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GFRP as Portal Temporary Support for Lung Shan Tunnel at Liantang

Maccaferri has been manufacturing Glass Fiber Reinforced Polymer (GFRP) or Fiber Glass Soil Nail for the construction industry in Europe and is now making it available in Asia. GFRP are continuous thread fiber glass profile specially produced to overall high strength capacity (both tensile, flexural, shear and modulus) with enhanced friction effect surface (high pull out resistance), superb cutability (for soft eye application) and



GFRP anchor 25mm & 32mm diameter

excellent resistance. The GFRP is ideal for temporary rock bolt, soil nail and ground anchor. Standard sizes come in 20 – 40 mm diameter at max 11 m unit length with tensile strength of 600 – 1,000 MPa. At the Liantang development, the Lung Shan Tunnel portal temporary support employs GFRP with 25 and 32mm in diameter and 21 - 24m in length to strengthen

soil at the start for the tunnel alignment where adverse ground condition is expected. Special steel sleeve is customized to a high performance coupler, extending the GFRP to the required length. Enquiry direct to Stanley at stanley@g-and-e.com. 



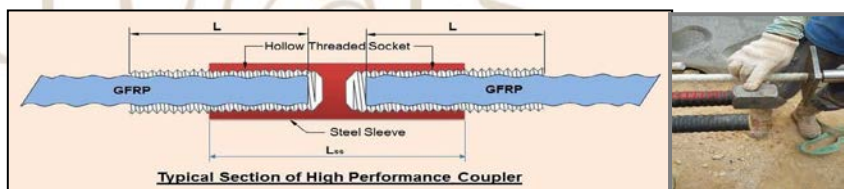
GFRP anchors, installed at the portal



Overview of portal at Liantang / Heung Yuen Wai Boundary Control Point – Site Formation and Infrastructure Works (CV/2012/08)



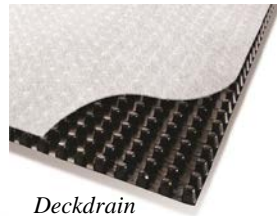
GFRP assembly



New Product

Deckdrain – An Alternative Geocomposite

We have inventory of Deckdrain, a high compressive strength cusped dimple drainage geocomposite equivalent to Miradrain in applications with better performance and characteristics. The material is manufactured in UK to a 120 years design life under European quality control norm and is exported with CE marking. It is in standard width of 1.1 m but 4.4 m can be available.



Deckdrain

ABG has been supplying sophisticated drainage products in Hong Kong to MTR tunneling projects since the TKO extension line in 2000. Please check with us on product specification and stock whenever there is a geosynthetics drainage material requirement in your project. For more information, please contact Wing Yung at wing@g-and-e.com.



Deckdrain at Mei Foo Station during installation



Mei Foo Park Deckdrain drainage

Technical Note

Pre-fabricated Band Drain For Ground Improvement

Prefabricated band drain (PVD) has found a great many applications in ground improvement. Since Yau Ma Tei and Tseung Kwan O reclamation in the early 80's, it has become a practical method to encourage settlement, effectively accelerate consolidation without dredging. Over 30 million meters were recently used at the Hong Kong Zhuhai Macau Bridge, extending from the Boundary Crossing Facility Reclamation to the Hong Kong Road Link and north to Tuen Mun - Chek Lap Kok Link.



HKZMB Link Road (HY/2011/03)

CT-D810 PVD from CeTeau, Thailand was delivered in 220 containers since mid 2012 to early 2014. Material index testing was carried out at TRI lab in California to ascertain specification compliance. Project conformance testing program took more than 600 samples (one sample for every 50,000 lm delivered). Parameters such as discharge capacity, tensile behavior of the drain and the geotextile filter characteristics were tested by a local independent set up in corporation to an HOKLAS laboratory. Results are with flying color, ensuring the material with consistent quality are installed.

Apart from being a distributor, we also offer band drain installation, incorporating the expertise from the manufacturer who has vast experience and resources. Advanced high speed equipment, special monitoring instrument and digital instantaneous recorder can be mobilized to work to great depth, with high efficiency, under tough site condition and restricted headroom. We are ready to offer the professional service. Stanley at stanley@g-and-e.com can provide more details.



Telescopic mandrel with 8m headroom to great depth



Digital logger to monitor and record every installation point



HKZMB – HK BCF(HY/2010/02)



Tuen Mun-Chek Lap Kok Link (HY/2012/08)

Opinion Column

Silt Curtain – Design and Cost Effectiveness

For many years, we have been supplying silt curtain for turbidity control in marine construction. It comes in various types, from special geotextile that can be fabricated in-situ to prefabricated unit from Korea that can be deployed instantaneously, to engineering designed unit from Japan based on marine environment or robust unit from USA under American specification.

The silt curtain generally acts like a gigantic sail in water and is subjected to tremendous continuous force throughout the design life. Whatever the type of silt curtain, current velocity, wind speed and wave action have great significance to the integrity and durability. Mechanical parts such as shackles, ballast, tension belt, anchor connection, fabric strength and float may not survive in the corrosive seawater environment. Silt curtains are often seen displaced, torn, billowed, unraveled or dismembered prematurely, effectively undermining the intended purpose, necessitating excessive maintenance work and lengthening down time. When considering the use of silt curtain, parameters such as current, wind and wave behavior can be factored into the design, location of deployment and fabrication method to ensure long term cost effective performance, thereby saving aftercare and reducing idling time. Talk to Gary at nangary1@i-cable.com. 🌴



Standard packaging of prefabricated silt curtain at Kai Tak development



Turbidity control of engineered silt curtain



In-situ silt curtain fabrication from Bontec geotextile, limited reinforcement



Prefabricated silt curtain showing various structural components, very reliable



Engineering designed silt curtain from Japan at Penny's Bay

For Your Information

The 10th International Conference on Geosynthetics, Berlin, September 2014

The four day event extends the latest development of geosynthetics to cover new applications in mitigation of natural disasters and implementation of energy efficient solution. While most of the presentations are technical studies and researches, cost benefits and accelerated construction are underlined in many discussions, some of the more practical ideas could very well be adoptable here.

Of interest are the current reinforced fill design methods which appear to be over conservative as evidenced by field testing, histories showing far longer term of performance as well. Showcases provide great insight to coastal protection and Geofam lightweight construction. Lectures were given to the design of geosynthetics with consistent properties complimenting a large variation of soil characteristics. New PVD testing techniques, drainable geogrid, leak detectable waterproofing membrane, green sustainability material and electrical smart instrumented geosynthetics are brought forward.



Opening ceremony at the 10th ICG, Berlin, September 2014

For Your Information

Construction material cost climbs over the years, that of geosynthetics has been relatively stable for the last decade. We are working with our principals on some cost effective proposition with new material that can find merits here, so stay tune. 🌴

Company Trip to Taiwan

Earlier this year, we went on a learning trip to Taiwan, and we brought along our spouses. One of the objectives of the trip was to visit our principle, ACE, including a park at the factory, which is constructed with the use of all their products and to showcase the applications. After the tour, the spouses have a better understanding of what their better halves are doing at work.

We cannot go to Taiwan without trying all the good food and visited as many night markets as time allowed. Everybody went home with luggage stuffed with Taiwanese snacks and the bragging rights to all the delicious food that we had, unaware of the edible oil problem at that time. 🌴



At our principle's office

An Amazing Wealth of Knowledge in Easily Readable Form

In our 30 year of business, we saw engineering advanced and construction innovation that lead to a great many applications of geosynthetics, some are conventional, some unique and some extraordinary. Experience accumulated over these years could be a good reference which could be of interest to people in the field. We have compiled our projects since 1984 into a CD Rom, in which about 300 of our major involvements are shown with all relevant details. The selection of photos give marvelous background to specific applications. Should you wish to have your personal free copy, please get in touch with Nannette Chan nannette@g-and-e.com. 🌴



Your own reference CD-rom

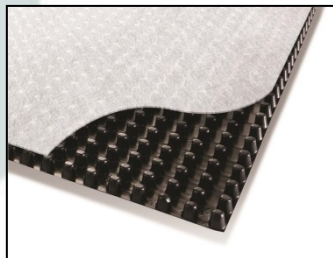
Now More Than Ever - More Comprehensive Inventory Available

Our local inventory has been extended from geotextile to include:



Maccaferri - Macmat PA20

Erosion mat that meets the latest polyamide requirement



ABG - Deckdrain

Fully equivalent performance and characteristics of Miradrain



Maccaferri - P/6/2.2

PVC-coated green wire mesh widely used in slope works

Check with Shan Chiu for delivery at 25700103 or shan@g-and-e.com

Reader's Response

Let us hear from you. Write to us at newsletter@g-and-e.com

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