

## **TALK ON “MODIFIED CONCRETE – IT’S THE MIX THAT MATTERS FOR UNDERGROUND CONSTRUCTION”**

Organized by Tunnelling & Underground Space Technical Division, IEM

BEM Approved CPD/PDP Hours: 2 Ref No: IEM17/HQ/317/T

Date : 16 August 2017 (Wednesday)  
Time : 5.30pm – 7.00pm (Refreshments will be served at 5.00pm)  
Venue : Wisma IEM, C&S Lecture Room, Second Floor and TUS Lecture Room, Second Floor  
Speaker : Mr. Klaus Bonin

### SYNOPSIS

Concrete is actually a rather brittle material which makes it even more surprising to see how much can be done today with polymer modification. Polymeric binders open up new possibilities in underground construction technology, example sound absorbent intercity express (ICE) train tracks in Germany, sprayed concrete with a reduced rebound up to 71% - what until recently was considered unthinkable is now reality.

Modification of shotcrete with polymer change the behavior of fresh and hardened concrete. Typical improvement in properties as improved pumpability, better adhesion, higher elasticity, excellent compaction, increased durability, good resistance against aggressive groundwater, etc. What really sets modified shotcrete apart is the fact that it adheres very well to critical substrates such as wet rock. This significantly reduces rebound that results in less waste materials and lower disposal cost.

Self Filling Concrete Compound (SFCC): It is the novel concept to repair concrete structures e.g. roads, tunnels, and other concrete. It is easy to prepare and apply in any jobsite condition without the needs of sophisticated equipment's.

Speaker will present the advantages of modified shotcrete and SFCC including case studies in Europe and his experience in various underground construction site.

### BIODATA OF SPEAKERS

**Mr. Klaus Bonin** has more than 20 years' experience in construction industry. He studied in Darmstadt where he obtained a degree as Chemo-Technical Engineer. In 1992, he started at Chemische Fabrik Budenheim, Germany, working in the R&D and Technical Customer Support department. In 1995, he moved to Bayosan Wachter, Germany (to-day: Baunit Germany), where he was responsible for quality control and R&D. Since 2000, he works in Wacker Chemie AG as Technical Service Manager at the beginning for global market development, and currently for the southern Europe and as specialist for polymer modified concrete.

***Ir. Syed Rajah Hussain Shaib Bin A.H. Mohd Haniff***

***Chairman***

***Tunnelling & Underground Space Technical Division, IEM***

### **ADMINISTRATIVE FEE**

- Kindly be informed that an administrative fee of RM15 is payable for talks organized by IEM. GST is inclusive.
- Student Members are however exempted.

### **ANNOUNCEMENTS TO NOTE:**

- Non-member may also attend the talk but will need to pay a registration fee of RM50 and an administrative fee of RM15. GST is inclusive.
- Limited seats are available on a "first come first served" basis (maximum 100 participants). To secure your seat, kindly register online at [www.myiem.org.my](http://www.myiem.org.my).

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