



المركز العالمي للتدريب والتطوير
International Centre For Training & Development



Pipe and Equipment Foundations Design



International Association
for Health and Occupational Safety
and the Environment



Course Introduction:

This course provides a comprehensive overview of the design principles and practices related to pipe and equipment foundations. Participants will learn about the unique challenges of foundation design in various industrial applications, including material selection, load analysis, and site considerations.

Course Objectives:

Upon the successful completion of this course, each participant will be able to:-

- Understand the fundamentals of pipe and equipment foundation design.
- Familiarize with soil mechanics and its impact on foundation stability.
- Gain skills in load analysis and design methodologies.
- Learn about material selection and construction techniques.
- Develop an awareness of best practices in foundation design and maintenance.

Who Should Attend?

- Civil and structural engineers
- Geotechnical engineers
- Project managers and planners
- Maintenance and operations personnel
- Anyone involved in the design and construction of industrial foundations

Course Outline:

Day 1: Introduction to Foundation Design

- **Morning Session**
 - Overview of pipe and equipment foundations: definitions and types
 - Importance of foundation design in industrial applications
- **Afternoon Session**
 - Key principles of foundation design: loads, settlement, and stability
 - Introduction to relevant codes and standards

Day 2: Soil Mechanics and Site Investigation

- **Morning Session**

- Fundamentals of soil mechanics: soil properties and behavior
- Techniques for site investigation: soil sampling and testing methods
- **Afternoon Session**
 - Analyzing site data for foundation design
 - Case studies on site investigation and its impact on design

Day 3: Load Analysis and Design Methodologies

- **Morning Session**
 - Understanding different loads acting on foundations (dead, live, seismic, wind)
 - Methods for calculating load combinations and factors
- **Afternoon Session**
 - Hands-on workshop: Performing load analysis for a foundation design
 - Peer review of analysis results and design considerations

Day 4: Material Selection and Construction Techniques

- **Morning Session**
 - Criteria for selecting materials for foundations (concrete, steel, etc.)
 - Overview of construction techniques for pipe and equipment foundations
- **Afternoon Session**
 - Group activity: Developing a material selection plan for a specific project
 - Discussion on challenges and solutions in foundation construction

Day 5: Maintenance and Best Practices

- **Morning Session**
 - Importance of maintenance and inspection for foundation longevity
 - Common issues and failures in pipe and equipment foundations
- **Afternoon Session**
 - Group presentations of foundation design projects and evaluations
 - Feedback session and discussion on best practices and future trends
 - Conclusion and distribution of certificates of completion

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
- Discussion
- Presentation

Course Certificate:

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

Course Fees:

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

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