

INTRODUCTION TO GEOSYNTHETICS

There are more applications for Geosynthetics than many designers realise, leading to a major international market for these innovative construction materials which exists because judicious use of geosynthetics instead of conventional materials & techniques can lead to very significant project cost savings. This is particularly relevant when consulting firms have to bid against their peers to obtain work. The imaginative use of geosynthetics in design proposals can often make the difference between winning a project and being an also-ran.

This illustrated introduction is intended to introduce basic design concepts and delegates will come away with a good understanding of what these versatile materials can do (as well as 0.1 SAICE CPD credits for professionals registered with ECSA). The video lectures are presented free of charge.

CPD Credits 0.1 (one hour) apply for ECSA registered persons.

An attendance certificate will be issued to each delegate.

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

PROGRAMME

(± 1 hour of 15-20 minute segments)

Brief Introduction: Kaytech Engineered Fabrics – South African manufacturers of geosynthetic products • How local nonwoven geotextiles 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. The six main functions of Geosynthetics:
 1. *Filtration:* Road & Rail, Earth & Rockfill Dams, Sportsfields, Gabions.
 2. *Drainage:* Conventional vs. Findrains: Innovative drainage solutions.
 3. *Separation:* Structures on saturated low bearing capacity soils.
 4. *Reinforcement:* Structures using geosynthetics instead of steel.
 5. *Barrier:* Bitumen and bentonite in gas / waterproof linings and paving systems.
 6. *Erosion control:* Silt fences, Soil blankets, Geocells, Geocontainers.
 3. The educational role of the International Geosynthetics Society (IGS).
 4. Questionnaire
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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.



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