

Permit-Required Confined Spaces

DC37 Safety and Health Fact Sheet

A confined space has limited means of entry and exit and is not designed for continuous occupancy. These spaces are not intended as employee workspaces but employees may have to fully enter to perform various job tasks. Examples of confined spaces include, but are not limited to, tanks, vessels, silos, storage bins, hoppers, vaults, pits, manholes, tunnels, equipment housings, ductwork, pipelines, etc. Employers must identify the potential hazards and corrective measures.

Permit-Required Confined Space (PRCS)

"A **permit-required confined space**" (permit space) has one or more of the following characteristics:

- It contains or has the potential to contain a hazardous atmosphere;
- It contains material that has the potential to engulf an entrant;
- It has walls that converge inward or floors that slope downward and taper into a smaller area which could trap or asphyxiate an entrant;
- It contains any other recognized safety or health hazard, such as unguarded machinery, exposed live wires, or heat stress.

Inform employees of the locations and dangers of PRCS.

Post danger signs:

**DANGER -- PERMIT-REQUIRED
CONFINED SPACE, DO NOT ENTER**

Permit-Required Confined Space Program must include:

- Permit system
- Prohibited Conditions
- Rescue Service
- Retrieval System
- Testing

Employees

- Do not enter permit-required confined spaces without being trained and without having a permit to enter.
- Review, understand and follow employer's procedures before entering permit-required confined spaces and know how and when to exit.
- Before entry, identify any physical hazards.
- Before and during entry, test and monitor for oxygen content, flammability, toxicity or explosive hazards as necessary.
- Use employer's fall protection, rescue, air monitoring, ventilation, lighting and communication equipment according to entry procedures.
- Maintain contact at all times with a trained attendant either visually, via phone, or by radio. This monitoring system enables the attendant and entry supervisor to order you to evacuate and to alert appropriately trained rescue personnel to rescue entrants when needed.

Additional Training

- Before the employee is first assigned duties
- Before there is a change in assigned duties
- When there is a change in permit space operations.
- When there is an inadequacy of employee's knowledge

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Employers

1. Identify potential hazards in confined spaces and implement corrective measures
2. Using direct reading instruments conduct pre-entry Atmospheric Testing, atmospheric monitoring prior to entry, during entry (oxygen, combustible gases, toxic vapors)
3. Provide personal protective equipment (respirators, gloves, harness, hard hats), in addition, to other necessary equipment (personal monitors, radios) for safe entry.
4. Identify and assign at least one attendant who is stationed outside of the confined space and able to communicate with the authorized entrant in case of an emergency.
The attendant may not perform other duties that takes away their attention from the main duties.
Clearly outline rescue procedures: how to call emergency rescue services and equipment.
5. Review and revise permit required confined space written program, procedures and list of permit required confined spaces.
6. Provide employees with training identifying relevant hazards, exposures, entry procedures, rescue procedures and correct use of Personal Protective Equipment, air monitoring equipment and communication devices.

Confined Space Entry Permit

Confined Space Entry Permit must be completed prior to entry with the following:

1. Atmospheric Checks
 - Time
 - Oxygen % 19.5%
 - Lower Explosive Levels
 - Toxic
 2. Ventilation Modification
 - Mechanical or
 - Natural
 3. Atmospheric check after
 4. Communication procedures
 5. Rescue Procedures
 6. Entrant, standby, backup person
 7. Equipment
- Use Class I, Division I, Group D and Non-sparking tools**
8. Periodic Atmospheric Testing

Employees who enter the PRCS shall have an opportunity to observe the pre-entry testing.

Non-entry rescue, retrieval systems or methods must be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.

Do not enter a permit required confined space before the atmosphere is tested.

Continuously check air-monitoring results.

In an emergency, Do not enter a permit required confined space. Use a mechanical retrieval option for rescue if possible.