XCELERATE TRAINING INSTITUTE
your learning & development partner

MECHANICAL ENGINEERING

Fired Process Heater Operator Training Course

DURATION	LANGUAGE	FORMAT
5 days	English	Classroom / Online

Upcoming dates

Dates	Venue	Format	Fee
26 – 30 Apr 2027	Live online	Online (live)	€1,200
3 – 7 May 2027	Berlin	Classroom	€4,800
4 – 8 Oct 2027	Live online	Online (live)	€1,200

Register or ask a question

Online: staging.x8ti.com/course/fired-process-heater-operator-training-course/

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Fired Process Heater Operator Training Course

Introduction

Introduction

Fired process heaters are essential tools in petroleum refineries and plants, chemical plants, and other industrial facilities. Also known as process heaters, they are significantly used in refineries and petrochemical plants because they heat and vaporize the hydrocarbon fluids to create valuable byproducts like diesel, gasoline, and jet fuel. They are a major consumer of energy in such locations, and their correct function is essential for the safety, production capacity, and profitability of the premises.

What does Xcelerate Training Institute “Certified Fired Process Heater Operator Course” involve? This training program will provide you with detailed insight into the design parameters and limitations of thermal/hydraulic fired process heaters. It will include topics like furnace design, process factors, field appraisal of fired heaters, troubleshooting common heater problems, burner operation, instrumentation, inspection and turnaround items, emissions, and new heater designs.

What is a heat certification?

Additionally, the design, operation, and troubleshooting of shell and tube heat ex-changers, plate heat ex-changers, and air-cooled heat ex-changers will also be discussed in detail. This completes the certification course.

This Xcelerate Training Institute course will provide you with the knowledge and applied skills required to enhance the undertaking, profitability, and safety of a plant’s fired heaters.

Learning Objectives

- Explain how fired heaters function and the role that each part plays
- Describe key operating parameters and standard protocols to follow
- Appraise the performance of heat transfer equipment and identify any gaps
- Recognize the best practice operation procedures of heat ex-changers and implement them in different environments
- Detect the problems of heat ex-changers and discuss the feasibility of the recommended solutions in various circumstances
- Classify safe operation procedures for fired heaters and discuss how they can be implemented
- Distinguish and list the applicable codes and guidelines for fired heaters and plan to benchmark them in your organization
- Recognize typical problems in the equipment or its utilization and identify possible causes and resolutions
- Discuss key inspection and turnaround items, assess potential risks and develop a risk management and business continuity plan

Training Methodology

- Lectures
- Seminars & Presentations
- Group Discussions
- Assignments
- Case Studies & Functional Exercises

Benefits for Your Organization

- Benefit from training your employees on the definition and importance of mechanical information, along with the different roles played as a Certified Fired Process Heater Operator
- Enable better specification of new and replacement of old elements of a Fired Process Heater system
- Delegates will be able to apply the gained knowledge through this course and practice skills and that will impact their respective companies
- Employees will be able to identify and maintain the applicable codes and standards for fired heaters
- Improve the reliability of your plant/premises by enhancing staff skills
- Minimize pollutant emissions by optimizing your operational processes
- Maintain better organizational safety records with the implementation of standards and guidelines

Benefits for You

- Hone your ability to move across worldwide industries like oil and gas, automobile, production, construction, aeronautics, etc.
- Secure a relevant job anywhere in the world with the right knowledge as a Certified Fired Process Heater Operator
- Get promoted in your current job in the Fired Process Heater field
- Acquire the professional skill needed to perform your job with efficiency
- Master the knowledge and techniques to see the future as a Certified Fired Process Heater Operator
- Learn how to do a good job with your machine
- Understand why it is important to do be an expert with your machine
- Understand an existing program better
- Get an opportunity to work through hands-on exercises in detail to gain the skills needed to facilitate a Fired Process Heater study
- Gain the skills to plan, manage, facilitate, and scribe for a Fired Process Heater project

Target Audience

- Process Engineers/Designers
- Mechanical Engineers/Designers
- Heat Transfer Engineers/Designers
- Supervisors and Operators
- Process Plant Shift Leaders
- Environmental and Safety Technicians
- Mechanical Technicians
- Maintenance Engineers
- Project Engineers/Managers
- Maintenance Personnel

- Machine and Technical Operators
- Individuals interested or involved in the design, specification, and retrofitting of fired heaters

Course Outline

Fundamentals of Heat Transfer and Combustion Protocols

- Introduction to Conduction, Convection, and Radiation
- Fouling and Heat Transfer
- Combustion Reactions
- Lean, Rich, and Stoichiometric Combustion
- Excess Air and Combustion Efficiency
- Premixed and Diffusion Combustion
- Techniques for NOx Control

Shell and Tube Heat Ex-changers

- Different Types of Heat Ex-changers
- Shell and Tube Heat Ex-changers: Performance
- Shell and Tube Heat Ex-changers: Operation
- Monitoring and Solving Issues in Shell and Tube Heat Ex-changers

Compact Heat Ex-changers

- Main Components of Air-Cooled Heat Ex-changers
- Operation of Air-Cooled Heat Ex-changers
- Troubleshooting of Air-Cooled Heat Ex-changers
- Types of Plate Heat Ex-changers
- Main Components of Plate Heat Ex-changers
- Compact Heat Ex-changers: Performance
- Operation of Plate Heat Ex-changers
- Troubleshooting of Plate Heat Ex-changers

Components and Their Role In The Operation of Fired Heaters

- Taxonomy of Fired Heaters
- Application of Fired Heaters
- Parts of Fired Heaters
- Control of a Fired Heater
- Operating a Fired Heater
- Responding to Abnormal Operating Conditions

Monitoring and Troubleshooting of Fired Heaters

- Aspects Affecting the Performance of Fired Heaters
- Optimizing Fired Heater Operation
- Performance Monitoring
- Draft, Coking, and Skin Temperature
- Troubleshooting of Fired Heaters

Deterioration Mechanisms

- Deterioration of Fired Heaters
- Deterioration of Boiler Tubes
- Deterioration Mechanisms of Other Components

Frequency and Timing of Inspections

- Fired Heaters Inspection Frequency
- Inspector Qualifications
- General Preparatory Work

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Registration Form

Fired Process Heater Operator Training Course

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

Call
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Email this form
info@x8ti.com

Register online
Open the course page