



## Trainer | Confined Spaces

Working in closed unventilated areas can be very dangerous. It is important to recognize what dangers exist and take precautions. Confined space safety and health procedures need to be followed to safely enter a confined space whether or not the confined space qualifies as a permit-required confined space (PRCS).

**According to Cal/OSHA a confined space is a space that has all three of the following characteristics:**

- Is large enough and configured such that an employee can bodily enter and perform work,
- Has limited openings for entry and exit, and
- Is not designed for continuous employee occupancy.

**A permit-required confined space fits the definition of a confined space and has one or more of the following characteristics:**

- Contains or has a potential to contain a hazardous atmosphere
- Contains a material that has a potential for engulfing the entrant
- Contains inwardly converging walls or a floor that slopes downward and tapers to a smaller cross-section where an entrant could be trapped or asphyxiated, or
- Contains any other recognized serious safety or health hazard, such as electrical and mechanical.

**Before confined space work proceeds, the employer is responsible for developing an entry permit program. A qualified representative of the employer should prepare a written permit that identifies:**

- Location of the confined space
- Work to be performed
- Permit time, date and duration of space entry
- Names of qualified entrants, attendants and confined space supervisor
- Hazards of the space (what chemicals are used or stored in the space or what contaminants/oxygen deficiency could be generated from the intended work practices, mechanical exposures, electrical exposure, etc.)

- Measures for controlling hazards before entry; such as ventilation, locking out electrical sources, blanking and bleeding hydraulic lines, disconnecting belt or chain drives and securing mechanical moving parts
- Conditions to be met before entry (acceptable entry conditions)
- Test results before entry and periodically while working in the space with names of testers and time tests were taken
- Rescue and emergency procedures listing equipment and names of trained rescuers
- Communication procedures and equipment used by confined space workers attendants, supervisor and emergency crew
- Equipment to be used
- Procedures for additional safety
- List of other permits that may be needed such as a Hot Work Permit

Initial testing of the confined space atmosphere must be performed from outside the space before entry is permitted. Determine if air contaminant exposure limits are exceeded. Oxygen concentration must be between 19.5% and 23.5% per volume. Flammable or explosive gas concentrations must be below 10% of the lower flammability limit (LFL). Combustible dust cannot limit vision at a distance of five feet or less, and toxic substances cannot exceed permissible Exposure Limits (PEL) or be Immediately Dangerous to Life and Health (IDLH). Equipment must be available that tests for such hazards as oxygen deficiency, flammability, and toxics.

Testing should be done by a qualified person(s) familiar with the instruments and testing procedures. The testing equipment needs to be operated and maintained according to manufacture instructions. This may include annual professional recalibration and before use battery check, zeroing and bump testing.

When re-entering a confined space a new permit may be needed. An area which was safe a few hours ago may not be safe due to possible changing conditions. A tank or vault that, one day is safe may not be safe the next day.

## Cal/OSHA

### Sample Permits:

<http://www.dir.ca.gov/Title8/5157d1.html>

<http://www.dir.ca.gov/Title8/5157d2.html>

### Confined Space: Is it Safe to Enter:

[http://www.dir.ca.gov/dosh/dosh\\_publications/ConfSpa.pdf](http://www.dir.ca.gov/dosh/dosh_publications/ConfSpa.pdf)

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Safety tips developed based on generally accepted safety standards believed to be reliable at the date of publication. Information is for general guidance only and should not be relied upon for legal compliance purposes.

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