



Arabian Institute For Training

Concrete Quality Control on Hot Climate

INTRODUCTION

- In this Concrete Quality Control on Hot Climate training course, the focus is on using the statistics as a tool to control all the activities of the construction projects, especially the concrete product. The quality control of the concrete is illustrated in scope of the different codes and specifications. This training seminar will deliver a state-of-art methodology to control the concrete quality, introduces ways to control the specification recommendations in detail, and all the new modern the techniques and methodology used in concrete industry to enhance the concrete quality.
- Structural engineers are encountering many problems due to the hot climate and the other environmental conditions. Quality control in construction of the reinforced concrete structure is a complete function which involves management, statistics and engineering.
- The case studies of this training seminar will be for oil and gas projects, as most projects are time-driven and need to be of high-quality to maintain the sustainable facilities along the production-filled life. In a hot climate, it needs more precaution in the concrete industry and on the construction of the building to match with the requirement of the weather. All the examples presented in this training course are real case studies of oil and gas projects.

This training seminar will feature:

- Different Codes and Standards for Quality Control
 - Quality Control Test (Video Presentation)
 - Effects of Quality in Project Sustainability and Structure durability
 - Main Skills and Required Knowledge for QC On-Site
 - QC Procedure and Precaution for Concrete in a Hot Climate
 - Effect of Good QC on Structure Lifetime
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OBJECTIVES

By the end of this training course, participants will:

- Be familiar with all quality management techniques and procedures
- Learn available non-destructive testing for concrete structure projects
- Understand the practical tools to control the concrete and the whole project that includes field-testing and the required laboratory facilities
- Be familiar with various techniques for evaluating the structures under construction
- Learn modern field measurements such as concrete strength
- Be familiar with all quality control techniques in hot climate

TRAINING METHODOLOGY

- This Concrete Quality Control on Hot Climate training seminar will utilize a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative. Videos and photos will be used for illustration.

ORGANISATIONAL IMPACT

- Improve the organization quality behavior in general
- Reduce maintenance cost by enhancing quality control for new projects
- Improve quality by knowing Up to date technology of quality and its practically in real project
- Improve the organization investment by have a durable structure along its life time

PERSONAL IMPACT

- Enhance the design capability of the trainee
- Increase knowledge of up to date of execution phase
- Increase the skill for maintenance approach
- Increase the skill to enhance quality of all phases of the oil and gas projects

WHO SHOULD ATTEND?

This training course is suitable to a wide range of professionals but will greatly benefit:

- Structural and Civil Engineers
 - Construction Engineers
 - Project Managers
 - Construction Managers
 - Quality Assurance and Quality Control Professionals
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Course Outline

Concept of TQM

- Total Quality Management System
- Quality Assurance
- Quality Control
- Who will perform the Quality Control?
- Quality Management constraint in Oil and Gas Projects
- Pareto Chart
- How to Control the Concrete from Ready Mix Plant?
- How to Control Concrete Casting Onsite?
- Coefficient of Variation
- Auditing the Construction Site Quality
- Precaution in Design Mix in Hot Climate

QC for Materials

- Codes Recommendation for the Quality Control
- Codes and Specifications Limitations as ACI and BS
- Comparison between Different Non-destructive Testing
- Construction Ways in Hot Climate
- The Nature of Concrete Variability
- Concrete Materials Properties
- Aggregate QC
- Cement QC
- Concrete Mix QC

QC for Fresh Concrete

- Basic Statistics
 - Collecting a Data for Evaluations
 - Statistics for the Quality Control Data
 - Evaluating the Grade of the Quality
 - Concrete Design Mix
 - Precaution in Design Mix in Hot Climate for Remote Area
 - QC for Fresh Concrete
 - Quality Control for Concrete Forum
 - Pouring Concrete in Hot Climate
 - Workability Test for Concreted
 - Cube and Cylinder Test
 - The Replacement of the Steel Bars
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QC to Maintain Concrete Durability

- The Best Ways of Construction
- Curing Methods
- Wooden and Steel formwork
- Steel Reinforcing QC
- Maintain Concrete Cover
- Procedure of QC Onsite
- Corrosion Phenomena Affect Quality
- Different Corrosion Protection System

Non Destructive Testing for Concrete

- Comparison between Different Non-destructive Test
 - Core Test
 - Rebound Hammer
 - Look Test
 - Load Test for Floor Deck under Machine
 - Ultrasonic Test
 - Concrete Cover Measurement
 - Case Study for Foundation in Gas Plant
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