



Confined Space Entry-An Overview

Overview of Topic

Most construction work is done in well-ventilated areas. Under normal circumstances, even trenches are not considered confined or enclosed spaces. There is enough natural ventilation. But a trench, as well as other enclosed areas at construction sites, can be deadly. Such areas are subject to the accumulation of toxic or flammable contaminants or can develop an oxygen deficiency. To ensure employee safety in confined spaces you must:

- (1) Be aware of areas where hazardous atmospheres exist or could reasonably be expected to exist (hazard recognition).
- (2) Comply with any specific regulations that apply to work in dangerous or potentially dangerous areas.

A confined space in the construction industry, as defined by OSHA, is any space having a limited means of getting out, and which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere. Confined or enclosed spaces include, but are not limited to, such spaces as storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than four feet deep such as pits, tubs, vaults, and vessels.

Hazardous atmospheres

Some construction rules use the term "hazardous atmospheres" to describe confined space situations. All tanks must be tested and, if necessary, ventilated, before employees are allowed to enter them.

In the excavation rule (1926.651), it says that where oxygen deficient atmospheres (containing less than 19.5 percent oxygen) or hazardous atmospheres exists or could reasonably be expected to exist, such as excavations in landfill or other areas where hazardous substances are stored nearby, the atmospheres in the excavation must be tested before employees enter excavations greater than four feet deep.

Requirements for construction work

A comprehensive requirement for confined spaces, such as is required by the general industry rules (Permit-required confined space entry), does not exist in the construction regulations. However, if you combine all of the individual requirements in the construction regulations, you see that a somewhat comprehensive set of rules exists. It is easier, and to White Electrical advantage, to combine all the pieces into one plan that fits all situations.

That plan should include:

- (A) Training and instruction as indicated on the confined space permit
- (B) Testing
- (C) Attendants
- (D) Ventilation
- (E) Respiratory protection
- (F) Emergency procedures

Employee Training

The construction OSHA rules at §1926.21(b)(6)(i) call for specific training for those employees required to enter into confined or enclosed spaces. Employees must be instructed as to the:

- (1) nature of the hazards involved,
- (2) the necessary precautions to be taken, and
- (3) the use of required protective and emergency equipment.

Training Tips

Training for confined space entry should be geared toward your involvement or likelihood of involvement with confined spaces and hazardous atmospheres. The training could range from how to use space heating devices and carbon monoxide buildup, to full blown entry/exit preparation and execution, air monitoring, respirator use, and rescue.

The old cliché "it is better to be safe than sorry," was made for confined spaces. Yet workers continue to make the mistake of entering deadly spaces without proper preparation. It is pretty much a given that you can go to your local library any day of the week and find a newspaper reporting on the latest victim of a confined space accident.

What is a confined or enclosed space?

The construction definition of a confined or enclosed space is any space having a limited means of getting out, and which can gather toxic or flammable gases, vapors, or has oxygen-deficient air. Examples of confined or enclosed spaces include storage tanks, process vessels, bins, boilers, ventilation and exhaust ducts, sewers, underground utility vaults, excavations, manholes, tunnels, pipelines, and open top spaces more than four feet in depth, such as pits, tubs, vaults, and vessels.

Confined or enclosed space hazards

What makes a confined or enclosed space hazardous? Many situations and hazards can cause a confined space to become deadly. Materials being used such as cleaning or bonding liquids, work being done such as welding, or the effects of the environment can cause dangerous vapors, gases, and mists to accumulate in these spaces. The result can be fires, explosions, and physical hazards.

Entering confined spaces

If you are required to enter and work in a confined or enclosed space you must first receive instructions on what you might encounter. White Electrical field leader will train you on:

- (1) What kinds of hazards you might encounter and why those hazards are dangerous*
- (2) The necessary precautions to take for each type of hazard.*
- (3) The use of any protective and/or emergency equipment and instruments required.*

Often, the confined space you are entering will not appear to be hazardous. It may have been entered on the last shift with no problems, and may not give signs of being dangerous. At other times there may be indications of danger, the distinct odor of toxic atmospheres, arcing of electrical equipment, or the presence of loose material.



You should always follow your company's confined space program and use protective equipment made available to you. If you follow the safety rules carefully, you will be able to work safely even in confined spaces.

