

2-hour talk on
Polymer Modified Chemicals – PMC Next Generation Roads
Co-organized with PMC

Date 12th October 2017 (Thursday)
Time 2.00 pm – 4.00 pm
Venue Auditorium, UPC



Synopsis

PMC or Polymer Modified Chemicals is a Malaysian innovation since 2012. PMC is used for the following construction, with no compaction required:

1. Road base in soaking sub-grades
2. Gravity retaining wall and porous embankment

Here are 2 reasons why PMC:

1. 30% cost savings in road construction compare to conventional R5 JKR design
2. Next to ZERO road maintenance for 5 years

With no potholes, sinking roads but pure joy and comfy rides

The objective is to illustrate the next generation road technology with 3 in 1 concept. That is the Engineer's role of foundation, drainage and pavement solutions, all 3 in 1 PMC –Next G Road Solution

The following section is the standard site procedures and guidelines to be followed when carrying out PMC stabilization of crusher run measuring 500mm thick as road base.

1. All debris to be cleared and road base crusher run formation to be demarcated into plots measuring 2m x 1 m squares.
2. The dosage application shall be
 - a. 2m x 1 m square plots x 500mm thick crusher run depth is 1m³ of crusher run to be mixed with
 - b. 1 bag Ordinary Portland Cement (OPC) 50 kg
 - c. 1 bag of Polymer modified chemicals (PMC) 5 kg
 - d. 200 kg of water
3. Using a backhoe to mix PMC and OPC with water to form a slurry solution of polymers initially, and then add in aggregates into polymer slurry and mix polymer slurry homogenously with the aggregates subsequently.
4. Using a back-hole to spread the wet mix over the road formation to the required cross-falls.
5. With a roller compactor, roll over the spread mix with two (2) passes – this is optional*(see note below)
6. To carry out test sampling for
 - a) FDT (minimum required compacted density is 95% MDD)
 - b) Unconfined compression strength, UCS at 1MPa < UCS.7day < 6MPa.
7. On the next working day, to lay asphalt concrete binder course for 70mm thickness, as protection cover over stabilized 500 mm thick road base below, against vehicle traffic wear and tear.
8. In-situ CBR field test to be carried out prior to the installation of the binder course.

Speaker Profile

Mr. Huang Cheong Lee (Francis) is an invited speaker at International Road Conference, REAAA, 2013. Francis is passionate about road and slope failure repairs. He is a Civil engineer graduated from the University of Saskatchewan, Canada (1982). Francis started his career in JKR, Perak (Bahagian Jalan). Francis was with Road Builders (IJM) Projects involving New Pantai Expressway – NPE, Rawang- Ipoh Double Tracking Civil Formation, Pos Betau - Ringlet, Cameron Highlands mountain road.

THE INSTITUTION OF ENGINEERS, MALAYSIA **(Sarawak Branch)**

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Programme

1.30pm – 2.00pm	Registration & Welcoming participants
2.00pm – 2.10pm	What is Polymer Modified Chemicals (PMC)?
2.10pm – 2.45pm	Why PMC?
2.45pm – 3.15pm	Method of construction
3.15pm – 3.30pm	Machinery and equipment list
3.30pm – 4.00pm	Q & A Session
4.00pm	Refreshment
	End



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 Closing Date **2nd October 2016 (Monday)**



2 CPD

(BEM Approved Hours)
 Ref.: IEM17/SWAK/383/T

Registration

Registration Fees

IEM Member	RM 30.00
Non Member	RM 50.00

- I/We understand that the fee is not refundable if I/We withdraw after my/our registration(s) is/are accepted but substitution of participant(s) will be allowed.
- Please fill directly into the open fields or complete in caps using black ink.

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