CPD-accredited lecture:

Formed In-Situ Bitumen-Based Lining Systems

When considering low-permeability linings for the containment of water or effluent, the designer has several options available, including clay, concrete, geosynthetic clay liners (GCLs) and preformed polyolefin geomembranes such as HDPE, LLDPE and the like. Another option consists of geotextile coated with rubberised bitumen. This proven system is put together on site, and while being cost-competitive with the polyolefin systems, has the advantage of being installed with labour-intensive techniques, by unskilled workers. Anyone can install them, and anyone can repair them without the need for specialised contractors.

This illustrated introduction is intended as a follow-on lecture to the initial "***Introduction to Geosynthetics***" lecture (which we recommend should precede this event) and concentrates on basic design concepts around how bitumen-coated geosynthetics should be used in dam lining applications. Delegates will come away with a good understanding of what these versatile materials can do. This SAICE and SAIBD CPD-accredited lecture is presented free of charge to professionals in the engineering and architectural fields.

CPD Credits 0.2 (two hours) apply for ECSA & SACAP registered persons.

An attendance certificate will be issued to each delegate.

This can be used to claim CPD points and to motivate corporate Skills Development Levy (SDL) Refund Claims.

PROGRAMME

± 2 hours (including discussion) with one mid-point break

Brief Introduction: Kaytech Engineered Fabrics – South African manufacturers of geosynthetic products

How local nonwoven needlepunched paving fabrics are made from recycled Polyester bottles.

1. **What is a Geosynthetic?** Different types available locally
   Properties and implications of using different polymers
   Woven & nonwoven geotextiles.
2. **Formed In-Situ Dam Linings**:
   1. ***Components of the System***: The recommended geotextiles and bitumens.
   2. ***Comparison with polyolefin geomembranes***: Advantages & disadvantages.
   3. ***Laying the System***: A comprehensive 'How-To'
   4. ***Traps and Tips***: What to do, and what not to do.
   5. ***Examples of the System***: Irrigation, oxidation dams, ornamental ponds etc.
   6. ***The Installation Manual***: Useful information.
3. **Discussion**

The lecture(s) can be presented at your premises or Kaytech's in Johannesburg (Isandovale), Cape Town (Stikland), East London, Port Elizabeth, & Durban (Pinetown).

Course Presenter

Peter Davies

MIGS · MGIGSA · SFIWMSA · MSANCOLD · MIAIAsa

Peter works for the Kaymac Group (founded 1945) and is based at Kaytech's head office in Pinetown, Kwazulu-Natal, in South Africa. Here, he serves as Senior Consultant: Geosynthetic Applications. He has been involved in geotechnical engineering and geosynthetics for over 50 years.

- In 2014 he was appointed honorary *Technical Advisor* to the South African Institute of Waste Management (IWMSA).

- He is a Senior Fellow of, and has served two-year terms each, as National Secretary, Vice President and President of the South African Institute of Waste Management (IWMSA). Here, he has represented the Institute on a number of waste-related initiatives, including the steering committee for all editions of the *Minimum Requirements for Waste Management Facilities* document. He has served on the Project Steering Committee and the Specialist Working Group engaged in landfill design requirements, in particular in updating the section on Geosynthetic Clay Liners. He is a committee member of the IWMSA KZ-N Branch Landfill Interest Group (LIG) and has served as its Vice Chairman and Chairman.

- He is an honorary life member, and has been the Vice-President and newsletter editor of GIGSA, the Geosynthetics Interest Group of South Africa, which is affiliated to the South African Institution of Civil Engineers and is the local chapter of the International Geosynthetics Society (IGS). He was the Technical Chair of the IGS/GIGSA GeoAfrica 2009 conference held in Cape Town over 2 – 5 September 2009. This was the first IGS Regional conference to be held in Africa.

Peter has authored, and co-authored, numerous peer-reviewed technical papers on a wide range of geosynthetics topics, presented at a number of South African and international conferences.

KAYTECH ENGINEERED FABRICS

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