



22 and 23 October 2008
Radisson SAS Hotel, Dubai, United Arab Emirates

## **Lifetime of Geosynthetics**



In cooperation with:

IIK BMC Gulf

**Head sponsors:** 







## **About the topic**

#### Why lifetime prediction of geosynthetics?

Geosynthetics are used in the construction of roadways, bridge abutments, marine structures, reservoirs, landfills and many other structures. Contractors often demand an assurance from the manufacturer that the planned structure will last for the whole life of the structure, which may be a hundred years or more. These materials, and even the polymers from which they are made, were unknown a century ago. There is therefore no experience of their use for this length of time.

In fact, commercial geosynthetics have generally proved themselves durable over the fifty years since they were first installed, and over that period the quality of the products available has been improved. An understanding of the physics and chemistry of degradation has led to tests that can be performed within a reasonable time to provide an assurance that a conventional geosynthetic will last for at least 25 years in a 'normal' soil environment. The methods of installation are controlled and quality assurance has been improved.

A more formal and comprehensive life assessment is required for a geosynthetic to be used outside these limits: for new or different polymers, higher temperatures, more aggressive environments and above all for longer lifetimes. This conference is intended to set out how to perform such an assessment.

#### Chairman



Dipl.-Ing. Helmut Zanzinger, SKZ, Germany

- · 1988: geotechnical engineer at University of Karlsruhe, Germany
- Till 2002: LGA Geotechnical Institute, Nuremberg, Germany
- · Since 2002: SKZ, Würzburg, Germany
- For 20 years involved in geosynthetics: research on geopipes, GCLs, drainage geocomposites, geogrids, geomembranes and geotextiles
- Head of SKZ's geosynthetic business: testing, inspection and certification
- · Actively involved in CEN and ISO standardization of geosynthetics
- More than 85 publications

#### Wednesday, 22 October 2008

08:00 Registration and welcome coffee

09:30 **Opening address** 

09:40 Dipl.-Ing. HELMUT ZANZINGER, SKZ, Germany

#### **Requirements on geosynthetics**

- · products
- long-term applications
- expected lifetimes

10:10 Prof. Dr. ROBERT M. KOERNER (Author),
Geosynthetic Institute (GSI), USA
Dipl.-Ing. HELMUT ZANZINGER (Speaker), SKZ, Germany

#### Observations in the field

· site experiences

10:40 Coffee break

11:10 Dr. HARTMUT SCHRÖDER, BAM, Germany

#### Environmental factors in soil

- · mineral substances in soil
- · aqueous phase and gas phase

#### Types of polymers

- · general aspects
- · virgin and recycled materials

#### Chemical degradation of polymers

· polyesters, polyamides and polyolefins

12:10 Dr. JOHN H. GREENWOOD, ERA Technology Ltd., United Kingdom

#### Loads and mechanical damages

- · damage during installation
- · creep behaviour/creep rupture
- stress cracking

13:00 Lunch

14:30 Dr. HARTMUT SCHRÖDER, BAM, Germany

#### Stabilisation of polymeric materials

- overview
- · functions
- examples (antioxidants, light-stabilizers, acid scavengers, metal deactivators, hydrolysis stabilizers)
- · formulations
- staged of lifetime

15:30 Dr. JOHN H. GREENWOOD, ERA Technology Ltd., United Kingdom

#### **Fundamentals of lifetime prediction**

- · accelerated testing
- the importance of correct installation of HDPE-geomembranes

16:30 Coffee break

16:50 Dipl.-Ing. HELMUT ZANZINGER, SKZ, Germany

#### Long-term behaviour of clay geosynthetic barriers (GCLs)

- · long-term shear behaviour
- · desiccation behaviour

17:35 ROLAND VON AH, Leister Process Technologies, Switzerland

Reliable plastic welding equipment for geomembranes

18:00 | Cocktail reception

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#### Thursday, 23 October 2008

08:00 Dr. JOHN H. GREENWOOD,

ERA Technology Ltd., United Kingdom

#### **Accelerated creep tests**

- · SIM
- · examples and comparisons with conventional creep tests

09:00 Dipl.-Phys. PETER TRUBIROHA, Germany

#### **Ageing of UV-exposed geosynthetics**

- · weatherometers and exposed lifetime predictions
- · weathering studies

10:30 Coffee break

11:00 Dr. JOHN H. GREENWOOD,

ERA Technology Ltd., United Kingdom

#### **Evaluation of geosynthetics for reinforcement**

- · examples of damages during installation
- examples of tensile creep reduction factors

Dr. HARTMUT SCHRÖDER, BAM, Germany 11:45

#### **Accelerated ageing tests**

- · general aspects
- · examples of hydrolytic ageing simulation
- examples of thermo oxidative ageing simulation
- oven ageing
- high-pressure autoclave ageing
- · comparison of these methods

12:45 THOMAS MISKIEWICZ, AGRU Kunststofftechnik GmbH, Austria

#### **Practical Applications of Geomembranes**

13:05

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14:30 Technical tour to a construction site in Dubai

17:30 **End of conference** 

Subject to alterations

#### **Conference Information**

International Lifetime of Geosynthetics

Conference

Venue

Radisson SAS Hotel, Dubai Deira Creek

Baniyas Road P.O. Box 476, Dubai **United Arab Emirates** Tel.: +971 4 222 7171 Fax: +971 4 223 7615

**Organiser** SKZ - ConSem GmbH

Frankfurter Str. 15 - 17, D-97082 Würzburg

Date 22 and 23 October 2008

Chairman Dipl.-Ing. Helmut Zanzinger, SKZ, Germany

**Conference** Dipl.-Übers. Irina Bender, SKZ, Germany Tel. +49 931 4104-436, e-mail: i.bender@skz.de Manager

Registration (in writing) and Information

SKZ - ConSem GmbH

Frankfurter Straße 15 - 17 D-97082 Würzburg (1)

+499314104-164/-184 +499314104-227/-274

Internet: http://www.skz.de

E-Mail: anmeldung@skz.de

#### stating the following data

- Event
- First name and surname
- Company or private address

**Registration fee** 990 EUR

850 EUR if your register before Special offer

24 September 2008

#### Payment details

All payments must be made before the event. Payments not received in advance must be settled at the door. Please use the enclosed registration form.

#### **Services**

Conference handout incl. CD Lunch, refreshment breaks Cocktail reception

Technical tour to a construction site

#### **Excursion**

Technical tour to a construction site near Dubai where geosynthetics are used is organised on Thursday 23 October after lunch. Please kindly register in advance.

#### Table top exhibition

Table top exhibition space is available for 1.600 EUR and includes one table or stand and two chairs, as well as one free delegate place. For more information please contact the conference manager Mrs. Irina Bender: i.bender@skz.de

#### **Venue and Accommodation**

We negotiated a special room rate of 1200 AED for a single standard room at Radisson SAS Hotel, Dubai, Baniyas Road. Room availability is limited. Please kindly book your room 45 days prior to the arrival to receive this offer. Please contact the hotel directly: Ms. Rashmi Hazarika +971 4 222 7171 or email:

Rashmi.Hazarika@radissonsas.com/ www.deiracreek.dubai.radissonsas.com

#### **Cancellations**

A cancellation fee of 10 % will be charged for cancellations received in writing one week before the event. For later cancellations the full price will be invoiced. The list of participants will be created one week before the event. We regret that late registrations cannot be considered. Delegates may be substituted at any time.

#### **SKZ-Complete program**

www.skz.de

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#### **Experience and Competence in Plastics**

SKZ has been a professional service provider to the plastics industry since 1961.

- Training for specialists and executives
- Acknowledged testing procedures for plastic materials
- Development and research

SKZ works together with the suppliers of raw materials, production companies, machine builders and system builders throughout the world.

Other spheres of involvement are:

- Examinations, type approval and development of plastic components
- Monitoring the production of component parts

Today SKZ is the market leader in Europe and monitors more than 900 plastic products from more than 400 companies throughout the world.

### **REGISTRATION / CREDIT CARD PAYMENT FORM**



Date:

# Please fax your completed form back to: +49 931 4104 227

Company:	
Country / Adress:	
Department:	Job title:
Telephone:	Fax:
E-Mail:	
Delegate: Ms. Mr. Mr.	Title:
Last name:	First name:
Billing adress:	
Telephone:	E-Mail:
I herewith register firmly for the following event:	
Event: Lifetime of Geosynthetics	Date: 22 and 23 October 2008 Venue: Dubai
I would like to attend the technical tour	
Delegate fee total of	regular fee: 990 EUR (pay after 24 September 2008) early bird: 850 EUR (pay before 24 September 2008)
please invoice me	Table Top Exhibition: 1.600 EUR (incl. one free delegate place)
please charge to my credit card:	
VISA Card Nr.:  Euro / Master Card Nr.:	
Credit card holder:	
Expiry date (MM/YY)	_/_
Credit Card security number:	(last three digits on the back side of the credit card)
Please always quote the credit card security number by credit card payments.  Registration is not possible without this number!	

Signature: