



Training session '**Waterproofing**'  
16 – 17 March 2016  
Venue: Santa Clara 300 (Ciudad Empresarial)  
Huechuraba – Santiago de Chile

### **Programme**

**Objective of the course:** This course aims to provide general information to engineers & decision makers on the waterproofing for tunnels, & especially for long undersea tunnels.

#### **Wednesday 16 March 2016**

##### **Session 1: Introduction & Overview**

- 09.00 – 09.30: Welcome & Opening - C. Ingerslev & A. Gomes
- 09.30 – 10.30: General presentation of the waterproofing question by ITA WG11 – C. Ingerslev
- 10.30 – 11.00: Coffee break
- 11.00 – 11.45: Overview of waterproofing methods – Part 1: Injections, pregrouting (F. Amberg)
- 11.45 – 12.30: Overview of waterproofing methods – Part 2: Membrane sheets, surface treatments – C. Ingerslev
- 12.30 – 14.00: Lunch

##### **Session 2: Durability & Requirements**

- 14.00 – 14.45: Technical requirements for durability, contractual aspects – F. Amberg & A. Gomes
- 14.45 – 15.30: Fire protection during construction & lifetime – C. Ingerslev
- 15.30 – 16.00: Coffee break
- 16.00 – 16.45: Example 1: Sealing with high overburden – F. Amberg
- 16.45 – 17.30: Example 2: Waterproofing solutions for strategic structures: Case stories – Mapei - H. Claussen
- 17.30 – 18.00: Questions & Open discussion

#### **Thursday 17 March 2016**

##### **Session 3: Stakeholder's issues**

- 09.00 – 09.30: View of Consulting Engineers on the choice of the waterproofing method – F. Amberg
- 09.30 – 10.30: View of Contractors on the implementation of the waterproofing treatments – Soletanche - A. Chapuis
- 10.30 – 11.00: Coffee break

11.00 – 11.45: View of TBM manufacturers of the waterproofing arrangements:

**Herrenknecht:** View of TBM manufacturers on the waterproofing arrangements – M. Weinhold

**Robbins:** Pregrouting & face control in open tunneling mode with TBMs – R. Justa

11.45 – 12.30: View of material & products manufacturers - Part 1

**Normet:** Ground water control with use of modern pre/post injection techniques & materials– L. Halls

**BASF:** MasterSeal 345 innovation in waterproofing for tunnels coatings and waterproofing concept - A. Uribe

12.30 – 14.00: Lunch

#### **Session 4: Concluding session**

14.00 – 15.00: View of material & products manufacturers - Part 2

**Sika:** Waterproofing of underground structures, Sika's global experience – C. Munoz/S. Lemke

**Mapei:** Waterproofing solutions for strategic structures: Risk mitigation & Technical choices – E. Pavese

15.00 – 15.45: Technical choices – Criteria: Discussions led by concerned country – A. Gomes

15.45 – 16.15: Coffee break

16.15 – 17.00: Questions & Open discussion (All lecturers)

17.00 – 17.15: Closing remarks – C. Ingerslev, F. Amberg & A. Gomes

*Update(d): 04/03/2016*

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