

International Symposium
“TÚNELES Y TECNOLOGÍAS DE HORMIGÓN PROYECTADO”
Tunneling and Shotcrete Technology



Chilean Committee for Tunnels and Underground Spaces –
(CTES-Chile)
March 2012
Santiago de Chile

SUMMARY

The International Symposium "Tunnels and Shotcrete Technologies", organized by the CTES-Chile, with the support and endorsement of the ITACET Foundation of the ITA-AITES, has been held at Espacio Riesco, Santiago, Chile on the 26th and 27th March 2012, attracting over 140 professionals of the Chilean and South American tunneling industry.

The two days Symposium was subdivided in a theoretical and a practical module. The first module comprised of one and a half day of tunneling and shotcrete technology topics, lectured by prominent international and local speakers. In the second module, which took half a day, assistants had the opportunity to see large scale in situ wet and dry shotcrete application demonstrations as well as quality control methods.

In terms of organization, the International Symposium has been a great challenge for the CTES-Chile. It was the first international event organized by the CTES-Chile, which was barely completing its first year of activity. The event was a success, what was confirmed by the very positive attendee's evaluations. Delegates were able to obtain relevant technical information, listen to top-level speakers and also to visit five leading international exhibitors during the breaks. The event has also helped the further diffusion of the CTES-Chile in the local industry, increasing the industry knowledge on it and bringing new affiliates to the Committee.

PROGRAM

Day 1:

08:00-08:15	Welcome and Opening (Bienvenida e inauguración). Sr. Alexandre R.A. Gomes, Presidente del Comité de Túneles y Espacios Subterráneos de Chile (CTES) Sr. Claudio Nitsche M, Presidente Corporación de Desarrollo Tecnológico Sr. Tarcísio B. Celestino
Sesión 1:	Tunnelling Excavation, Support and Design (Excavación, soporte y diseño en túneles)
08:15-09:00	Conventional Tunneling – (Tunelería con Métodos Convencionales) Sr. Tarcísio B. Celestino. THEMAG-University SP. Expositor ITACET
09:45-10:30	Mechanized Excavation (Excavación mecanizada) Sr. Michael Weinhold, Director General de Herrenknecht Chile
10:30-11:00	Coffe Break (Café)
11:00-11:45	Tunnel Support Design (Diseño de Soporte de Túneles) Sr. Alexandre Gomes, Gerente General Geoconsult Chile. Expositor ITACET
11:45-12:30	Geotechnical Risks in Tunnelling (Riesgos Geotécnicos en Tunelería) Sr. Prof. J. Golser, Geoconsult ZT GmbH
12:30-14:00	Lunch (Almuerzo)
Sesión 2:	Shotcrete Technology (Tecnología de Hormigón proyectado)
14:00-14:45	Shotcrete: General Concepts and Methods (Hormigón proyectado: Conceptos generales y métodos) Sr. Tarcísio B. Celestino. THEMAG-University SP: Expositor ITACET
14:45-15:30	Specific Experiences on Quality Control and Shotcrete Specification in Chile (Experiencias y especificación de control de calidad de shotcrete en Chile) Sr. Miguel Figueroa N., Jefe División de Hormigones IDIEM
15:30-16:00	Coffe Break (Café)
16:00-16:45	Best Practices and Future Potential (Buenas prácticas y futuro potencial en hormigón proyectado) Sr. Mike Rispin, VP Normet Americas

16:45-17:30

High quality wet sprayed concrete technology (Tecnología de alta calidad en hormigón proyectado con vía húmeda)

Sr. Lars Hage Sprayed Concrete MEYCO Global Underground Construction

Day 2:

Sesión 3: Reinforcement (Refuerzos)

08:15-09:00

Sprayed concrete reinforcement: Mesh – Steel/polymer fibers (Fibras de refuerzo para hormigón proyectado)

Sr. José Antonio Collazos, Gerente Técnico Prodalam

09:00-09:45

Equipments for sprayed concrete (Equipos para Hormigón proyectado)

Sr. Marcelo Anabalón, Gerente General NORMET Chile Ltda.

09:45-10:30

Skills and Future Certification of Shotcrete Operators in Chile (Competencias y futura certificación de operadores de shotcrete)

Sr. Marcelo Anabalón, Gerente General NORMET Chile Ltda.

10:30-11:00

Coffe Break (Café)

Sesión 4:

Special aspects (Aspectos especiales)

11:00-11:45

Tunnel drainage and waterproofing (Manejo de agua en túneles - Drenaje e impermeabilización)

Sr. Stefan Lemke, SIKA

11:45-12:30

Shotcrete as permanent lining – (Hormigón proyectado como revestimiento permanente)

Sr. Harmut Claussen, Head of MEYCO Underground Construction, Southamerica.

Sesión 5:

Practical Demonstrations (Demostraciones prácticas)

14:00-17:30

Evening shows that leading companies in the field showed the implementation, best practices and quality control of shotcrete, among other subjects.

ESTADÍSTICAS SIMPOSIO INTERNACIONAL

Concept	Value
Duration of the symposium	16 hours
Number of people attending	145
Exhibitors	13
International exhibitors	5
Sponsors	5
Income (CH\$)	\$ 10.275.766
Expenses (CH\$)	\$ 10.442.511
Financial Result (CH\$)	\$ - 166.745

RELATIONSHIP ITACET FOUNDATION

The International Symposium was supported by ITACET, noting that his role was crucial in attracting participants to the activity. Also, it is remarkable the presence of leading international exhibitors, which were able to participate on behalf of ITACET.

Because the final economic result is not positive, we cannot financially generate a donation to the ITACET foundation, however, it is estimated that we can organize a series of future joint activities that will generate financial surpluses in the future.

Photographs international symposium







