



Delayed Coker and Coke Calcination - Basic

Course Introduction:

The delayed coker process is a vital operation in petroleum refining, converting heavy residues into lighter, more valuable products while generating petroleum coke as a byproduct. Understanding the principles behind delayed coking and the subsequent calcination of coke is essential for refining professionals aiming to optimize production processes and improve product quality. This 5-day theoretical training course, "Delayed Coker and Coke Calcination - Basic," is designed to equip participants with a foundational understanding of these processes, their operational parameters, and the impact of coke quality on downstream applications.

Throughout the course, participants will explore key topics such as the chemistry of coking, reactor design, and the properties of petroleum coke. By examining industry standards, operational challenges, and best practices, attendees will gain insights into effective management of delayed coker units and coke calcination processes. This course aims to enhance participants' knowledge and skills, enabling them to contribute effectively to refining operations and improve the overall efficiency of petroleum processing.

Course Objectives:

By the end of the program, participants will be able to:

- Understand the fundamental concepts of delayed coking and coke calcination.
- Learn about the chemical reactions and processes involved in coking.
- Explore the design and operation of delayed coker units.
- Analyze the properties and applications of petroleum coke.
- Familiarize participants with best practices for optimizing coker and calcination operations.

Who Should Attend?

This course is intended for Refinery engineers and operators, Process engineers and technicians in petroleum refining, Quality assurance and control personnel and Project managers in the oil and gas sector.

Course Outline:

Day 1: Introduction to Delayed Coking

- Overview of petroleum refining and the role of delayed coking
- Key objectives and benefits of the delayed coker process
- Types of feedstocks suitable for delayed coking

Day 2: Chemistry of Delayed Coking

- Understanding the chemical reactions involved in delayed coking
- The significance of thermal cracking and carbonization
- Kinetics and thermodynamics of the coking process

Day 3: Design and Operation of Delayed Coker Units

- Overview of the main components of a delayed coker unit
- Reactor design principles and operational parameters
- Challenges and solutions in coker operations

Day 4: Properties and Applications of Petroleum Coke

- Characteristics and types of petroleum coke
- Applications of coke in various industries, including metallurgy
- Impact of coke quality on downstream processes

Day 5: Coke Calcination Process

- Introduction to the calcination of petroleum coke
- Overview of calcination equipment and operational practices
- Best practices for optimizing coke calcination and ensuring product quality

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work

Course Fees:

To be advice as per course location. This rate includes participant's manual, Hands-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

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International Centre For Training & Development

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session