



ANNOUNCEMENT

AGS (HK) & The Hong Kong Polytechnic University Joint Technical Seminar

“Introducing GCCMs (Geosynthetic Cementitious Composite Mats): A new material for erosion control”

by

Ir Will Crawford

- Date** : Tuesday, 21st February 2017
- Time** : 6:30 pm – 8:00 pm
- Venue** : Lecture Theatre Y305, 3/F Lee Shau Kee Building, The Hong Kong Polytechnic University, Kowloon (see enclosed map)
- Enquiry** : For enquiries, please contact
Tony GOURLAY (email: tony.gourlay@mottmac.com or tel: 2828 5757)
- Seminar Fee** : Free of charge
- Registration** : No prior registration is required. Seating capacity is provided for approximately 120 people. CPD certificates will be provided after the seminar.
- Book Prize** : Book prize is open to all young attendants under 35 years old for the submission of a good quality report (max. 500 words) on this event. Book Prize reward comprises a book "Geology of Site Investigation Boreholes in Hong Kong" by Chris Fletcher and book coupon HK\$300 from BookaZine.

Synopsis:

GCCMs are a new class of geosynthetic material with a wide range of geotechnical applications. They are flexible concrete impregnated fabrics that harden on hydration to form a thin, durable, water proof and fire resistant concrete layer.

GCCMs consist of a 3-dimensional fibre matrix containing a high early-strength concrete mix. A PVC backing on one surface provides a waterproof capability and the internal fibre matrix prevents crack propagation and provides tensile reinforcement once set. This allows GCCMs to provide a range of benefits over conventional concrete including speed of installation and logistical advantages. For example, when replacing sprayed concrete, these materials remove much of the complexity and cost associated with mobilising shotcrete equipment. When replacing

poured concrete, they remove the need for on-site mixing and measuring and factory quality control ensures that the concrete used on-site meets the required design specification.

GCCMs are most commonly used as erosion control linings for water channels, either for drainage or irrigation and as facings for slopes as a replacement for non-structural concrete. On slope facing, they are far easier to construct than conventional concrete and can be supplied in man-portable rolls allowing them to be used in remote or difficult-to-access sites. Japan, for example, is one of the largest markets for GCCMs where it is predominantly used for slope facing in sites with poor access. The high early-strength concrete mix also enables GCCMs to have excellent abrasion resistance (approximately twice that of OPCs), UV resistance and chemical performance with a typical design life of well over 50 years.



During this seminar a brief introduction will be given on the material and some case histories of its use will be presented. These case histories will include:

- Lining of water channels
- Protection of slopes
- Capping of secondary containment berms
- Remediation of concrete structures

About the Speaker

Ir Will Crawford (MEng MA (RCA) DIC) is Director and co-founder of Concrete Canvas Ltd, set up in 2005 to develop and commercialise Concrete Canvas technology.

Will has previously worked for GKN, QinetiQ, and for the UK Ministry of Defence. He studied Mechanical Engineering at Bristol and Berkeley in the US and also has a joint Masters in from Imperial College and the Royal College of Art; where he co-invented the Concrete Canvas products. During this time he also invented several other award winning designs including an innovative lo-tech fridge for developing countries which has featured in TED lectures and is backed by an US VC firm.

Will was recently awarded a Silver Medal by the Royal Academy of Engineering in recognition of his contribution to British Engineering.

