Reinforced Concrete For Hot Climate Regions Course

Venue Information

Venue: London UK

Place:

Start Date: 2025-07-14

End Date: 2025-07-18

Course Details

Net Fee: £4750.00

Duration: 1 Week

Category ID: CACETC

Course Code: CACETC-43

Syllabus

Course Syllabus

Course Description

Concrete is used throughout the world for a wide range of applications. In order to improve the properties of concrete, recent advances in material science introduce new materials or admixtures to be added to or replace conventional concrete materials. Such materials could be used in new concrete construction and/or in repairing new or existing structures. These materials could cause more harm than benefit or at least be ineffective if not properly used. This five-day course will introduce newly developed concrete materials as well as the repair materials utilized in most repair works in concrete structures either for those needed during construction or for rehabilitation of existing structures. The course will also cover test methods and technical specifications for such materials as well as troubleshooting for their most common problems. At the end of this course, participants will know the necessary information about the different advanced concrete materials, what tests should be performed and how to interpret their results, what to look for in specifications and troubleshooting of material related problems. In addition to that, the different methods of design and structure system for high rise building will be

Assist participants to effectively consult the technical specifications of these materials. Provide them with troubleshooting methods for material-related problems

Course Outline

- Introduction and Overview Structure system for high rise building Methods of design by ACI, BS, EC Conventional Concrete Materials Limitations and Problems High Strength Concrete and High Performance Concrete Special Constituent materials and Admixtures Specifics of Gulf Environment Definition of hot weather for concreting processes Precautions for different concreting operations in the hot weather of Gulf region Corrosion phenomena Galvanized and epoxy coated bars Fiber Reinforced Plastic (FRP) reinforcement for concrete Cathodic protection system
- High Strength Concrete: General
- Durability Improvement
- Structural Improvement
- Slag (GGBS)
- Fly Ash
- Silica
- Batching and Mixing High Strength Concrete
- Placing and Compacting High Strength Concrete
- Finishing and Curing High Strength Concrete
- High Performance Concrete Standard Test Methods for Non-Conventional Concretes and Reinforcement
- Standard test methods for fresh and Hardened Special concretes Standard specifications for epoxy coated bars Standard specifications for steel wires and strands for pre-stressed concrete Standard test methods for properties of FRP rods
- Latex Modified Concrete: Introduction & Materials Standard Specifications and Guides for Materials
- Latex Modified Concrete: Production
- Mix Proportioning
- Mixing and Placing
- Finishing and Curing
- Required properties in repair materials Types of repair materials Repair methods and technique
- Sample technical specifications for repair works Advanced Concrete Materials: Problems and Solutions Dosage and Over Dosage Workability
- Repair of concrete by using steel hot rolled section Repair of concrete by using carbon fiber, CFRP Advanced method for building maintenance Maintenance plan based inspection Building risk assessment