MACCNEWS

Issue 1 **September 2009**

Welcome to the re-emergence of MaccNews. This will become a quarterly publication from Maccaferri Australia, bringing you the latest information regarding the wide range of Maccaferri products as well as interesting case studies illustrating the application of these products.

We will also introduce some of the staff at Maccaferri Australia who are there to assist you, our customers, in providing the most technically sound and economical solution to your problem.

Since the last edition of MaccNews we have experienced a few changes. Firstly, as indicated above, our name has now changed to Maccaferri Australia. Secondly, to better service the market both technically and logistically we have opened our own branches in Cairns and Mackay.

Over the last few years, as well as being the leading supplier of double twist mesh products, Maccaferri Australia has become one of the leading suppliers of high strength geosynthetic reinforcement materials. Projects such as the Port of Brisbane expansion, the Gateway Motorway upgrade, the Northern Access Road Project (Brisbane Airport), Port of Newcastle expansion and the Ballina Bypass have utilised a mixture of Maccaferri's range of high strength woven polyester geotextiles and geogrids. Projects such as these are placing Maccaferri Australia at the forefront of major soil reinforcement projects in Australia.

In this issue you will the introduction of the newer products in the Maccaferri range—ECO Rain Sub Surface Irrigation Mat. This product has met with great success overseas and we look forward to replicating this success in Australia.

I trust that you will enjoy this publication and find the contents interesting and informative. Your feedback regarding any of the articles, or requests for further information is most welcome.

The Maccaferri Team

INTRODUCING THE STAFF

David Clague
State Manager—NSW

David joined Maccaferri in 2006 as the NSW State Manager and has 10 years experience working in the geosynthetics industry. Before that David worked as a geotechnical engineer in NSW, Queensland and Western Australia in both the mining and civil industries.

Brad Boardman
Manager—Qld

Brad has been involved in the construction and building industry for the past 13 years. He has had extensive experience within the concrete market in both the sales and production sides. Brad's move into the civil industry brings a wealth of experience to the Maccaferri Brisbane team.

Also in this issue

MACCAFERRI

Engineered Environmental Solutions

PRODUCT NEWS

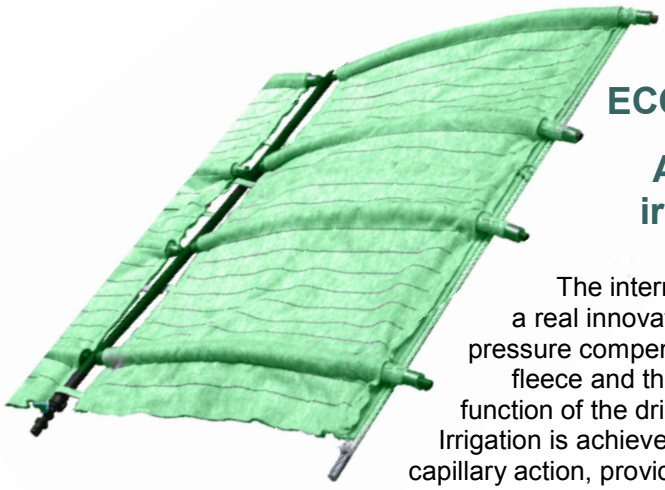
The Cobber™ 150 Pin Gun

The quick, easy and SAFE way to install erosion control blankets

The **COBBER™ 150 Pin Gun** for use with all erosion control blanket installation will increase both productivity and site safety when compared to the traditional method of manual application of retaining pins.

The tool weighs only 6kg and can install up to 60 pins per minute in a safe and economically effective manner. It is made in Australia, and that means maintenance of the tool is done locally and quickly.

The **COBBER™ 150 Pin Gun** takes a cartridge of pins which are specifically manufactured for use with the gun. They are supplied in a cartridge that can be stored on a belt. The pins are U shaped 150mm x 150mm, 2.5mm wire diameter, and are available in boxes of 1000. **COBBER™ 200 Pin Guns** and pins are also available.



ECO RAIN® Textile Irrrigation Mat

An innovative, water saving irrigation method

The internationally patented **ECO Rain® Textile Irrigation Mat** presents a real innovation in irrigation technology. Polyethylene tubes with integrated pressure compensated drippers are primarily wrapped in a special textile fleece and then sewn into two further layers of the non woven fabric. The function of the dripping tubes is the filling of the textile irrigation mat with water. Irrigation is achieved by the water saturation effect of the fabric and the resulting capillary action, providing the root system evenly with water.

ECO Rain® Textile Irrigation Mat can be used for gardening & landscaping in arid & semi-arid climates, golf courses, rooftop gardens, border & centre greening of roads and roundabouts, and in agricultural applications such as cultivation of strawberries and vineyards.

Water savings of up to 70% can be achieved using **ECO Rain® Textile Irrigation Mat** when compared to conventional irrigation systems. **ECO Rain® Textile Irrigation Mat** reduces soil erosion and improves greening. There is almost no water loss through evaporation. As an added bonus the areas being irrigated can be used at the same time, resulting in a loss of down time and minimizing lost revenue.

Contact us for details on our current projects.

UNIQUE SOLUTIONS FOR EMBANKMENT CONSTRUCTION

Construction of a new coal loading terminal for the Port of Newcastle at Kooragang Island to increase Australia's export capacity by up to 66MTPA provided the geotechnical consultant with a number of headaches. The extremely weak subgrade was found to be unsuitable for the high, heavily loaded embankments required on the planned balloon rail loop. Therefore, some form of ground improvement was required for the foundation of these embankments.

To further complicate the design issues there were some areas where the pH of the existing material was >12 and this combined with the available material to be used in this section for the construction of the embankment needed a different solution.

A number of options for ground improvement were proposed and analysed. However, Maccaferri provided the most cost effective solution with the use of high strength woven polyester (Mirafi® PET) geotextile to improve the bearing capacity of the foundation material of the majority of the embankment. In the area of high pH and angular fill material Paralink geogrid was the preferred option. Paralink, manufactured by Linear Composites, is a high strength geogrid whose high tenacity PET yarns are protected by heavy, durable Polyethylene coating. It is this coating which provides the protection against installation damage and the long term performance of the geogrid in highly aggressive soils. Through the partnership of Maccaferri and Linear Composites a proposal to use Paralink 850 was forwarded to and accepted by the consultant as the basal reinforcement.

As the heights of the embankments varied across the project, to achieve the required bearing capacities and at the same time provide a cost effective solution, a number of different strength grades of woven geotextile was required. Analysis by the Technical Department of TenCate Asia, the manufacturers of the Mirafi® PET range, assisted the designers to achieve the final design with varying strength grades and lengths for differing embankment heights.

Overall the quantity of high strength Mirafi® PET woven geotextile supplied to the project was 400,000m^2 of material varying in strength from 200kN/m to 1000kN/m. With the backing of a world renowned manufacturer like TenCate, Maccaferri was not only able to assure the customer that we had the capacity to supply within the very limited time frame required by the project but also give the contractor an assurance that all QA documentation and criteria could be supplied by Maccaferri.

Maccaferri also provided on-site assistance in the installation of both the PET and Paralink products and also a heavy duty lifting frame to safely and expediently carry out the installation works.

For any further information on this interesting project please contact your nearest Maccaferri office.

Backhoe with lifting frame laying PET

Spreading of fill material over PET layer

PROJECT
Port of Newcastle

LOCATION
Kooragang Island NSW

CONSULTANT
Connell Hatch

CONTRACTOR
Abigroup/Connell Hatch

PRODUCT
Mirafi® PET High Strength Woven Polyester Geotextile

Paralink Geogrids

GABION & RENO MATTRESS DESIGN SOFTWARE

For a free copy of our design software for gravity and RSW structures, as well as the hydraulic programmes, please contact your local Maccaferri office, or log on to our website, www.maccaferri.com.au and follow the links

ENVIRONMENTAL APPROACH TO DRAINAGE CHANNELS

The Coopernook to Herons Creek Duplication is part of the Pacific Highway upgrade programme. This project is an alliance between the RTA, Thiess (the main contractor) and Parsons Brinkerhoff (the design engineers).

The project consists of the construction of 33km of dual carriageway and will by pass Moorland, John's River and Kew to offer a safer and faster transit time.

The control of runoff along the top of batters or beside the road formation is achieved by the construction of catch drains. For protection against scouring these have been traditionally been constructed using placed rock or concrete as the protective lining.

A proposal was put forward by Maccaferri to Thiess to use Enkamat 7018 turf reinforcement mat as the scour protection medium instead of the specified concrete.

Enkamat 7018 is a flexible three-dimensional matting, produced from polyamide monofilaments welded together where they cross to form a tough, open structured matting with more than 95% free space. The three dimensional structure provides an artificial root system for permanent reinforcement and assists in developing strong vegetation for permanent erosion protection.

Due consideration was given to the various characteristics of the swale drains and it was determined that the Enkamat 7018 was to be used in all drains up to a maximum grade of 1%.

The construction procedure for the installation of Enkamat 7018 as the scour protection involved the following steps:

1. Soil filling was undertaken immediately after installation with a thin layer (approximately 20-30 mm) of fine soil placed on top of the Enkamat 7018. The topsoil was raked (using the backside of a rake) or brushed into the mat apertures to completely fill the mat thickness.
2. A uniform distribution of hydro-mulch seed mix was then applied directly onto the soil filled Enkamat 7018.

The end result was an environmentally friendly, cost effective and natural looking scour protection solution for the swale drains.

For further details contact your nearest Maccaferri office or visit our website www.maccaferri.com.au.

Before: Swale Drain with Enkamat fixed in place

After: Vegetated drain

PROJECT
Coopernook to Herons Creek Duplication

LOCATION
Coopernook NSW

CONSULTANT
Parsons Brinkerhoff

CONTRACTOR
Thiess

PRODUCT
Enkamat 7018

Maccaferri Australia Pty Ltd
Sydney
22 Powers Road
Seven Hills NSW 2147
Ph: (02) 8825 6300
Fx: (02) 8825 6399
E-mail: sales@maccaferri.com.au
www.maccaferri.com.au

Brisbane
PH: (07) 3890 3820
FX: (07) 3890 3393

Perth
PH: (08) 9429 5411
FX: (08) 9429 5447

Adelaide
PH: (08) 8177 2055
FX: (08) 8177 2044

Mackay
PH: (07) 4944 0956
FX: (07) 4944 0956

Hobart
PH: (03) 6272 1055
FX: (03) 6272 1485

Cairns
PH: (07) 4041 3422
FX: (07) 4041 3466

Burnie
PH: (03) 6435 1666
FX: (03) 6435 1566

Melbourne
PH: (03) 8586 9111
FX: (03) 8586 9186

Darwin
PH: (08) 8984 1600
FX: (08) 8984 1614