



*Training Course:  
Piping Systems: Failures, Failure Prevention and  
Repairs*

*23 May - 3 June 2027  
Sharm El-Sheikh (Egypt)  
Sheraton Sharm Hotel*

## Training Course: Piping Systems: Failures, Failure Prevention and Repairs

Training Course code: EN6039 From: 23 May - 3 June 2027 Venue: Sharm El-Sheikh (Egypt) - Sheraton Sharm Hotel  
Training Course Fees: 7820 € Euro

### Introduction

Piping systems are critical to industrial operations, transporting fluids safely and efficiently across facilities such as oil & gas plants, refineries, and power stations. Failures in piping systems can lead to severe safety hazards, environmental damage, and costly downtime.

This program, designed by Global Horizon Training Center, provides a comprehensive 10-day training that equips participants with the knowledge and practical skills required to identify failure mechanisms, implement prevention strategies, and perform effective repair and maintenance of piping systems.

### Course Objectives

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

- Understand common failure mechanisms in piping systems
- Identify causes of corrosion, erosion, fatigue, and mechanical failure
- Apply failure analysis and root cause investigation techniques
- Implement failure prevention and integrity management strategies
- Select appropriate repair and rehabilitation methods
- Apply relevant standards ASME, API
- Improve system reliability and safety
- Develop maintenance and inspection plans

### Target Audience

This program is designed for:

- Mechanical and Piping Engineers
- Inspection and Integrity Engineers
- Maintenance and Reliability Engineers
- Oil & Gas and Industrial Professionals
- Quality Control and NDT Personnel
- Technical staff involved in piping systems

### Outline

#### Day 1: Fundamentals of Piping Systems

- Overview of piping systems and applications
- Components pipes, fittings, valves, supports
- Materials and specifications
- Codes and standards ASME B31, API
- Safety considerations

#### Day 2: Failure Mechanisms in Piping Systems

- Types of failures corrosion, erosion, fatigue, creep
- Mechanical and thermal failures
- Stress-related failures
- Environmental factors
- Case examples

#### Day 3: Corrosion and Material Degradation

- Corrosion types and causes
- Erosion-corrosion and cavitation
- Microbiologically influenced corrosion MIC
- Material selection and protection
- Corrosion control techniques

#### Day 4: Stress, Fatigue, and Thermal Effects

- Stress analysis basics
- Thermal expansion and flexibility
- Fatigue failure mechanisms
- Vibration and dynamic loading
- Design considerations

#### Day 5: Inspection and Monitoring Techniques

- Inspection methods visual, NDT
- Ultrasonic, radiographic, and other techniques
- Corrosion monitoring systems
- Data collection and interpretation
- Risk-based inspection RBI

#### Day 6: Failure Analysis and Root Cause Investigation

- Failure analysis methodologies
- Root cause analysis RCA
- Failure reporting and documentation
- Case studies
- Preventive recommendations

#### Day 7: Repair and Rehabilitation Methods

- Welding repairs and procedures
- Mechanical repair techniques clamps, sleeves

- Composite repair systems
- Leak sealing methods
- Repair standards and guidelines

#### Day 8: Integrity Management and Prevention Strategies

- Asset integrity management systems
- Preventive maintenance strategies
- Corrosion prevention programs
- Risk assessment and mitigation
- Compliance with standards

#### Day 9: Troubleshooting and Performance Optimization

- Diagnosing piping system issues
- Performance monitoring and improvement
- Energy efficiency considerations
- Reliability enhancement
- Best practices

#### Day 10: Case Studies and Best Practices

- Real-world failure cases
- Lessons learned
- Industry best practices
- Continuous improvement strategies
- Final assessment and review

## Registration form on the Training Course: Piping Systems: Failures, Failure Prevention and Repairs

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

### Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....  
Position: .....  
Telephone / Mobile: .....  
Personal E-Mail: .....  
Official E-Mail: .....

### Company Information

Company Name: .....  
Address: .....  
City / Country: .....

### Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....  
Position: .....  
Telephone / Mobile: .....  
Personal E-Mail: .....  
Official E-Mail: .....

### Payment Method

- ☐ Please find enclosed a cheque made payable to Global Horizon
- ☐ Please invoice me
- ☐ Please invoice my company

### Easy Ways To Register

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place.

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