

PARAWEB - MACFORCE PARA SERIES DESCENDS ON SA DIEP RIVIER, W CAPE

GEOTECHNICAL ENGINEERING

Reinforced Soil Walls

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Diversification, research and development of the Maccaferri SA portfolio

Soil and basal reinforcement products supplied by UK based pioneer, Linear Composites, have been successfully applied for a number of years on projects across Great Britain and Europe, as well as further afield around the globe.

Now this track-record for innovation adds a new extension to the technological suite provided to the market by Italian multinational, Maccaferri, following the latter's acquisition of Linear Composites in 2007. That year also marked the 128th year of trading for this Bologna based environmental engineering Group, as well as 50 years in South Africa.

Linear Composites manufactures Paraweb, Paralink, Paragrid and Paradrain and these are only some of the Maccaferri diversification products that are currently being introduced and used in the southern African market. For example, Macforce (as described in the June issue of Construction World) is a new soil reinforcement retaining wall system that challenges the old systems that appeared to be "all exclusive" for the past 30 years. The T-shaped (3,2m²) Macforce panel with Paraweb soil reinforcement will soon be joined by the square (2,25m²) Macres panel using Paraweb and Paragrid soil reinforcement.

These panel systems can also be assisted by a patented system called ProLink: using Maccaferri's Paraweb soil reinforcement approach to link steel wire panels (welded mesh or double twisted mesh) to soil anchors for situations where access is limited.

Annual lecture series

The industry has shown great interest and support over the past five years for the annual Maccaferri lectures, which were held in September 2007 at all the major centres in South Africa. The theme was "Designing with high strength Polymer Reinforcement" and covered the subject in a broad sense, dealing with the mechanics, technology and reference to recent case histories of Macforce, Macres and Basal reinforcement projects.

Basal reinforcement is a method used to increase the low bearing capacity of soils by using a soil raft foundation, where steel or synthetic products distribute the load so as to reduce or eliminate differential settlements. A highly cost-effective approach. The Maccaferri Group has established themselves as leaders in this field. In South Africa, Maccaferri SA offers a "design and supply" package based on local experience and international expertise, coupled with state-of-the-art software developed by the Group.



Maputo harbour sugar terminal, which used a bi-directional steel grid as a basal reinforcement.



A ParaWeb installation at Maccaferri SA's first MacForce project in South Africa for the construction of abutments on a Western Cape bridge.

Recent examples include a project completed at the Maputo harbour sugar terminal, which used a bi-directional steel grid as a basal reinforcement, meeting the client's requirements and achieving substantial cost savings when compared with the traditional piled foundation approach. This project was presented as a paper by Maccaferri SA at the 14th African Regional Conference on Soil Mechanics and Geotechnical Engineering, held in Cameroon in November 2007.

Meanwhile, key speakers at Maccaferri SA's local lecture series in September 2007 included Moreno Scotto from Italy, an expert authority in the field of Geosynthetics and Geoff Kempton, a professional engineer from the UK with 30 years experience in reinforced soil techniques, who shared their expertise with the South African industry.



Looping the ParaWeb soil reinforcement under a temporary stay, which assists in tensioning the strip.

Maccaferri SA (Pty) Ltd

HEAD OFFICE - DURBAN, SOUTH AFRICA

P O Box 15777, Westmead, 3608 Tel: +27-31-700 8456 Fax: +27-31-700 8469 e-mail: dbnsales@maccaferri.co.za

JOHANNESBURG, SOUTH AFRICA

P O Box 2285, North Riding, 2162 Tel: +27-11-704 0160 Fax: +27-11-704 0159 e-mail: jhbsales@maccaferri.co.za

CAPE TOWN, SOUTH AFRICA

P O Box 22150, Fish Hoek, 7974 Tel: +27-21-702 1416 Fax: +27-21-702 2977 e-mail: cptsales@maccaferri.co.za

MADAGASCAR

BP 168 Antananarivo 101, Madagascar Tel: +261-20-22-231 02 Fax: +261-20-22-553 90 e-mail: maccaferri@moov.mg

www.maccaferri.co.za

