MERCURY

Refractory Installation and Maintenance Training Course

30 May – 3 June 2027
Dubai (UAE)



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Refractory Installation and Maintenance Training Course

Ref: 15804_328712 **Date:** 30 May – 3 June 2027 **Location:** Dubai (UAE) **Fees:** 4900 Euro

Introduction:

The Refractory Installation and Maintenance training course explores the role of refractories in high-temperature environments across industries such as metallurgy, petrochemicals, and power generation. Participants will learn about refractory materials, bricks, castables, and ceramic fibers and explore the properties that make each suitable for industrial applications. They will gain foundational knowledge in effective installation techniques and learn how to implement best maintenance practices to prolong the lifespan of refractory linings and improve equipment.

Emphasis will be placed on understanding thermal insulation, resistance to thermal shock, and wear-and-tear factors that impact refractory performance. It provides a well-rounded skillset for ensuring safe and cost-effective operations in high-heat settings. The Refractory Installation and Maintenance course equips participants with knowledge of refractory installation and maintenance processes, which are critical for ensuring the longevity and efficiency of industrial equipment.

Participants in this Refractory Installation and Maintenance training will explore refractory installation, covering installation methods and procedures, including boiler and plastic refractory installation techniques. They will gain insights into the role of a refractory installation contractor and the operational standards a refractory maintenance corporation follows. It emphasizes best practices in refractory maintenance, ensuring operational safety and reducing downtime.

Targeted Groups:

- Engineers and Technicians in High-Temperature Industries.
- Maintenance Personnel Responsible for Refractory Systems.
- Project Managers Overseeing Installation Projects.
- Quality Control Inspectors in Refractory Applications.
- Safety Officers Focused on High-Temperature Operations.
- Contractors and Fabricators Working with Refractory Materials.
- Students and Trainees in Materials Science and Engineering.
- Professionals Seeking to Upgrade Skills in Refractory Maintenance.
- Operations Managers in Manufacturing and Processing Facilities.

Course Objectives:

At the end of this Refractory Installation and Maintenance course, the participants will be able to:

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- Familiarize participants with various types of refractory materials and their applications.
- Teach effective installation techniques for different refractory systems.
- Enhance understanding of the properties and performance characteristics of refractories.
- Provide best practices for maintaining refractories in high-temperature environments.
- Develop skills for identifying and diagnosing common refractory issues.
- Promote safety protocols and compliance during installation and maintenance.
- Empower participants to conduct inspections and evaluations of refractory linings.
- Cultivate effective documentation and reporting practices for refractory maintenance activities.
- Equip participants with troubleshooting strategies for refractory failures.

Targeted Competencies:

By the end of this Refractory Installation and Maintenance training, the participant's competencies will:

- Understanding Types of Refractory Materials.
- Mastering Installation Techniques for Refractories.
- Conducting Inspections and Assessments of Refractory Linings.
- Implementing Maintenance Best Practices.
- Identifying and Troubleshooting Common Refractory Failures.
- Ensuring Safety Compliance in High-Temperature Environments.
- Evaluating Thermal Performance and Insulation Properties.
- Applying Quality Control Measures in Refractory Installation.
- Documenting and Reporting on Refractory Condition and Maintenance Activities.

Course Content:

Unit 1: Introduction to Refractories:

- Define refractories and their significance in high-temperature applications.
- Discuss the role of refractories in industries such as metallurgy, petrochemicals, and power generation.
- Explore various refractory materials, including bricks, castables, and ceramic fibers.
- Examine the physical and chemical properties that make refractories suitable for specific applications.
- Review industry standards and specifications for refractory materials.

Unit 2: Installation Processes for Refractories:

- Outline the steps involved in preparing for refractory installation.
- Explain surface preparation techniques for optimal adhesion.
- Discuss the application methods for different types of refractory materials.
- Review the curing and drying processes for installed refractories.
- Highlight the importance of quality control during the installation process.

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Unit 3: Maintenance Best Practices:

- Identify the factors that influence the longevity of refractory linings.
- Discuss scheduled maintenance routines for refractory systems.
- Provide strategies for monitoring and assessing refractory conditions.
- Explain the significance of regular inspections and evaluations.
- Explore techniques for repairing and replacing damaged refractories.

Unit 4: Troubleshooting and Common Issues:

- Outline common failures in refractory systems, such as spalling and cracking.
- Discuss the causes and effects of refractory failures.
- Provide troubleshooting strategies for identifying issues early.
- Explain the role of thermal shock and mechanical stress in refractory degradation.
- Share case studies of refractory failures and successful remediation.

Unit 5: Safety and Compliance in Refractory Operations:

- Emphasize the importance of safety protocols in high-temperature environments.
- Review personal protective equipment PPE requirements during installation and maintenance.
- Discuss the regulatory standards governing refractory operations.
- Guide hazard identification and risk assessment.
- Explore emergency response procedures for refractory-related incidents.