



CONFINED SPACES



What is a confined space?

A confined space is a space that:

1. Is not designed for people to work in.
2. Is large enough for a worker to enter.
3. Has limited or restricted ways to get in and out.

Examples of confined spaces are:

- ▶ Crawl spaces
- ▶ Some HVAC equipment
- ▶ Manholes
- ▶ Tanks
- ▶ Pipes
- ▶ Vaults
- ▶ Vessels

Confined Spaces that contain serious health or safety hazards such as lack of oxygen or excessive heat are called **permit-required confined spaces**.

How can a confined space kill me?

Hundreds of construction workers are severely injured or become ill in confined spaces each year, and some even die.

Some of the more common hazards are:

- Buildup of explosive or toxic gases
- Oxygen Deficiency
- Falling materials
- Electrocution

These hazards endanger both the workers in the confined space and those attempting to rescue injured workers. According to OSHA, **rescue workers** have "died or been injured because they did not have the training and equipment necessary to conduct the rescue safely."

Be aware of the hazards your work may create.

Remember that the work you are doing in a confined space may create hazards.

- ▶ Painting can create flammable or explosive
- ▶ Hazards with solvents.
- ▶ Welding introduces toxins.
- ▶ Shielding gases* can push all of the oxygen out of a confined space.

*Inert or semi-inert gases commonly used to protect a weld area from oxygen and water vapor.

Make sure there is enough ventilation to control these hazards.

Before Entering A Confined Space ...

1 Ask questions

Ask your Supervisor:

- ▶ If the space is safe from collapse, falling materials, electrical hazards, or a hazardous atmosphere
- ▶ How you will communicate with the person assigned to stay outside and monitor you
- ▶ For personal protective equipment



IOWA CASE REPORT: 05A042 - COURTESY OF NIOSH
A self-employed handyman died in this water service manhole. He had been called to fix a water leak in an adjacent rental house and was working alone. He died from lack of oxygen after becoming stuck.

2 Get training

Do not enter a confined space without proper training. You must be trained before working in a permit space. The training needs to explain the hazards in the permit space, methods to protect against these hazards, and the dangers of attempting rescues if you are not trained and authorized to do so.



These students are getting hands-on training from a qualified instructor.

3 Test air before entering

In the majority of the cases, the air must be tested before entering the permit spaces. Supervisors must have the air checked **first** for proper oxygen levels, **then** for flammable or explosive gases or vapors, and **finally** for toxic gases or vapors. If there is a problem with the air, don't go in.



Master instructor shows students how to test air quality inside a confined space.



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