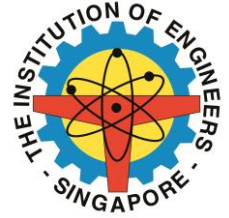


Supplementary Cementitious Materials (SCM) For Reinforced Concrete

****Supported by UTAP & SFC**



INTRODUCTION

With the rapid global infrastructure development, there is a new focus on sustainable usage of concrete. Using supplementary cementitious materials (SCM) like silica fume, pulverized fuel ash or ground granulated blast furnace slag to replace or compliment cement is one practical area to achieve sustainability which is gaining importance. Stakeholders in construction industry (Owners, Architects, Engineers, Resident Technical Officers, Site Supervisors etc) are handling more demanding and complex projects in current development projects and may involve working with SCM. This programme aims to provide information on the nature of these SCM and the resulting properties of concrete batched using such materials to participants to allow them to better execute their projects.

OBJECTIVES

At the end of this module the participants will have a better understand the nature of SCM and the key properties of concrete batched using such materials.

COURSE OUTLINE

Silica Fume

- 1.1 Nature and properties of microsilica
- 1.2 Influence on key properties of concrete
- 1.3 Influence on durability
- 1.4 Engineering properties of concrete using silica fume
- 1.5 Handling silica fume batched concrete
- 1.6 Specialized application using silica fume

Pulverized Fuel Ash (PFA)

- 2.1 Nature and properties of PFA
- 2.2 Influences on key properties of concrete
- 2.3 Influences on durability
- 2.4 Engineering properties of concrete using PFA
- 2.5 Handling PFA batched concrete
- 2.6 Specialized application using PFA

Ground Granulated Blastfurnace Slag (GGBS)

- 3.1 Nature and properties of GGBS
- 3.2 Influences on key properties of concrete
- 3.3 Influences on durability
- 3.4 Engineering properties of concrete using GGBS
- 3.5 Handling GGBS batched concrete
- 3.6 Specialized application using GGBS

DETAILS

Date : 31st Aug 2020

Time : 3:00PM – 10:00PM

Duration: 6 hours (1 day training)

Venue : IES Academy@Jurong East

80 Jurong East Street 21, #04-10 Devan Nair Institute for Employment and Employability Singapore 609607

CPD : 6 STU (Structural) / 6 PDU / 6 CEng (PDU) – All Confirmed

Fee (include GST):

IES Member: \$246.10

Non-member: \$288.90

IES Academy@Jurong East

80 Jurong East Street 21, #04-10
Devan Nair Institute for Employment and Employability
Singapore 609607

Contact Person: Lee Jing Min (Ms)

DID: 6460 4247 | Main Line: 6463 9211

E-mail: jingmin.lee@iesnet.org.sg

TRAINER'S PROFILE

Er. Teo Ee Huat graduated from Nanyang Technological University with a B.ENG (Civil) degree in 1996 and has since completed a MSc in Civil Engineering (NUS) and MSc in International Construction Management (NTU). He is actively involved in education and has completed a M.Ed with University of Western Australia in 2010. He is a Singapore registered Professional Engineer and Qualified Erosion Control Professional. He is currently serving as the Co-Chairman of Qualified Erosion Control Professional Panel, IES and has trained Professional Engineers as Qualified Erosion Control Professionals and also trained construction site supervisors in implementation, inspection and maintenance of Earth Control Measures. He has written papers in International journals on issues related to Construction Management and other issues.

Supplementary Cementitious Materials (SCM) For Reinforced Concrete (18TH Run)

****Supported by UTAP & SFC**

Date: 31st Aug 2020 (Monday)

Time: 3.00PM – 10.00PM

Venue: IES Academy@Jurong East

80 Jurong East Street 21, #04-10 Devan Nair Institute for Employment and Employability Singapore 609607

Fee (include GST): IES Member: \$246.10

Non-member: \$288.90

Please register online/email the completed form by 24/08/2020 before 3pm to:

Contact Person: Lee Jing Min (Ms)
IES Academy@Jurong East
80 Jurong East Street 21, #04-10
Devan Nair Institute for Employment and Employability
Singapore 609607
Tel: 6463 9211

Participant Details

*Name : _____ *NRIC : _____
(Please written in BLOCK Letter)

Company : _____ *Designation : _____

*Address 1 : _____
(For mailing of invoice and receipt)

*Postal Code : _____ Sex : _____ Male / Female _____

*Contact No. : _____ Fax : _____

*Your Email : _____
(For sending of confirmation email, preferable personal unless company sponsored)

Please indicate: IES members IES M'ship No.: _____ RE/RTO/P.E.No. _____ (if applicable)

Non-members Affiliated member: _____

Sponsored by company (Please indicate the Contact person detail)

Contact Person Details (if different from participant)

#Name : _____ #Designation : _____

#Contact No. : _____ Fax : _____

#Email : _____

Payment Details

Bank / Cheque No : _____ Amount (\$) : _____

~ All Fees are inclusive of 7 % GST.

~ Cheque make payable to **"Engineers Singapore Pte Ltd"**

Acceptance of Terms and Conditions for Registrations of IES Academy's Events

I agree to abide by the Terms and Conditions for Registration of IES Academy's Events.

Name : _____ Signature : _____

*Mandatory entry

#Compulsory Entry for participant who choose to be INVOICE to your company

TERMS & CONDITIONS COURSE REGISTRATION

Registration

Any registration, whether on-line or fax will be on a ***first-come-first-served basis*** and will only be confirmed upon receipt of full payment by Engineers Singapore Pte Ltd unless otherwise invoice to company.

All registrations must be submitted with duly completed registration form.

Closing Date

The closing date of the event will be 1 week prior to event commencement date or earlier. Cheques should be crossed 'A/C payee only' and made payable to 'Engineers Singapore Pte Ltd', with the Title of The Event indicated clearly written on the back of the cheques, and submitted with the duly completed registration forms to:

Attention to: Lee Jing Min (Ms.)
IES Academy@Jurong East
Devan Nair Institute for Employment and Employability,
80 Jurong East Street 21, #04-10
Singapore 609607

Confirmation of Registration

Confirmation of registration will be given at least 1 week before the commencement date via email. ***If you do not receive the said confirmation email, you are required to contact IESA at 6463 9211 during office hours.***

IESA reserves the right to allow only confirmed registrants to attend the Event.

Withdrawals/Refunds of Fees

Written notice at least 1 week in advance before the commencement of the event

Full course fee shall be refunded subjected to 4.5% transaction charge.

➤ **NO** refund otherwise.

No show of participant would not be accepted as a valid reason for withdrawal/refund.

One-time replacement is allowed only if written notice is received by us at least 1 week before the commencement of the event. However, when an IES member is replaced by a non-member, the participant has to pay the difference in the relevant fees.

Cancellation/Postponement

Changes in Venue, Dates, Time and Speakers for the Events can occur due to unforeseen circumstances. IES reserves the full rights to cancel or postpone the Event under such circumstances without prior reasons. Every effort, however, will be made to inform the participants or contact person of any cancellation or postponement.

Fees will be refunded in FULL if any Event is cancelled by IESA.

UTAP (Union Training Assistance Programme) is an individual skill upgrading account especially for NTUC members. As a member, you enjoy UTAP funding at 50% of the unfunded course fee capped at \$250 every year.

Please visit [HERE](#) for more information on UTAP claim.

SkillsFuture Credit (SFC) "All Singaporeans aged 25 and above can use their \$500 SkillsFuture Credit from the government to pay for a wide range of approved skills-related courses. Visit the SkillsFuture Credit website (www.skillsfuture.sg/credit) to choose from the courses available on the SkillsFuture Credit course directory."

Please visit [HERE](#) for more information on SFC & UTAP claim.

PERSONAL DATA PROTECTION ACT

I consent to the processing by Institution of Engineers, Singapore of personal data, including sensitive personal data as defined in the Data Protection Act 2014, about me for the proper purposes of Institution of Engineers, Singapore (IES). I undertake to observe the provisions of the Data Protection Act 2014 in relation to any personal data I may myself hold and process as a Members of Institution of Engineers, Singapore, and I agree to indemnify Institution of Engineers, Singapore from liability for any claims or damages that may arise from the processing of this data. For more information kindly refer to [here](#).

Enquiries

For further enquiries, please contact IESA general office at Tel: 6463 9211.