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OSHA Update: 2015 Confined Spaces Ruling

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Confined Spaces General Industry and Construction

Objectives:

- What increased protections are now required for construction workers,
- The rules' expanded definition of 'life threatening hazards,'
- How the construction industry requirements compare to those of general industry, and
- Best practices for compliance (Construction General Industry Standards and ANSI Z 117.1).



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Confined Spaces Construction-1926-12xx Overview

1926.1200 [Reserved]

1926.1201 Scope.

1926.1203 General requirements.

1926.1204 Permit-required confined space program.

1926.1205 Permitting process.

1926.1206 Entry permit.

1926.1207 Training.

1926.1208 Duties of authorized entrants.

1926.1209 Duties of attendants.

1926.1210 Duties of entry supervisors.

1926.1211 Rescue and emergency services.

1926.1212 Employee participation.

1926.1213 Provision of documents to Secretary.



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Confined Spaces Construction-1926-12xx Overview

1926.1201 Scope of Coverage

(a) Practices and procedures to protect employees engaged in construction activities at a worksite with confined spaces.

(b) Exceptions.

(1) Subpart P (Excavations)

(2) Subpart S (Caissons, Cofferdams & Comp. Air)

(3) Subpart Y (Diving)



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Confined Spaces General Industry - 1910.146 Overview

1910.146 Scope of Coverage

(a) Practices and procedures to protect employees in general industry from hazards of entry into permit-required confined spaces.

Exceptions -

- (1) Agriculture Part 1928
- (2) Construction work regulated by Part 1926
- (3) Shipyard employment Part 1915

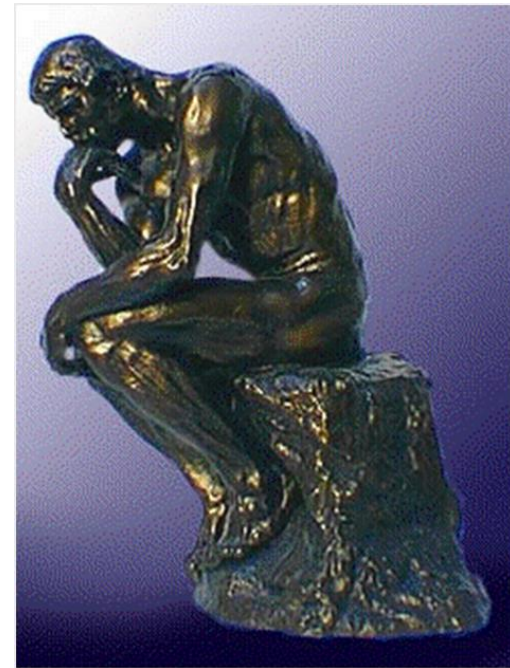


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Confined Spaces in Construction

1926.1202 Definitions

Competent person ...is capable of identifying hazards and working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to eliminate them.



[This definition is not in 1910.146(b) section].



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Confined Spaces in Construction

1926.1202 Definitions

Confined space means a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work it;**
- (2) Has limited or restricted means for entry **or** “and” exit; and**
- (3) Is not designed for continuous employee occupancy.**



Confined Spaces in Construction

1926.1202 Definitions

Control refers to the engineering methods used to reduce the hazard within acceptable limits like ventilation.

Personal Protective Equipment is NOT a control.

Controlling Contractor has the overall responsibility for construction at the worksite.



[These definitions are not in the general industry 1910.146(b) section or in the ANSI Z117.1 consensus standard].



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Confined Spaces in Construction

1926.1202 Definitions

Early-warning system means the method used to alert authorized entrants & attendants of an engulfment hazard. Examples of early-warning systems include...

Lookout person stationed upstream

[This definition is not in the general industry 1910.146(b) section]



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Confined Spaces in Construction

1926.1202 Definitions

Emergency means any occurrence (including any failure of power, hazard control, or monitoring equipment) or event, internal or external, to the permit space that could endanger entrants.



[This definition is not in the general industry 1910.146(b) section]



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Confined Spaces in Construction

1926.1202 Definitions

Entry means **any part of a person** passes into a PRCS... any part of the entrants body ...**whether or not such action is intentional or any work activities are actually performed in the space.**

Highlighted sections are different than the general industry 1910.146(b) definition and have been added in this construction standard]



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Confined Spaces in Construction

1926.1202 Definitions

Entry Employer decides that an employee it directs will enter a permit space.

Note to the definition of “Entry Employer”. An employer cannot avoid the duties by not making a decision... OSHA decision to allow employees to enter those spaces if they are in the proximity of the space.

This definition is not in the general industry 1910.146(b) section]



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Confined Spaces in Construction

1926.1202 Definitions

Entry permit (permit) is the written document the employer has designated to allow and control entry ... contains information specified in 1926.1206(a) through 1926.1206(o).

[Highlighted sections are different than 1910.146(b)].



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Confined Spaces in Construction

Construction Permit-Required Confined Space Entry Permit

DANGER: Permit-required confined spaces may contain hazards such as atmosphere which are toxic, oxygen deficient or explosive, hazardous configurations, hazardous energy sources, heat, noise, drowning, etc. Proper procedures must be complied with or serious injury or death may occur. This form must be completed and approved by the designated confined space entry supervisor before entry is begun. This form must be posted at the job site while valid. Expired permits will be maintained in the safety manual.

Confined space to be entered: _____	Entrance(s): _____	IN OLT	IN OLT	IN OLT
Purpose/Reason for entry: _____	Amendments(s): _____	IN OLT	IN OLT	IN OLT
Begin time/date: _____				

End time/date (see shift max.) _____ Entry Supervisor: _____

- Hazards Controls:**
- 1. Energy Isolation:** Any pneumatic, conveyor, auger, which feeds material into the space and disconnected or otherwise positively controlled. If feasible, the space should be purged before entry. = Completed = Not Applicable
 - 2. Lockout/Tagout:** Any hazardous moving part, unguarded electrical parts, etc. within the space must be locked/tagged out before entry. = Completed = Not Applicable
 - 3. Barriers:** If necessary, barriers or other guards must be installed to prevent foreign objects from falling into the space and entering in contact. Traffic barriers may be required to protect against other vehicular traffic. = Completed = Not Applicable
 - 4. Communication:** If voice communication between entrants and attendant is infeasible, alternative means are required. Radios, etc. must be explosion-proof if an explosive atmosphere is possible. = Completed = Not Applicable
 - 5. Ventilation:** Before entry, all areas of the space must be mechanically ventilated. Ventilation must be provided continuously during the entry and be explosion-proof if an explosive atmosphere is possible. = Completed = Not Applicable
 - 6. Lifting:** All entrants must wear a fully body harness and lifeline, secured to a fixed point outside the space. If necessary to descend the floor or penetrate the space, mechanical retrieval means must be provided. = Completed = Not Applicable
 - 7. Ignition Sources:** All spark ignition sources, such as welding, grinding, smoking, internal combustion engines, etc. are removed and prohibited from any area within 10 feet of the space. = Completed = Not Applicable

- 8. Special Requirements for this Space:**
- | | | | |
|--------------------|------------------|---|------------------|
| Safety glasses | = Req. T = Comp. | Hot Work Permit | = Req. T = Comp. |
| Face shield | = Req. T = Comp. | Explosion-proof lighting/electrical eqpt. | = Req. T = Comp. |
| Gloves | = Req. T = Comp. | Non-sparking tools | = Req. T = Comp. |
| Respirator | = Req. T = Comp. | Lighting (non-sparking/proof) | = Req. T = Comp. |
| Hearing protection | = Req. T = Comp. | Portable emergency oxygen/shelter | = Req. T = Comp. |
| Other PPE: | = Req. T = Comp. | Ladder for sign-up access | = Req. T = Comp. |

9. Initial/Continuous Air Monitoring: Must be taken before and periodically throughout entry. Name of tester: _____

Time	Initial and ongoing Atmospheric Hazard Testing	_____	_____	_____
Oxygen	19.5%-23.5%	_____	_____	_____
LEL	Less than 10%	_____	_____	_____
CO	Less than 25 ppm	_____	_____	_____
H2S	Less than 10 ppm	_____	_____	_____

ALL PERMITS ARE VOID IF: The permit is automatically voided and the space must be immediately evacuated if an emergency (such as injury, illness, failure of equipment, a prohibited condition, etc.) arises. If necessary, provide emergency rescue (NEVER ENTER A PERMIT-REQUIRED CONFINED SPACE FOR RESCUE PURPOSES). If necessary, contact the fire department by dialing 9-1-1. Emergency Services: _____
 Did an emergency (as defined above) occur during this entry? = YES = NO Inside:

Sample permit form



Confined Spaces in Construction

1926.1202 Definitions

Entry rescue occurs when a rescue service enters a permit space to rescue one or more employees.

[This is a new definition, 1910.146(b) has not defined Entry rescue but has defined Rescue Service].



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Confined Spaces in Construction

1926.1202 Definitions

Hazardous atmosphere is an atmosphere that may cause death, incapacitation, impairment of ability to self rescue, or acute illness from one or more of the following causes: (1), (2), (3), (4), (5) (see next slide)

The definition in 1910.146(b) is the same except (4)
Subpart D is substituted for G & (5) Haz Com std
1926.59 is substituted for 1910.1200.



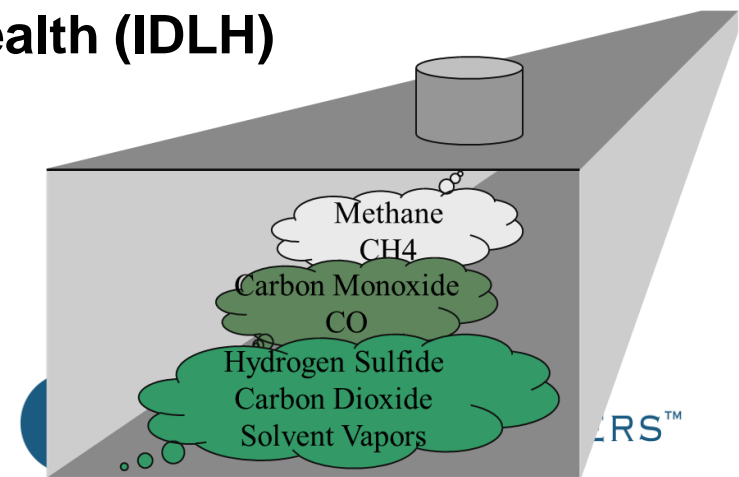
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Confined Spaces in Construction

1926.1202 Definitions

Hazardous atmosphere means ...from one or more of the following causes:

- (1) Flammable gas, vapor or mist above 10% of its LFL**
- (2) Combustible dust in air at a concentration...above its LFL**
- (3) Oxygen concentration <19.5 % or > 23.5%**
- (4) Concentration of any PEL in **Subpart D** that...**
- (5) Any other atmospheric condition that is immediately dangerous to life or health (IDLH)**



Confined Spaces in Construction

1926.1202 Definitions

Limited or restricted means for entry or exit means a condition that has a potential to impede ... into or out of a confined space. Such conditions may include: trip hazards, poor lighting, slippery floors, inclining surfaces & ladders.

[This is not defined in 1910.146(b)]



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Confined Spaces in Construction

1926.1202 Definitions

Lockout means the placement of a lockout device on ... an ... isolating device ensuring...the equipment...cannot be operated until the lockout device is removed.

[This definition is not in the 1910.146(b)]



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Polling Question

Flammable/explosive atmospheres

What would happen if you walked into a room full of pure Propane gas, and attempted to light a match?

- a) Instant heat of the sun
- b) Early retirement, death or serious injury
- c) Nothing
- d) Both a and b



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Polling Question

Flammable/explosive atmospheres

C. Nothing

If the room's atmosphere is "pure Propane", then there is no Oxygen, and therefore, a fire could not exist...in fact, the match wouldn't even light.



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Confined Spaces in Construction

1926.1202 Definitions

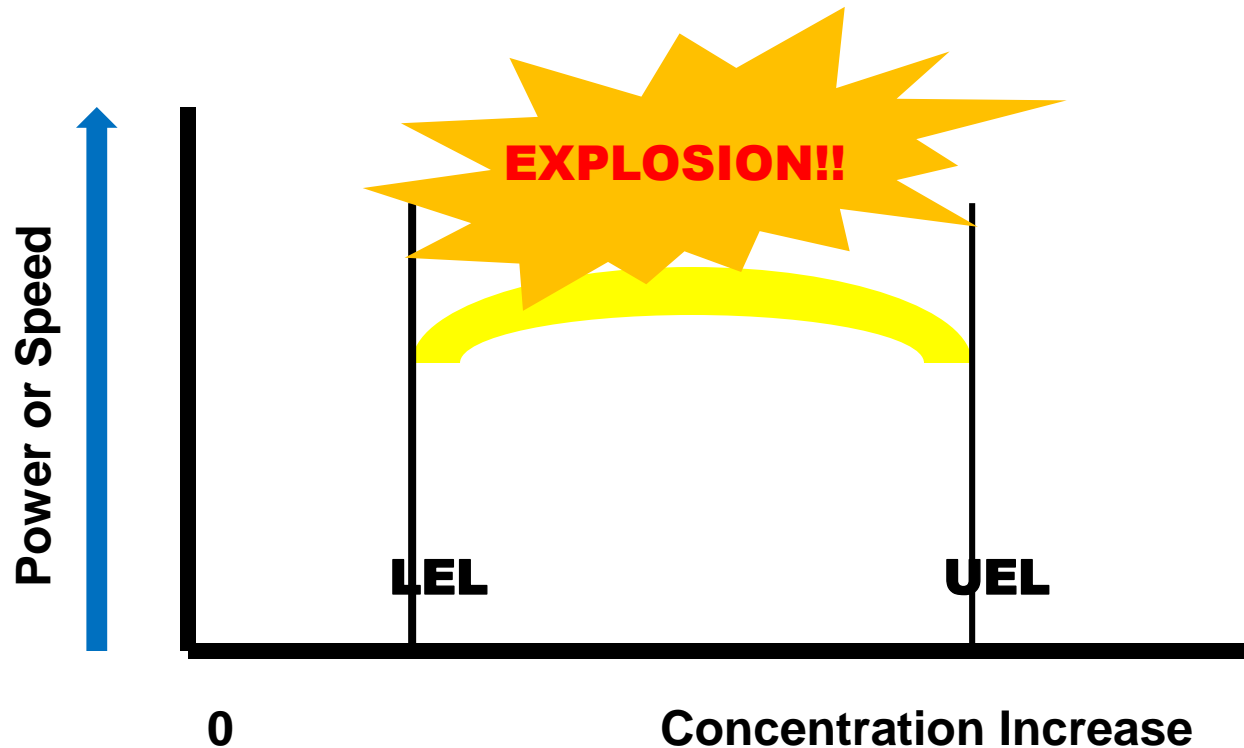
Lower flammable limit or lower explosive limit means the minimum concentration of a substance in air needed for an ignition source to cause a flame or explosion.

[This definition is not in 1910.146(b)]



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Confined Spaces in Construction



Confined Spaces in Construction

1926.1202 Definitions

Monitor or monitoring means the process used to identify and evaluate the hazards after an authorized entrant enters the space. This is a process of checking for changes ...after the completion of the initial testing or evaluation of the space.



[This definition is not in 1910.146(b) general industry Permit-required confined space standard]

Confined Spaces in Construction

1926.1202 Definitions

Permit-required confined space (permit space) is a confined space that has one or more of the following:

- (1) Contains or has the potential for a hazardous atm
- (2) Contains materials that may ... engulf an entrant
- (3) Internal configuration that an entrant could be trapped or asphyxiated by inwardly converging walls.....or
- (4) Contains any other serious safety or health hazard

[Same definition as 1910.146 general industry standard]



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Confined Spaces in Construction

1926.1202 Definitions

Permit space in general industry 1910.146 means a confined space that has one or more of the following characteristics:

- (1) Contains or has the potential for a hazardous atmos.
- (2) Contains materials that may ... engulf an entrant
- (3) Internal configuration that an entrant could be trapped or asphyxiated by inwardly converging walls.....or
- (4) Contains any other serious safety or health hazard

[This is the exact same definition in the construction 1926.1202 for permit space].

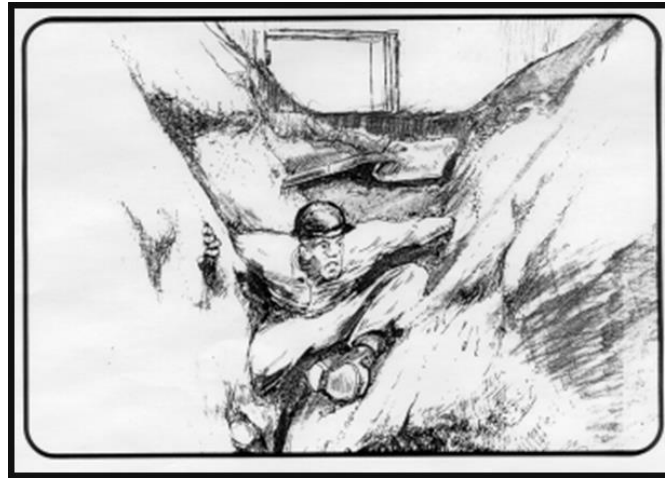
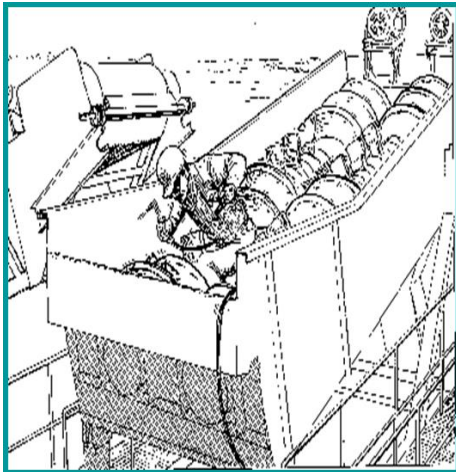


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Confined Spaces in Construction

1926.1202 Definitions

Physical hazard means ... hazards that can cause death or serious physical damage. Such as: explosives, mechanical, electrical, hydraulic & pneumatic; radiation; temp. extremes; engulfment; noise; & inwardly converging surfaces. This also includes chemicals that can cause death ...other than through inhalation).



Confined Spaces in Construction

1926.1202 Definitions

Prohibited condition means any condition in a permit space that is not allowed by the permit during the period when entry is authorized. **A hazardous atmosphere is a prohibited condition unless the employer can demonstrate that personal protective equipment (PPE) will provide effective protection for each employee in the permit space and provides the appropriate PPE to each employee.**

[This first sentence of the definition is in 1910.146(b) Permit-required confined space, **the second sentence is new to confined spaces in construction**]

Confined Spaces in Construction

1926.1202 Definitions

Qualified person means one who, **knows their stuff** (*recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability*) and are able to make the correct decision to control the hazards and ensure the entry is done safely.

[This definition is not in 1910.146(b)]



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Confined Spaces in Construction

1926.1202 Definitions

Serious physical damage means an impairment or illness in which a body part is made functionally useless ... Such impairment or illness may be permanent or temporary and includes loss of consciousness...Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional.

[This definition is not in 1910.146(b)]



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Polling Question

Before entering a confined space that may have atmospheric hazards we may want to test the space to be entered.

This is typically performed by:

- a) Placing a canary in the confined space
- b) Informing the entrant that they should be aware of an “almond” smell or the sense of having to relieve their bladder
- c) A single element testing monitor lowered into the space
- d) A multi-gas meter, lowering a sampling tube into the space



Polling Question

Before entering a confined space that may have atmospheric hazards we may want to test the space to be entered. This needs to be performed by:

A multi-gas meter, lowering a sampling tube into the space.

Confined Spaces in Construction

1926.1202 Definitions

Test or testing means the process by which the hazards ...are identified and evaluated. Testing includes specifying the tests ...performed in the permit space.

[This definition “**is** “ in 1910.146(b)]



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Confined Spaces in Construction

1926.1203 General Requirements

- (a) Competent person identifies confined and permit spaces
- (b) Inform exposed employees
- (c) Prevention methods
- (d) Written program
- (e) Alternate procedures
- (f) Competent person reevaluates non-permit spaces
- (g) Competent person reclassifies
- (h) communication/coordination



Atmospheric Testing

Test or testing means the process by which the hazards ...are identified and evaluated. Testing includes specifying the tests ...performed in the permit space.



Confined Spaces in Construction

1926.1203 New Requirements Specified

Employers who allow workers to enter a permit space without using a complete permit system, follow Alternate Entry Procedures in 1926.1203(e) such as LOTO.

Requiring continuous monitoring of engulfment hazards such as a sewer, post a monitor upstream from the work or provide an electronic sensor giving warning to entrants of the engulfment danger and need to exit space

Alternate Entry Certificate
Space _____ 1926.1203(e)
I certify that all the non- atmospheric hazards have been eliminated and the atmospheric hazards are being controlled by forced air ventilation.
Date: _____ Time: _____
Supervisor's # _____
Signature _____



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Atmospheric Testing

Construction

Addresses testing the atmosphere prior to entry under alternate entry procedures in paragraph 1203(e)(iii) with a calibrated direct-reading instrument for oxygen content, for flammables gases and vapors, and for potential toxic air contaminants, in that order

General Industry

This alternate entry procedure is the exact same language in 1910.146(c)(5)(ii) except: 1203(e)(vi) specifies that continuous monitoring must be done unless the employer can demonstrate that equipment is not commercially available or periodic monitoring is OK



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Atmospheric Testing

Construction

1204(e)1-6 addresses testing the atmosphere prior to entry for oxygen, then for combustible (not flammable) gases and vapors, and for toxic gases and vapors

General Industry

1910.146(d)(5)(ii) specifies to test or monitor as necessary unless the space is part of a continuous system that cannot be isolated like a sewer, then continuous monitoring shall be done

Neither 1926.1204(e) or 1910.146(d)(5) specify “with a calibrated direct-reading instrument” or discusses bump or function testing of the instrument, sensor interferences or how to conduct remote sampling....



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Construction Entry Permits and Processing

Entry permits are required in

1926.1204(j) Develop and implement a system for the preparation, issuance, use and cancellation of entry permits as required by this standard, including the safe termination of entry operations under both planned & emergency conditions. Permits are detailed in 1206.

1926.1205 Permitting process.

- (a) Develop written permit
- (b) Before entry begins the entry supervisor must sign the permit to allow entry to begin.



Construction Entry Permits and Processing cont.

1926.1205 Permitting process (Cont'd).

(c) The completed permit must be available to all prior to entry by posting it at the portal or in an equally effective place and contain the following information:

- (1) Specify acceptable entry conditions**
- (2) Test permit space and give the opportunity to observe testing**
- (3) Isolate the space**
- (4) Control atmospheric hazards by purging, inerting, flushing, or ventilating as necessary.**



1926.1206 Entry Permits for Confined Spaces in Construction

Entry permits are required to have the following information:

- (a) The permit space to be entered
- (b) The purpose of the entry
- (c) The date & authorized duration of the permit
- (d) The authorized entrants by name or roster
- (e) Means of detecting atmospheric hazard level if the ventilation system stops working
- (f) Each person, by name, serving as attendant
- (g) The name of the current entry supervisor



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1926.1206 Entry Permits (Cont'd)

- (h) The hazards of the permit space to be entered
- (i) The means to isolate, control or eliminate hazards
- (j) The acceptable entry conditions
- (k) The date, time, results & who performed tests
- (l) The rescue & emergency service & how to summon them
- (m) The communication means - entrants & attendant
- (n) Equipment needed for safe entry such as: PPE, testing and communication equipment, alarms, etc.
- (o) Any other information necessary for safe entry
- (p) Any additional permits such as hot work permits



Training of the Entry Team

Both 1926.1207 and 1910.146(g) have very similar if not identical training requirements. The employer shall provide training so that all ... acquire the understanding, knowledge, and skills necessary for the safe performance of the duties. The employer shall provide training:
To each affected employee Before the employee is first assigned duties under this section

Training of the Entry Team, continued

- Before there is a change in employee's duties
- Whenever there is a change in permit space operations
- When any new hazards are introduced or employee's knowledge is deficient
- To establish employee proficiencies
- The employer must maintain training records containing employee's name, the name of the trainers, and the dates of the training. This consultant would add topics taught.



Training of the Entry Team, continued

- Both federal standards 1910.146(g) & 1926.1207 discuss the duties of the team members such as knowledge of the hazards and in 1926, their specific job tasks in sections 1208, 1209, and 1210
- The new confined spaces in construction standard goes into greater detail requiring understanding of the hazards in the employee's language and vocabulary, also specifies unless trained and equipped not to attempt rescue.



Rescue Issues

- Section 1926.1211 addresses rescue and is very similar to general industry 1910.146(k)
- Entry team members are cautioned in 1926.1211 not to attempt a rescue unless they are trained and equipped



Rescue Issues

- 1926.1211 covers providing rescue equipment... at no cost to employees and ensure they are proficient on the equipment. This new standard is more detailed than 1910.146 by addressing such issues as training in-house rescue personnel to be proficient to respond in a timely manner dependent on the hazards of the space.
- To practice with dummies, manikins, or actual persons from permit spaces at least once every 12 months with respect to opening size, configuration and accessibility.
- An outside service must contact the employer in advance when they are not available to respond to an emergency.



OSHA Enforcement of the New Construction Standard 1926.1201-1213

OSHA's original date for enforcement of the May 4, 2015 Confined Spaces in Construction rule was 120 days later or August 3, 2015. Due to comments from the field and the necessity to provide training and secure equipment, requests were made to extend the enforcement to a later date to allow the employers to be in compliance. *(MN Adopted the rule effective date is January 4, 2016)*

OSHA listened and extended the enforcement of this new standard 60 days to October 2, 2015.

OSHA will be enforcing the new confined spaces in construction standard.



Objective Review

Objectives:

- What increased protections are now required for construction workers,
- The rules' expanded definition of 'life threatening hazards,'
- How the construction industry requirements compare to those of general industry, and
- Best practices for compliance. (Construction General Industry Standards and ANSI Z 117.1).



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Summary

**BOTTOM LINE:
ALWAYS PROTECT EMPLOYEES BY HAVING
COMPLETE, CONSISTENT CONTROL DURING
CONFINED SPACE ENTRY ACTIVITIES**



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Questions?





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Thank you for attending!