



KILN OPERATION AND TROUBLESHOOTING



COURSE OVERVIEW

This training course provides comprehensive introduction about all phases of the cement industry. The focus of this course is to present a thorough understanding of cement industry operations from the process side and the reasons for the rapid expansion and evolution of the industry. It includes overviews of the major equipment specific to the cement industry and the required raw material to produce cement, the chemistry of cement. Additionally, safety, security and environmental issues related to the cement industry.

DATES, VENUES AND FEES



06 – 10 July 2025 - Dubai
(5 Days)

Fees

US\$ 4500

Note: Fee is per participant + 5% VAT (if applicable).
Groups from the same company can enjoy a **discounted** price.

WHO SHOULD ATTEND?

This workshop is applicable to:

- Cement production engineers
- Cement project engineers
- Cement supervisors and technicians

CONTACT US NOW

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ACCREDITATION



This training course is certified by CPD.

The CPD Certification Service is the leading independent CPD accreditation institution operating across industry sectors to complement the Continuing Professional Development policies of professional institutes and academic bodies. The CPD Certification Service provides support, advice, and recognised independent CPD accreditation compatible with global CPD principles. CPD is the term used to describe the learning activities professionals engage in to develop and enhance their abilities and keep skills and knowledge up to date. CPD Units are only awarded to programmes after each programme is scrutinised to ensure integrity and quality according to CPD standards and benchmarks.

COURSE CERTIFICATE

MSTC certificate will be issued to all attendees completing a minimum of 80% of the total tuition hours of the course.

CPD internationally recognized certificate will be issued for all participants who will meet the course requirements. CPD certificates will be issued within a month of the successful completion of the course.

TRAINING METHODOLOGY

- Expert tutor input using PowerPoint presentation slides.
- Delegate discussion and involvement.
- Case studies and best practice examples.
- Supportive comprehensive course manual enabling practical application and reinforcement.
- Workshop topics and handouts, PowerPoint presentation for each session.
- The course delivers interactive learning ways with 80% practical and workshops and 20 % theoretical background.

LEARNING OBJECTIVES

Upon the successful completion of this workshop, participants will be able to:

- Understand cement chemistry, process and quality at the factory level.
- Understand clinker quality and kiln operations that have arisen during manufacturing cement

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COURSE OUTLINE

DAY 1

Pre test

Module 1: Factors affecting the efficiency and productivity of cement kiln operations

Combination and combinability – combination of the raw materials into the clinker minerals:

- Thermodynamics
- Calcination of CaCO_3
- Zur Strassen theories
- Raw material mineralogical effects
- Intermediate combination products
- Inhibitors
- Fluxes and mineralizers Cyclic phenomena:
- Mechanism
- Hot mineral interactions
- Internal and external cycles

DAY 2

Module 2: Chemistry of Blending

- Defining variability
- Variability time base
- Why reduce variability
- What impact can it have on the process

DAY 3

Module 3: Kilns

- Types of Kilns
- Kilns Control
- Refractory

DAY 4

Module 4: Kilns

- Phase Equilibrium
- $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3$ ternary system
- Deviation from Bogue mineralogy
- Crystal forms & polymorphs
- Combustion & reduction

DAY 5

Module 5: Factors affecting safety and emissions to the environment

- Dust
- CO and THC's
- Acid Gases
- Heavy Metals
- Dioxins & Furans
- Heavy Metals

Post test

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