

Confined Spaces

Make Room for Safety



ACCORDING TO THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), A CONFINED SPACE IS ...

- difficult to enter or leave because it has a tight entryway
- not meant to be occupied except for repair, maintenance or inspection
- subject to hazardous conditions, such as a flammable or oxygen-deficient atmosphere or flooding, or could cause you to become trapped in an emergency

Confined spaces can pose special risks to safety. Here's how to cope when space is tight.

SIGNS TO GET HELP FAST

The most common confined space injury is oxygen deprivation. Watch for these signs:

- Rapid breathing
- Difficulty catching breath
- Rapid heartbeat
- Poor muscle coordination
- Fatigue

Get yourself or your co-worker out of the space quickly and into fresh air, and alert rescue personnel. Allowed to progress, oxygen deprivation will lead to nausea, vomiting, confusion, unconsciousness and even death. **DON'T WAIT** — get help at the first sign of symptoms.

A Breath of Fresh Air

Low oxygen levels and a buildup of flammable or toxic fumes are common hazards in confined spaces. **Safety tips:**

- Open bottom and top "manways" if possible to naturally ventilate the space.
- Use a blower or fan to pull fresh air into the space and blow potentially toxic vapors out.
- Don't vent toxic exhaust into another work area.
- Conduct frequent air sampling to check for toxic or flammable vapors — be sure to sample in different areas such as behind bulkheads or beams, around pipes, in corners and at the top and bottom of the space.
- Make sure all mechanical air movers are properly grounded and located away from an ignition source.
- Wear respiratory protection when needed.



What Are Entry Permits?

Safety procedures for confined spaces may include permits for entering the space. These should be considered required reading, as they include the following information:

- Details about the confined space and its potential hazards
- Guidelines for eliminating or reducing hazards while working in the space
- Safety and rescue procedures
- A list of required PPE
- Authorized number of people who can be inside and how long they can stay
- Emergency contact information
- Rescue procedures

The permit also requires you to list information such as your name, position, purpose and time of entry, and the attendants and supervisors responsible for safety in the space.

Familiarize yourself with entry permit details before you begin work in a confined space, and be sure to attend any rescue trainings your employer provides.

The bottom line: Confined spaces can be safe spaces when safety regulations are followed.

Are You Wearing the Right Equipment?

The following personal protective equipment (PPE) is recommended for work in confined spaces:

- Safety shoes with nonskid soles
- Hardhats
- Safety glasses or goggles

Don't forget: Consult materials safety data sheets (MSDS) for the substances you are working with to determine what other PPE may be needed, such as a chemical-resistant suit, shoe coverings, gloves or respiratory protection.



Watch Out!

Awareness of the hazards of working in a confined space can help you stay safe.

Heat. Temperatures can rise rapidly in a confined space, and special clothing that keeps body temperature at a safe level isn't always wearable because it restricts movement. Keeping fresh, cool air circulating through the space can help you avoid heat injury.

Noise. Sounds are amplified in a confined space due to reverberation. Noise can also make you unable to hear an attendant or co-worker outside the space. Use hearing protection whenever you work in a confined space, and use hand signals or a visual alarm system for communication.

Vibration. Vibration from tools can also be amplified in a confined space. Use the lowest-vibration tool possible for the job, and use PPE such as padded gloves and grips.

Physical Dangers. Hazards such as scaffolding, greasy residues and structural elements that may be easily available in an open area can become big hazards in a confined space. Know your safety precautions and rescue procedures, and always be on guard when working in a tight spot.

KEEPING COMMUNICATION OPEN

When working in a confined space, you may be cut off from sights and sounds outside, meaning that you can't easily communicate with co-workers or call for help if something goes wrong. **Solutions:**

ALARM SYSTEM. Either mechanical or voice-activated, an alarm allows you to alert others in case of an emergency inside the confined space.

ATTENDANT. A colleague should be stationed outside who is in constant contact with you, either visually, verbally or through a mechanical communications system.

SAFETY LINE. The line connects you to an outside point and can be used to help extricate you from the space in an emergency.