



**Asia Masters Center**

## **Design, Inspection, And Maintenance Concrete Structure In Petrochemical Plants**



**Asia Masters Centre (AMC), Suite 2 B, level 6, Office Block, Grand Millennium Hotel, Bukit Bintang Street,  
55100 Kuala Lumpur, Malaysia. | Tel: +60327326992 | Mobile: +601 8909 0379 | Fax: +60327326992  
Website: <http://www.asiamasters.org/> | Email: [info@asia-masters.com](mailto:info@asia-masters.com)**



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## Design, Inspection, And Maintenance Concrete Structure In Petrochemical Plants

### ➔ Course Objective

- The participants will be provided with detailed course material and will be familiarized with various features on concrete construction in petroleum projects.
- The engineer will be familiar with any problem and its solution in the concrete structure in the petrochemical industry and its causes of failure.

### ➔ 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.



## Asia Masters Center

### 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

**Bank name: CIMB Bank Berhad**

**Account name: Asia Masters Center SDN. BHD**

**Bank account number: 80-0733590-5**

**Swift code: CIBBMYKL**

**IBAN: Null**