



GOOD REINFORCEMENT PRACTICES 1 & 2

14TH RUN

Course supported by Skillsfuture
Credit Funding and UTAP.
*Terms & Conditions apply**

Part 1 ~ Protection Systems for Reinforcement and Starter Bars on Site

Introduction

The presence of sound reinforcement in concrete structure increases their durability and mitigates future corrosion problems leading to expensive and unnecessary repairs. Proper handling and treatment of reinforcement and starter bars on site is essential to ensure that good quality reinforcements are embedded in concrete. In addition, for certain extremely corrosive environments or unusual situations, alternative protection of reinforcement may be required to prevent subsequent corrosion issues.

Course Outline

The course covers the basic principles to handling and treatment of reinforcement and starter bars on site to prevent future corrosion problems. It also shares the salient issues when considering alternative protection of reinforcement under extremely harsh environment. It is useful for the Resident Engineer (RE) and Resident Technical Officer (RTO) to have knowledge of proper handling and treatment of reinforcement on site and understand the possible issues when considering other ways to protect reinforcement against future corrosion.

Topics Discussion

- Reinforcement rusting
- Reinforcement contamination
- Alternatives to starter bars
- Good Site practices to protect reinforcement
- Assessment of problematic reinforcement
- Treatments for non-compliance reinforcement
- Alternative protection systems
- Galvanizing and other coating systems
- Choice of protection systems

Objective

At the end of the module the participants will have a better understanding on how to handle and assess fit for use reinforcement on site. They will know alternative protection mechanisms for reinforcements and the pertinent issues on using these alternative protective methods.

Programme Details

Date	: 13 Jun 2018, Wednesday
Duration	: 6 hours
Time	: 3.00pm to 10.00pm
Venue	: IES Academy@Jurong East
CPD	
Programme	: 6 STU(Structural), 6 PDU (To confirm)
Course Fees	: \$246.10 (IES Members) \$288.90 (Non Members)

- Certificate of Attendance will be issued to participants with 100% Attendance
- Fees inclusive course materials, Halal refreshment & 7% GST

Part 2 ~ Introduction to Eurocode and Implication for Reinforcement Detailing

Introduction

The Building Industry is migrating from British Standards towards the Eurocodes. The framework for using Eurocodes in conjunction with various National Annexes and Singapore Standards needs greater awareness and there are differences to the detailing of reinforcement when using Eurocodes.

It is pertinent for Resident Engineers and Resident Technical Officers to know the framework for how Eurocodes are used and also reinforcement detailing requirements for concrete structures.

Topics Discussed

- Eurocodes and SS EN
- Detailing techniques
- Reinforcement requirements
- Cover to reinforcement
- Cutting and bending tolerances
- Anchorage and lap lengths
- Mechanical coupling systems & welding
- Bar Scheduling

Objective

At the end of the module, participants will have a better understanding on the framework for using Eurocodes for concrete structures. They will learn about the technical information and requirements related to reinforcement and reinforcement detailing.

At the end of course, the Resident Engineer (RE) and Resident Technical Office (RTO) will have a better understanding on how to handle and assess fit for use reinforcement on site. They will know alternative protection mechanisms for reinforcements and the pertinent issues on using these alternative protection methods.

SPEAKER'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.

REGISTRATION FORM

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Date:	13 Jun 2018, Wednesday
Time:	3.00pm to 10.00pm (6 hours)
CPD Programme:	6 STU (Structural), 6 PDU (To confirm)
Price:	\$246.10 (Member) / \$288.90 (Non-member)
Course Venue: (To confirm)	IES Academy@Jurong East 80 Jurong East Street 21 #04-10 Devan Nair Institute (e2i) Singapore 609607
Course Coordinator:	Carmen Beh Email: carmen.beh@iesnet.org.sg DID: 6460 4248
Register by:	12 February 2018 or till class is full (whichever comes first)

Participant's Details:

Name (as per NRIC):		Nric/Fin No:	
Company:		Designation:	
Address:			
		Postal Code:	
Mobile:		Office:	
		Fax:	
Email:			
Please indicate:	<input type="checkbox"/> IES Member No:	<input type="checkbox"/> Non Member	
	<input type="checkbox"/> RTO/RE/PE No:	<input type="checkbox"/> Company Sponsored	<input type="checkbox"/> Special Meal – Vegetarian *No egg, garlic & onion

Contact Person (if different from above)

Name:		Designation:	
Contact Number:		Fax:	
Email:			
Address: (For mailing of invoice)			

Payment Details

Cash/Nets/Cheque:		Amount:	
<p>➤ Cheque make payable to : ENGINEERS SINGAPORE PTE LTD</p> <p>➤ Course fee includes course materials, Halal Refreshments & 7% GST</p> <p>➤ Written notice via email to course coordinator is required for Withdrawal/Cancellation of course, 7 working days prior to course date</p> <p>➤ Certificate of Attendance is issue to participant with 100% attendance</p>			

Acceptance of Terms & Conditions for Registration of IES Academy Courses / Events

I have read, deemed understood and agree to abide to Terms & Conditions for Registration of IES Academy courses / events.

Name: _____	Signature: _____
Date: _____	

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 & Payment

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:

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 skills 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.

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.