



Confined Space Entry/Attendant/Rescue Course Outline



Prerequisites: This course shall have no formal pre-requisite.

Course Length: 8 hours – Course length shall vary depending on the number of delegates. Total course time includes breaks and meals.

Class Size: The maximum number of delegates that may be trained and tested per instructor shall be thirty-five (35) in the classroom session and twenty (20) in the practical session. A second instructor shall be added for the practical session once the participation exceeds twenty (20) and exercises will be divided into groups.

Course Objective

- Provide delegates assigned to confined space duties the necessary skills to safely perform their jobs.
- Identify the characteristics of a confined space.
- Describe the basic hazard categories associated with confined space.
- Determine the elements of a confined space program.
- Identify and describe the primary roles of authorized entrants, attendants, supervisor, and designated rescue team/services.
- Rescue team requirements
- Personal Protective Equipment
- Ability to properly use rescue equipment.
- Ability to use retrieval systems.
- Ability to perform a rescue.
- Delegates should be able to demonstrate the necessary skills during practical examination and demonstrate knowledge during written examination.

Course Design

- Power Point© / Lecture / Audio Video / Visual Aids
- Demonstrations
- Practical Exercises

Successful Course Completion

- Requires a minimum score of 75% or better.
- Delegates will have no more than thirty (30) minutes to complete the exam.
- Grades shall be calculated by dividing the number of questions answered correctly by the total number of exam questions.
- Successful completion of practical session is mandatory.



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Course Content Summary:

- Classroom
- Practical Exercises

Breaks: 10 minutes (approximately every hour)

Lunch – 1 Hour

Course Outline

About Confined Spaces

- Why Confined Space Training?
- OSHA/NIOSH Statistics
- What is a Confined Space?
- What is a Permit-Required Confined Space?
- Common Examples of a Confined Space

Responsibilities of Personnel

- Competent Persons
 - Entrant
 - Attendant
 - Rescue
 - Entry Supervisor
- Roles and Responsibilities of Personnel

Fall Protection Review

- Anchorage Points
- Fall Arrest Lanyards
- Body Harness
- Harness and Lanyard Inspection
- Harness Donning Demonstration

Confined Space Entry

- Entry Communication and Coordination
- Entry Requirements
- Entry Permit Requirements
 - Employer Responsibilities
 - Permit Requirements
- Hazard Communication
- Hazard Evaluation
- Pre-Job Safety Planning
- Permits



Confined Space Entry/Attendant/Rescue Course Outline



- OSHA Requirements
 - Implementation
 - Duration
 - Revoking Permits
 - Changing Work Conditions
- What Constitutes Entry?

Confined Space Hazards

- Atmospheric
- Physical

Atmospheric Hazards

- Breathing Air Composition
- Oxygen Levels
 - Asphyxiation
- Effects of Oxygen Deficiency
- What Causes Oxygen Deficient Atmosphere?
- What Causes Oxygen Enriched Atmosphere?
- Other Hazards
- Toxic Contaminants
- How much is Hazardous?
 - Permissible Exposure Limit (PEL)
 - Threshold Limit Value (TLV)
 - Time Weighted Average (TWA)
 - Short Term Exposure Limit (STEL)
 - Exposure Ceiling
- Common Hazardous Gases Found in Confined Spaces
- Acute/Chronic Symptoms
- Flammability
 - Explosions
 - Explosion Mixture
 - Flash Point
 - Upper Explosive Limit (UEL)
 - Lower Explosive Limit (LEL)
- LEL Requirements (OSHA)
- UEL/LEL Examples
- Causes of Flammable Atmospheres
- Fire Ignition
- Safety Data Sheets (SDS)
 - Components of SDS
 - Sections of SDS

Atmospheric Hazard Protection

- Control Measures
 - Engineering Controls
 - Administrative Controls
 - Personal Protective Equipment (PPE)
- Types of Respirators
 - Air Purifying Respirator (APR)
 - Supplied Air Respirator (SAR)
 - Atmospheric Supplied
 - Self-Contained Breathing Apparatus (SCBA)
 - Cascade Systems
 - Escape Packs
 - SCBA Inspection
- Respirator Fit Testing
 - Quantitative
 - Qualitative
- Respirator Usage
- Respirator Inspection
- Respirator Maintenance
- Respirator Donning/Doffing
- Respirator Storage
- Air Monitors
 - Requirements and Use
 - Personal Detectors
 - User Responsibility
- Air Sampling in a Confined Space
 - Stratification
 - Gas detector Demonstration

Physical Hazards

- Common Physical Hazards
 - Engulfment
 - Entrapment/Entanglement
 - Potential Energy
 - Electrical
 - Pressure
 - Momentum/Gravity
 - Residual/Stored
- Energy Isolation
- Clearing the Confined Space
- Protective Measures for Each Hazard



Confined Space Entry/Attendant/Rescue Course Outline



Worker Introduced Hazards

- Common Examples
- External Hazards

Confined Space Safety

- Ventilation
- Types of Ventilation
 - Natural
 - Mechanical Supply
 - Mechanical Exhausting
- Ventilation Factors
 - Ventilation System Demo
- Supply Ventilation Directions
- Exhaust Ventilation Directions
- Proper Ventilation Techniques

Confined Space Rescue

About Rescue

- Rescue and Emergency Services
 - Regulatory Requirements for Rescue
 - Employer Responsibilities
 - Rescue Personnel Requirements
- Outside Rescue Team Requirements
- Danger of Rescue

Personal Protective Equipment (PPE)

- Hazard Recognition
 - Safety Data Sheet (SDS)
 - Emergency Response Guidebook (ERG)
 - Entry Hazard Assessment
- Common Types of PPE
 - Eye and Face Protection
 - Respiratory Protection
 - Chemical Clothing
 - Head Protection
 - Hand Protection
 - Hearing Protection
 - Foot Protection

Confined Space Rescue

- Types of Rescues



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- Self-Rescue
- External Rescue
- Rescue Pole/Remote Hooks
- Rescue Tripod
- Block & Tackle
- Self-Retracting Lanyards
- Personnel Hoists
- Retrieval Line Attachment Points
- Stretcher/Immobilization Equipment
 - SKEDs
- Figure-8 Knot
- Communication

Practical Session

Practical training shall utilize a confined space simulator and other safety equipment.

Practical shall verify the following:

- Properly select and wear appropriate PPE during practical training
- Conduct proper pre-use inspection of PPE and equipment
- Effectively communicate amongst Entrant, Attendant, & Rescue Team
- Effectively monitor and control air quality
- Ability to safely perform work in a confined space environment
- Properly secure life lines
- Use Tri-Pod/Winch and other rescue equipment
- The ability to safely perform a rescue
- Ability to properly store equipment and PPE

Training Center Provided Material

- PPE
- Confined Space Equipment

Delegate Requirements

- Must possess good physical health as the practical training is physical demanding.

Reference Material / Documents

OSHA 29 CFR 1910.146

OSHA 29 CFR 1910.134