



**Asia Masters Center**

# **Design And Maintenance Concrete Structure In Petrochemical Plants.**



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## Design And Maintenance Concrete Structure In Petrochemical Plants.

### ➡ Course Objective

- This course enables delegates already familiar with what concrete is, to develop skills in effective specification, production and end users of concrete.
- The course covers basics as well as advanced concepts up-to-date technology.
- The course will illustrate up to date modern technique to repair the reinforced concrete structure without shut down the plant.
- The advanced inspection methods for fresh and hardened concrete will be discussed and how to implement maintenance plan for all the concrete structure.
- The integrity management system procedure will be illustrated taking into consideration the major factors in design, construction and repair to maintain the concrete structure economically in all its lifetime.

### ➡ Target Audience

- Construction supervisors
- Civil engineers
- Inspectors



## Course Outline

### Day 1

- Introduction
- Loads that affect the structures
- Loads that affect the pipe rack, tanks
- Dead load and live load
- Wind load and seismic load
- Pipes loads on piperack
- Different between ACI and BS in design
- Pipeline support s design

### Day 2

- Principal of design foundation under machine
- Concrete tanks in Gas processing
- Design of foundation under (separator, KOD, static equipment)
- Concrete production and quality assurance
- Concrete properties
- Portland concrete, slag and fly ash properties
- Properties of admixtures and concrete mixes
- Principles of concrete mix design
- Inspection, sampling and compliance testing
- Corrosion problem onsite

### Day 3

- Protection of steel bars from corrosion
- Advanced technique to protect the steel bars
- CP system for steel protection
- Advanced method of steel protection
- Design the CP system

- Ways of inspection the concrete structures
- Diagnosis the problems in concrete structures
- Reasons of fails and cracks of concrete structure in process plant
- Case studies from petrochemical plants
- Case studies from general industries

#### **Day 4**

- Inspection and quality control of concrete
- Sampling and testing concrete on site
- Methods of test the corrosion
- Measuring the corrosion propagation
- Concrete structure evaluation
- Ways of repair the concrete structure
- Effective supervision of repairs
- Selection of materials cements, aggregates, additions and reinforcement
- Concrete mixes and specifications in repair.
- Methods of repair slabs, beams, columns and foundations
- Best ways of using epoxy in repair
- Case study for repair ring beam for tanks
- Case study for repair foundation

#### **Day 5**

- New modern method for repair
- Repair by using a steel sections
- CFRP for repair
- Principal of CFRP design
- Integrity management system

### ➤ **The Feature Of Asia Master Training And Development Center**

- we pick up the customer from the airport to the hotel.
- we give the participant training bag includes all the necessary tools for the course.
- Working within groups to achieve the best results.
- All our courses are confirmed and we do not postpone or cancel the courses regardless of the number of participants in the course.
- We can assist you in booking hotels at discounted prices if you wish to book through us.
- We offer the certificate from Asia Masters Center for Training and Administrative Development.

### ➔ **The Cost Of The Training Program Includes The Following:**

- 1) Scientific article on flash memory.
- 2) Training Room.
- 3) Training.
- 4) Coffee break.
- 5) The training bag includes all the tools for the course.

**Price (USD)**

**Communicate with the training department  
to know the participation fees**

➤ **There are offers and discounts for groups**

**The details of the bank account**

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