



Technical Visit to Lafarge's Construction Development Lab (CDL)

By Ms. Wong Ai Ming

Ms. Wong Ai Ming is currently a committee member of Civil & Structural Engineering Technical Division (CSETD).

The Geotechnical Engineering Technical Division (GETD), and the Civil and Structural Engineering Technical Division (CSETD) of IEM, have jointly organized a technical visit to Lafarge Construction Development Lab (CDL) which is located at Jalan Kilang, Petaling Jaya, on 14th May 2016. The visit has attracted 34 participants including student members, industry practitioners and the two chairmen of the two Technical Divisions attended the visit also.

The delegates from IEM arrived CDL at 9.00am. They were welcomed to a breakfast spread. The visit started at 9.30am, with the safety briefing by Ms Wong Ai Ming, the Construction Specialist of Lafarge, and followed by a presentation on the background of Lafarge and introductory about the CDL. According to her, CDL is the fifth in the world and first in Southeast Asia which aims to promote construction efficiency by adapting innovative solutions to better meet Malaysia construction and building needs. The CDL houses three labs namely cement, concrete and aggregates, and soil labs that equipped with state-of-the-art testing equipment for quality control and assurance of its products. It also has an open testing area for prototypes and demonstrations of new building systems and structures.

Immediately after the briefing, the delegates were split into two groups for the tour to the labs and testing area. The delegates were ushered to the 2 model houses, concrete pavement, cement lab, concrete lab and finally soil lab.

There are 2 model houses. One was constructed using conventional method, the other is constructed using monolithic building system. The monolithic system engages the use of Aluminium formwork, and the spaces were filled up with Self Compacting Concrete. The construction process took 4 days, from installation of vertical rebar and wall formwork, installation of horizontal rebar and deck formwork, M&E, formwork alignment and Self Compacting Concrete concreting, and removal of formwork.

The car park area was constructed using both coloured concrete and pervious concrete. The pervious concrete allows the flow of water into the ground and reduces ponding.

There are 2 concrete pavements, namely JPCP (Jointed Plain Concrete Pavement), and RCC (Roller Compacted Concrete). Both were constructed showing 2 types of finishing, ie without surface treatment and with surface treatment of exposed aggregates method.

The Concrete and Aggregate testing lab is well equipped with 3 layer curing tank and refrigerated bath circulator, coring machine, Methylene Blue Test (MBT), in addition to the usual compression and flexural test equipment.

The Cement testing lab is equipped with lab oven, mini ball mill, Rapid Chloride Permeability Test equipment (RCPT), in addition to full range of EN mortar testing equipment.

The Soil lab is equipped to test California Bearing Ratio (CBR), plastic limit of soil, and Unconfined Compressive Strength (UCS).

After the tour, there was a Q&A session which gave the chance for the participants to interact and clarify further on their queries. In closing, as usual, the Chairman of GETD, Ir Yee Thien Seng, presented a momento of appreciation to Ms Wong Ai Ming of Lafarge at the end of the Q&A session. Before we dismissed, a buffet lunch was served to the participants. It was a good visit and the participants enjoyed the great hospitality from Lafarge.



Car park area



Q & A