



Permit-Required Confined Spaces

Welcome to Permit-Required Confined Spaces

After completing this module, you will be able to understand and identify:

- Dangers within confined spaces that can cause injury or death.
- Ways to work safely in confined spaces.
- Actions to take if there is an emergency within a confined space.

During this module you will answer Quick Quizzes to help you review and test your understanding; these are not scored. There is also a short Final Quiz in addition to this module, which will be scored. It is necessary to pass the quiz with a score of 80% or better to receive credit for this module.



Why Are Confined Spaces Dangerous?

Dangerous conditions within confined spaces are a leading cause of death in the workplace. Most of these deaths are due to employees who underestimate the dangers or rescuers who are not prepared to enter the confined space:

- Confined spaces have poor ventilation. This creates a dangerous situation when there are hazardous gases within the space. The hazards are not always obvious when you look in a confined space. Gasses can be odorless and overlooked with fatal results.
- Confined spaces are difficult to enter or leave. This becomes a problem when you wish to exit quickly because you realize something is wrong or a rescue team is trying to enter the space in an attempt to save you.
- Examples of these confined spaces are sewers, septic tanks, exhaust ducts, storage tanks, grain bins, boilers, tunnels, pipelines, and pits.



Four Leading Causes Of Death In Confined Spaces

1. Too little oxygen in the air is the leading cause of death in confined spaces. You can be injured or killed within minutes if the oxygen content is below 6%. The normal atmosphere has an oxygen content of 20.9%. You put yourself at risk by entering an atmosphere with an oxygen content less than 19.5%.
2. Some of the signs that you are in an environment with too little oxygen are shortness of breath, impaired judgment, increased heart rate, vomiting and unconsciousness. Special equipment is needed to determine if the oxygen content level is truly safe.
3. Confined spaces with toxic elements, flammable elements or too much oxygen are just as dangerous as an environment with too little oxygen. Management will test for all of these hazards, prior to anyone entering a confined space.
4. A confined space with a sand-like substance can trap an employee in a matter of seconds. The substance can block the employee's respiratory system or crush the employee to the point of death. Once trapped in one of the situations, escape can become virtually impossible.



When Is A Permit Required?

Confined spaces require a permit to enter when:

- The confined space contains or has the potential to contain a hazardous atmosphere. This includes too little oxygen, too much oxygen, flammable gasses, flammable vapors, or toxic air contaminants.
- Engulfment is possible. Examples of substances that can cause engulfment are grain, sawdust, gravel, cement, clay and other agricultural products. The behavior of this material is unpredictable and can cause burial in a matter of seconds.
- You can become trapped within the confined space. If the floor slopes downward and tapers to a smaller cross section, you can become trapped. Once trapped your respiratory system can become blocked and you run the risk of dying from not being able to breathe.
- The space contains other serious hazards. Some examples are electrical equipment, mechanical equipment, falling objects, extremely hot or cold temperatures, wet or slick surfaces, and loud noise within the confined spaces.



An entry permit system requires management to evaluate every confined space for dangerous conditions. If a dangerous condition is identified, an entry permit must be filled out before anyone can enter. Following the rules on the entry permit will save your life.

- Once a dangerous condition is identified, a warning sign will be placed outside each confined space so that accidental entry does not occur. An example of a sign is “Danger-- Permit Required Confined Space-- Authorized Entrants Only.”
- The entry permit will describe the conditions that are required to be met before you can enter. Make sure you read the entry permit and the feel confident that the conditions have been met before you go into the confined space.
- The entry permit also lists the procedures to be followed if there is a need for an emergency rescue within a confined space. Do not wait for an emergency to know these procedures. It could mean the difference between life and death.



What Does An Entry Permit Contain?

An Entry Permit contains the following information:

Date when it is safe for you to enter - If the date on the permit has expired or there is no permit, do not enter the confined space and inform your supervisor. No one can be certain that the space is still safe after that date.

Tester's name who authorized entry - The tester's name is on the permit so that you know who to talk to if you have any questions about the safety of that particular confined space.

Names of those who can enter - Do not enter if your name is not on the permit.

Emergency Contacts - Names and phone numbers of rescue and emergency services

CONFINED SPACE ENTRY PERMIT

Attach this permit to the closed or semi-closed space not meant for continuous human occupancy which is to be entered. Safety precautions must not be changed while work authorized by this permit is in progress.

DATE & TIME OF ISSUE

EQUIPMENT I.D.

EQUIPMENT LOCATION

EXPIRATION

WORK TO BE DONE

CONFINED SPACE APPROVAL

QUALIFIED PERSON

OTHER QUALIFIED PERSON

EMPLOYEE(S) TO ENTER

SUPERVISOR

As an entrant, you are not required to read the permit before entering a confined space.

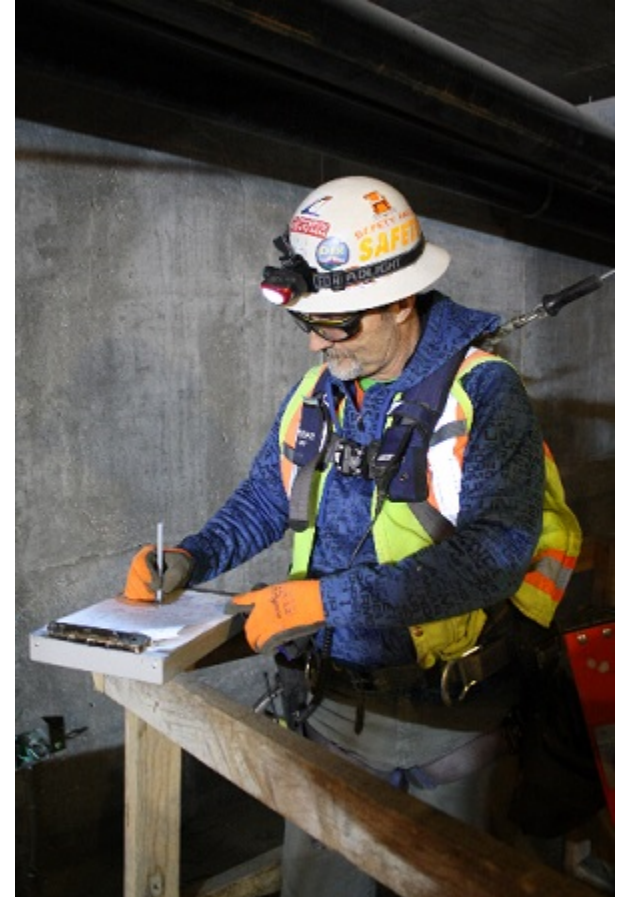
- A. True
- B. False

As an entrant, you are not required to read the permit before entering a confined space.

- A. True
- B. False**

The attendant has a huge responsibility for the safety of the entrants within the confined space. Their job is to:

- Constantly monitor the entrants to ensure that they are safe. If the entrants do become injured within the confined space, it is the attendants' responsibility to summon rescue workers to the space.
- Maintain constant communication with the entrant. Injuries within confined space can occur very quickly, so it is important that communication does not lapse, even for a few seconds. Radios and ropes are examples of equipment that can be used if the entrant and attendant can not see or hear each other.
- Act as an enforcer of the entry permit. If an employee's name is not on the entry permit, the attendant will make sure that employee does not enter the confined space. An employee who is not on the list may not have received the proper training and may put themselves at risk by entering the confined space.

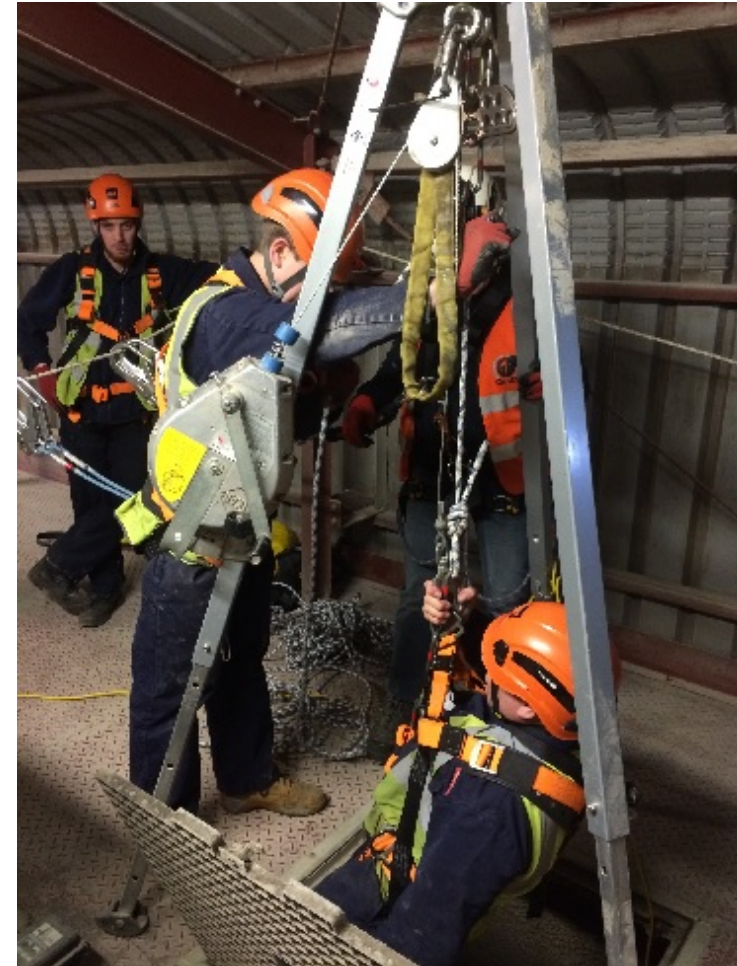


The attendant is a second set of eyes and ears for the entrant. If the attendant notices any condition within the confined space that seems dangerous, it is their responsibility to immediately order the entrants out of that confined space. Examples of dangerous conditions are:

- A broken gas line.
- Machinery within the confined space being powered up.
- New test results showing a hazardous atmosphere.

If the entrant shows any type of behavior change, order them out of the confined space immediately. Some examples are heavy breathing, loss of balance, and coughing. But any behavior that seems out of the ordinary may be a signal that the entrant has been exposed to a hazardous condition and could suffer injuries or die.

As an attendant, if you are distracted for any reason and cannot focus all of your time monitoring the safety of the entrants, order them out of the confined space until you are able to spend your time ensuring their safety.



As an entrant, you should always maintain communication with the attendant. The attendant's responsibility is to protect you from danger. If you do not maintain communication, a warning sign may be missed which could be the difference between life and death for you. If you lose communication with the attendant, exit the confined space immediately.

You will be provided with personal protective equipment to be used while in the confined space. Make sure it fits properly. It may save your life.

Report to the attendant any time you are not feeling well. Examples are dizziness, headaches or shortness of breath. Let the attendant know so they can monitor your behavior more closely for more symptoms.

Do not wait until it's too late. If the conditions look dangerous, tell the attendant that you are concerned.



As an Entrant, you have the right to:

See the entry permit before entering the confined space - Do not enter a permit-required confined space if you have not seen the entry permit. Assume that the confined space is not safe until you have written proof showing otherwise.

- **Examine all test results** - At any time, you can ask to see a copy of all test results of the atmosphere within the confined space. This will ensure that the tests were performed and that the confined space is safe to enter.
- **Request that the confined space be retested** - If you are unsure about the test results or if you feel there has been a change in the conditions, you have the right to ask for the confined space to be retested and to see those new results before entering again.
- **Exit if you don't feel safe** - If for any reason, you do not feel safe within the confined space, exit immediately. It is better to be safe than sorry.



Entrants are required to continue communication with the attendant after they have entered the confined space.

- A. True
- B. False

Entrants are required to continue communication with the attendant after they have entered the confined space.

A. True

B. False

Entrants **MUST** evacuate the confined space if:

Conditions look dangerous - Do not wait until it is too late. If you are concerned about the conditions of the confined space, exit and ask your supervisor to investigate.

You feel a behavior change - Any change in the way you feel could be a signal that something is wrong. Examples are dizziness, headaches or shortness of breath. If you do not feel right, exit and have yourself checked out.

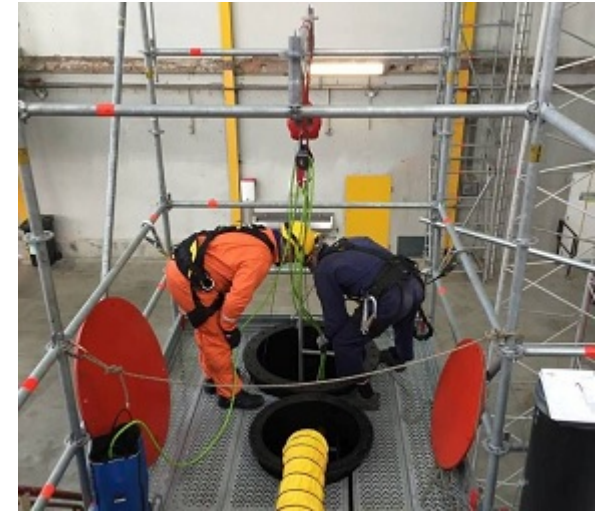
Communication is lost - Your life is at risk if you lose communication with the attendant. The attendant is there to identify changes in your behavior that you may not recognize until it is too late. Exit immediately if you lose communication with the attendant.

An evacuation alarm goes off - Leave the confined space immediately if you hear the evacuation alarm.

The attendant orders an evacuation - Do not argue with the attendant if they ask you to exit the confined space. They are there to ensure your safety and may recognize a hazard that you cannot see within the confined space.

Rescuing entrants requires **communication** and **training**:

- If the entrant inside the confined space displays any change in behavior such as heavy breathing, loss of balance, extreme coughing or is standing still for more than a few seconds, increase the amount of communication with them. If they are unable to maintain communication, begin the rescue process.
- Only trained employees can enter a confined space to help in an emergency. If you are not trained in emergency rescue procedures, do not enter the confined space. More than half of confined space deaths are from “would-be rescuers.” In some cases, unsuccessful rescuers have died while the initial entrants have lived.



You must evacuate a confined space when:

- A. You have visibility and conditions are steady.
- B. Conditions deteriorate and you feel a change in your behavior.
- C. You are able to communicate clearly with the attendant.

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- B. Conditions deteriorate and you feel a change in your behavior.**
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Risks can increase - Confined spaces are retested for changes in the level of risk. Spaces that did not originally require a permit may be found to have new risks. The safest thing to do is always look to see if an entry permit is required before entering a confined space.

Risks can decrease - Spaces that originally required a permit may be found to be safe now. The hazards may have been completely removed, eliminating the need for permits or the hazards may be temporarily eliminated using forced air ventilation.

Either way, you can request to examine the new test results and compare them to the old ones when the permit was required.



CONFINED SPACE ENTRY PERMIT

Attach this permit to the closed or semi-closed space not meant for continuous human occupancy which is to be entered. Safety precautions must not be changed while work authorized by this permit is in progress.

DATE & TIME OF ISSUE _____
EQUIPMENT I.D. _____
EQUIPMENT LOCATION _____
EXPIRATION _____
WORK TO BE DONE _____

CONFINED SPACE APPROVAL

QUALIFIED PERSON _____
OTHER QUALIFIED PERSON _____
EMPLOYEE(S) TO ENTER _____
SUPERVISOR _____

Confined space activity coordinated by our company - If other companies or contractors are working in our confined spaces, we are responsible to coordinate all activity within that space.

One primary contact is responsible - Only one person will be the primary contact and will be responsible for the entry permit. This person will make sure the entry operations are consistent with the entry permit. Do not enter the confined space if you do not know who that person is.

Contractors treated like all other employers - In certain situations, contractors will enter our confined spaces. Treat contractors as if they are another employee of this company. They should be informed of all hazards and the precautions that should be taken in the confined space.



Entry permits save lives by:

- Identifying dangerous conditions.
- Preventing accidental entry.
- Describing conditions required for safe entry.

Attendants protect entrants by:

- Maintaining communication with the entrants.
- Never allowing unauthorized employees to enter.
- Summoning rescue workers if accident occurs.

Entrants must:

- Always review the permit before entering a confined space.
- Be aware of changes in conditions and behavior.
- Keep in constant communication with the attendant.

Remember: If you are not trained in emergency rescue procedures, do not enter the confined space. More than half of confined space deaths are from “would-be rescuers.” In some cases, unsuccessful rescuers have died while the initial entrants have lived.

Thank you for completing the Permit-Required
Confined Spaces module.

[Click here](#) to access the final quiz.