

**Standing Committee on Concrete Technology  
Annual Concrete Seminar 2010  
(3 March 2010)**

**High Performance Concrete: Strength, Durability and  
Workability**

## **Opening Address**

Honourable guests, distinguished speakers, fellow engineers, ladies and gentlemen,

On behalf of the Standing Committee on Concrete Technology, I welcome you all to the Annual Concrete Seminar 2010.

For those participants who may not be familiar with the Standing Committee, I would like to take a few minutes to give you a brief introduction of its history and function. The Committee was formed in 1982, with its principal function to act as the central body for handling inter-office liaison amongst government departments on matters related to concrete technology. In more specific terms, all matters related to specifications and standards for concrete construction, testing and maintenance; performance of constituent materials; research and development on the use of concrete fall within the ambit of the Committee.

Over the years, the Committee has been reviewing the adequacy and relevancy of the concrete related standards used in Hong Kong with an objective to enhancing quality and cost-effectiveness in concrete production and construction. The recent reviews include unification of the concrete-related specifications among the local public sectors and updating of the local construction standards CS1 and CS2 in order to tally with the current practices and the latest international standards.

The Committee also has a role to play in the development of concrete technology, amongst other things, in researching possible advancement in the production of concrete with high strength, high durability and high workability, which are commonly recognized characteristics of high performance concrete. Many of you would know that Ground Granulated Blast furnace Slag (GGBS) is one of the key constituent materials in high performance concrete. It has the merit of increasing the packing density of cement paste, hence improving the development of long-term strength as well as durability of concrete. In this connection, the Committee has commissioned a comprehensive study on GGBS concrete with trial mixing and testing, with the purpose to promoting the local use of GGBS concrete in Hong Kong.

So, why are we interested in high performance concrete? Engineers nowadays are demanded to offer design solutions for requirements such as unprecedented building heights, exceedingly long design lives, and constraints in construction such as concreting with extremely congested reinforcements. In Hong Kong, practitioners are expected to meet some of these challenges in the implementation of the on-going and upcoming mega-infrastructure projects and the pressing needs for re-development of the aged urban fabric. I believe that the use of high performance concrete, which offers versatile solutions for the design, construction and maintenance of concrete structures, will be increasingly popular in Hong Kong. It is therefore timely that the theme for the seminar this year is set on “High Performance Concrete – Strength, Durability and Workability”.

High performance concrete is not something new to us. With the continuous improvement on the physical and mechanical properties of concrete, the performance of concrete has been pushing the limits time and again. In Hong Kong, Grade 100 high performance concrete has been used for high-rise commercial buildings, with the prominent success in reducing the structural member size and thus increasing the usable floor area. Other than strength, the cutting edges of high performance concrete on durability and workability also meet our needs in some of our projects deep underground. Currently, the government is preparing for the building of a number of deep sewage tunnels for the sewage treatment scheme aiming to improve the water quality of the Victoria Harbour. High performance concrete could be a perfect solution to meet the demand for concrete which has self-consolidating properties and at the same time is able to comply with the stringent requirements on durability in such extremely aggressive environment.

Indeed, much effort has been devoted by the construction industry in recent years in the research and development of high performance concrete. In today’s seminar, we have the opportunity to learn about development in various fronts, such as recent technological advancement in Europe, its applications in China, local experience of its usage in high-rise buildings and infrastructure projects, and the views of researchers and concrete producers on the use and production of the product.

I hope all of you will enjoy today’s seminar and make use of it as a platform for updating information and sharing experience. Thank you.



Ir Edwin K H Tong  
Chairman, SCCT