevent falling rock.

ROAD PRODUCT SOLUTIONS



bidim®
Nonwoven Geotextiles



Tensar® TriAx™
Geogrids



Megaflo®
Flat Panel
Drainage System



Mirafi® PET
High Strength
Woven Geotextile



Sealmac®
Polyester



GlasGrid®
Pavement
Reinforcement Geogrid



Tensar® ARG
Asphalt Reinforcement Grid



Bitac®
Multi-Laminate
Asphalt Reinforcement Tape



Maccaferri
Gabions



Mirafi® RSi
High Strength
Woven Geotextile



Miragrid™ GX
Geogrids



Maccaferri Steelgrid®
Rockfall Protection

TECHNICAL LEADERSHIP

As the Australasian leader in geotextiles and geosynthetics, we pride ourselves on our reputation for supplying world-class technical leadership and engineering support through our innovation, research, industry education, design and independent testing services.

Geosynthetic Centre of Excellence

Geofabrics' Geosynthetic Centre of Excellence is a specialist R&D laboratory that works with clients to develop the right geosynthetic solution for their complex problems.

Based in southern Queensland the Geosynthetic Centre of Excellence houses a selection of key geosynthetic-specific test equipment. Testing is aimed at solving the real world problems designers, contractors and asset owners find on their construction site – a major step forward to ensure the right solution is adopted.

The Geosynthetic Centre of Excellence is committed to precision analysis and comprehensive reporting. Analysis is performed according to Australian and American test methods and comprehensive test reports are generated, including results, photos, graphs, test conditions and details of the apparatus used.

Our own research is supported by the research undertaken by our industry leading suppliers in both lab and field trials across the Americas, Europe and Asia.

Geosynthetic Testing Services

Geosynthetic Testing Services is a commercial testing laboratory that specialises in the testing of geosynthetics. It is widely used by clients to ensure they are meeting their Construction Quality Assurance obligations.

Geosynthetic Testing Services is a fully independent, confidential, NATA registered laboratory based in Albury. With quick turnaround times and competitive rates, Geosynthetic Testing Services supports the infrastructure industry in Australia.

Central Design Hub

Geofabrics Central Design Hub can provide our clients with specification reviews, design suggestions and certified designs for geosynthetic applications in both track construction and maintenance which can help reduce construction timeframes and cost whilst increasing maintenance cycles. Our team also provide expert design advice to full design for slopes, walls and embankments of all sizes and complexities.

Innovation & Education

As leaders in our industry we believe it is our role to provide technical and practical education to engineers about the use of geosynthetics in infrastructure projects.

Our team conducts technical seminars for engineers and contractors; we run in-house workshops for our clients and undertake lectures at universities around Australia and in New Zealand.

We also support the next generation of engineers through sponsorship of PhD candidates. We aim to extend their knowledge through mentoring opportunities and through provision of access to the Geosynthetic Centre of Excellence to allow candidates to test and validate their PhD theses - in turn expanding the knowledge of our industry.



QUALITY & TRACEABILITY

Geofabrics manufactures its geosynthetics under management systems that comply with the Australian and International Quality Standards and are ISO 9001 quality assured.

We operate two quality assured testing facilities in Australia and products are tested frequently and transparently.

Our reliability as a supplier of high quality goods is borne out by our track record spanning more than 35 years of product supply for Australian infrastructure projects.

Our products have traceability from the test results to the roll number and production batch- providing confidence in the quality and consistency of our products in accordance with our latest published specifications.

In keeping with our commitment to quality assurance, the products we manufacture can be readily identified from the labelling on their wrappers.


The information on the labels can be traced via a clear audit trail to the date, name and place of manufacture and the relevant quality assurance test results.

Importantly, this means that the product you have ordered and the grade you have paid for is the product and grade that is delivered to site.

In addition, our geotextiles are clearly printed for identification once they are unwrapped and rolled out.

This labelling and traceability greatly assists in on site risk management and helps to ensure the right product is used in a given application.

Our commitment to world class quality provides our clients with the confidence that the product delivered is as per their project specifications, ensuring performance and life-cycle costs are optimised.



Geofabrics' Geosynthetic Centre of Excellence, located in Southern Queensland, is a specialist R&D laboratory that works with clients to develop the right geosynthetic solution for their complex problems.

UNMATCHED EXPERTISE & SUPPORT

We draw from our experience to tailor design and provide geosynthetic solutions to best meet our client's performance and economic requirements.

Our superior technical support includes design and construction suggestions, certified designs, construction and installation systems.

Our comprehensive design advice for projects can include stability analysis, typical sections and standard details. We can also assist with product and installation specifications for tenders.

By employing a national team of engineers, and forming strategic alliances with multi-national consulting engineering practices, our technical support for geosynthetics is unmatched throughout Australasia.

We support our design advice with a suite of design software which assists engineers in developing cost effective solutions to exacting international design standards. We offer our software suite free of charge to our clients and it offers the ability to run a range of design scenarios to cover differing ground and loading conditions to minimise the design risk for a project.

To assist engineers with this process, the Geofabrics team of engineering specialists are available to give technical advice in the use of the software as well as provide in-house or seminar training.

Our team also provides on-site installation training as well as guidelines and diagrams to assist contractors or maintenance crews.



GEOFABRICS®

AUSTRALIAN MANUFACTURED

Many of the products we supply are manufactured in our two manufacturing plants in Albury (NSW) and southern Queensland. We employ more than 100 manufacturing staff and we return more than \$7.5 million per annum into the regional communities in which we operate.

WHERE YOU NEED US

Geofabrics has the largest regional footprint of any geosynthetic supplier in Australasia. We have branches throughout Australia, New Zealand and the Pacific. Within Australia we have branches in every state as well as offices in strategic regional centres along the east coast staffed by Geofabrics own employees. This means that we can deliver product where you need it, when you need it while providing local expertise to support your project.



Alpine Way, Thredbo, NSW

Maccaferri gabions provide protection against landslides from above Thredbo Alpine Village

TenCate, Mirafi and bidim are registered trademarks of Royal Ten Cate.

Tensar and TriAx are registered trademarks of Tensar International Limited.

Megaflor and Geofabrics are registered trademarks of Geofabrics Australasia Pty Ltd.

Enkamat is a registered trademark of Colbond BV.

Geoweb is a registered trademark of Presto Geosystems.

Terramesh, ParaLink, Steelgrid and MacMat are registered trademarks of Officine Maccaferri.

IMPORTANT NOTICE - DISCLAIMER - The information contained in this brochure is general in nature. In particular the content of this brochure does not take account of specific conditions that may be present at your site. Site conditions may alter the performance and longevity of the product and in extreme cases may make the product wholly unsuitable. Actual dimensions and performance may vary. If your project requires accuracy to a certain specified tolerance level you must advise us before ordering the product from us. We can then advise whether the product will meet the required tolerances. Where provided, installation instructions cover installation of product in site conditions that are conducive to its use and optimum performance. If you have any doubts as to the installation instructions or their application to your site, please contact us for clarification before commencing installation. This brochure should not be used for construction purposes and in all cases we recommend that advice be obtained from a suitably qualified consulting engineer or industry specialist before proceeding with installation. © Copyright held by Geofabrics Australasia Pty Ltd. All rights are reserved and no part of this publication may be copied without prior permission.



WWW.GEOFABRICS.CO