Report on Technical Visit to Dura Technology Sdn Bhd

by Ir. Chong Chee Meng

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The Civil and Structural Engineering Technical Division (CSETD) organized a technical visit to Dura Technology Sdn Bhd at Chemor Perak on 3rd December 2016 with a total of 14 participants attended the technical visit. The 14 participants included engineers from engineering consultants, contracting firms, government agencies and local authorities as well as faculty members from local institution of higher learning. Dura Technology Sdn Bhd has pioneered research in the optimal use of steel fiber reinforced ultra-high performance concrete (UHPC) in bridge construction.

The bus departed from IEM HQ approximately 7.30am and arrived at Dura Technology Sdn Bhd at 10.30am and received by Dura Technology Sdn Bhd's CEO, Ir Dr Voo Yen Lei. Prior to the visit, Dr Voo gave a 90 minutes presentation on his company and his product of ultra-high performance concrete. Dr Voo started the presentation with a brief history of Dura Technology Sdn Bhd. Then he moved on to explain the history of concrete development from normal strength concrete to ultra-high performance concrete.

Dr Voo explained that his ultra-high performance concrete is comprise of cement, sand, silica fume and steel fiber. Aggregate which is a component widely used in normal strength concrete is omitted in Dr Voo's concrete mix. Dr Voo clarified the reason behind the omission. Dr Voo also informed that his ultra-high performance concrete has minimum cube compressive strength of 150Mpa with water binder ratio of 0.15. Dr Voo stressed that his concrete able to achieve ultra high strength due to low water binder ratio. He also explained that the low water binder ratio make the concrete more durable with small creep and shrinkage coefficients.

After the presentation, the participants visited the plant with accompaniment of Dr Voo and his staffs. The visit started with demonstration on mixing of UHPC then followed by casting and manufacturing of UHPC bridge components. Dr Voo also showed the participants the Quality Assurance (QA) testing programe which consists of cube compresive strength test. Further elaborations and explanations were given to the participants during the plant visit for better understanding of the actual manufacturing process.

The technical visit was concluded at 1.30pm with a group photo and a presentation of momento of appreciation to Dr Voo by Ir Chong Chee Meng on behalf of IEM.

Figure 1: Presentation of momento by Ir Chong to Dr Voo

Figure 2: Group photo