

Seminar on immersed tunnels
14th June 2013, Opatija, Croatia

14:30 – 15:00 Overview and types of immersed tunnel Jonathan Baber

This introduction will give a simple overview of the construction method and key issues to consider, and will describe the different construction types used around the world including both concrete and steel construction technologies. It will explain the variety of structural forms possible and the particular circumstances where immersed tunnels are an effective solution.

15:00 – 15:30 Planning & design of the tunnel structure and foundations Hans de Wit

The initial considerations for the design of an immersed tunnel scheme will be explained including, designing a tunnel alignment and internal space proofing of the structure. The techniques used in the structural design of immersed tunnel will be described and the options available for the foundations to the tunnel will be explained.

15:30 – 16:00 Project case study: Fehmarnbelt Fixed Link Claus Iversen

Presentation of the development of the Fehmarnbelt immersed tunnel project which has been designed in outline and is undergoing procurement for construction and the planning approval process. Construction of the tunnel is due to commence in 2015 and it will become the longest immersed tunnel to be built at 19km.

16:00 – 16:15 Break

16:15 – 16:45 Construction sequence, joints and control of cracking Jonathan Baber

The sequence of construction of an immersed tunnel will be explained and how this affects design and construction. The joints required in the tunnel to suit the construction sequence will be described and the specific construction methods required for achieving watertight reinforced concrete will be explained.

16:45 – 17:15 Marine construction methods and tunnel finishing Hans de Wit

The process of floating, transporting and immersing tunnel elements to form a complete tunnel will be described. The type of marine plant available and the methods of achieving accurate placement of the tunnel elements will be explained. The process for backfill around the tunnel and finishing the tunnel construction after placing the tunnel elements will also be described.

17:15 – 17:45 Project Case study : Marmaray Project Clause Iversen

The Marmaray project features the deepest immersed tunnel in the world built beneath the Bosphorus Strait in Istanbul. It was completed in 2010 and will carry a new railway. The construction methods used and the particular challenges of the project will be explained. These include the immersion of tunnel elements in strong currents in one of the busiest waterways in the world.

17:45 – 18:15 Questions

18:15 Close