

MIOSHA Fact Sheet



Permit-Required Confined Spaces (PRCS)

What MIOSHA standards cover entry into permit-required confined spaces (PRCS)?

[29 CFR 1910.146](#) is the federal OSHA standard that applies to permit-required confined spaces. General Industry Standard [Part 90. Permit-Required Confined Space](#) (Part 90) and General Industry Standard [Part 490. Permit-Required Confined Space](#) (Part 490) adopt this federal OSHA standard by reference. This standard does not apply to agriculture, construction (see MIOSHA Construction Standard [Part 35. Confined Space in Construction](#)), or shipyard employment.

In part, the standard addresses:

- Permit space evaluation
- Entry procedures
- PRCS program
- Permit system and entry permits
- Employee training
- Rescue and emergency services
- Employee participation

The PRCS standard is complex; it requires a thorough understanding of occupational safety and health to implement properly. More importantly, death and serious injury occur all too frequently in permit spaces. Therefore, it is strongly recommended that a PRCS program be developed or reviewed by an occupational safety or health professional.

What is a confined space?

The first step in identifying if a space is identified as a PRCS is to see if the space first meets the definition of a confined space. The term “confined space” means a space that meets all three of the following characteristics:

- Is large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit.
- Is not designed for continuous employee occupancy.

To “bodily enter” means that it is possible for an employee’s entire body to enter the space. If the space itself is too small, or the opening into the space is not large enough for the entire body to enter, then bodily entry cannot take place; such a space cannot be a confined space.

Vertical ladders, small openings, and obstructions such as ductwork or pipes are all examples of conditions that limit or restrict employee entry or exit. The important concept behind this element is that the route or method of entry or exit does not create an impediment to employee self-rescue. Unobstructed standard stairs or stairwells are not generally considered an impediment to self-rescue.

“Continuous employee occupancy” means that the space could be occupied during normal operations; not that it is continually occupied. An important consideration for this condition is answering the question, “Was this space designed for human occupancy?”

Common examples of spaces that are often confined spaces are tanks, vessels, silos, storage bins, hoppers, mixing tanks, vaults, bag houses, and pits.

What is a PRCS?

A PRCS (also known as a permit space) must first meet all three parts of the definition of a confined space. A space that does not meet the definition of a confined space will not meet the definition of a PRCS. As such, a PRCS is any confined space that

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possesses **one or more** of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere.
- Contains a material that has the potential for engulfing an entrant.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.
- Contains any other recognized serious safety or health hazard.

It is not possible to adequately discuss each of the serious hazards represented by the characteristics identified above in the PRCS definition. However, per section 1910.146 (c)(1), employers must evaluate the workplace to determine if any confined spaces are PRCSs. This evaluation must be done when the space is in operation; not after steps have been taken to make the permit space safe for entry.

How is entry into a PRCS performed?

[Part 90](#) and [Part 490](#) describe three means of employee entry into a PRCS. The three entry methods are:

- **Full permit entry:** Entry under (c)(4) of the standard requires a written program, entry permits, attendant, entry supervisor, extensive training, rescue and emergency services, etc. This is the most labor intensive and complicated method of PRCS entry and poses the greatest risk to entrants.
- **Alternate entry:** Paragraph (c)(5) describes the requirements for entry using the “alternate entry procedure.” Essential to the proper use of this entry procedure, the employer must demonstrate that:
 - The only hazard posed by the permit space is an actual or potential hazardous atmosphere.
 - Continuous forced air ventilation is sufficient to maintain a safe atmosphere.

- **Reclassified entry:** The means of entry is addressed in paragraph (c)(7) of the standard. To properly use this entry method, **all hazards must be eliminated from the PRCS prior to any type of entry** occurring. If entry of a PRCS must be performed to eliminate any of its identified hazards, such entry must be performed using either a full permit or an alternate entry procedure.

What is the safest way to perform tasks in a PRCS?

Employees are safer when they do not need to enter PRCS to perform an assigned task. Where feasible, the employer should have a policy stating that employees never enter a PRCS.

If prohibiting PRCS entry is infeasible, the employer should assess if it is possible to modify the confined space such that at least one of its three confined space definition characteristics are eliminated (i.e., modify the space such that it no longer meets all three of the characteristics of a confined space). A space that does not meet the confined space definition is not a PRCS and, therefore, not addressed by Parts 90 and 490. Note that the hazards associated with entry into spaces not meeting the confined space definition are addressed by numerous other MIOSHA standards.

When a task must be performed in a space that cannot be modified such that it no longer meets the confined space definition, and that space meets the PRCS definition, the employer should consider the implementation of appropriate engineering and/or work practices to reduce the risk faced by an employee performing the task. Examples of such control measures include the:

- Use of a tool with an extended handle so that an employee can perform a task without any part of their body entering the permit space.
- Relocation of meters or valves outside of the permit space.
- Use of pumps and other equipment that can be retrieved from the permit space without employee entry into the space.

What presents the greatest difficulty to employers that must comply with Parts 90 and 490?

Failure to **identify all permit spaces** in the workplace is the most frequently cited hazard associated with complying with Part 90 and Part 490 requirements. This occurs either because the employer failed to conduct a permit space evaluation or didn't have a thorough grasp of the confined space and permit space definitions. If there is any confusion regarding the proper identification of permit spaces, seek help from knowledgeable sources. When a permit-space is identified, any hazard(s) associated with the space should be described. (Note that, while not currently required, it is recommended that general industry employers should also identify all confined spaces that do not currently meet the permit space definitions.)

The proper application of the three means of permit space entry also presents confusion for some employers. For example, a permit space cannot be entered using the alternate entry procedure (c)(5) if any other serious non-atmospheric hazard remains in the space. Such hazards include unguarded equipment, high temperature, an engulfment hazard, etc.

When performing a full permit entry per paragraph (c)(4), employers without an in-house PRCS rescue team frequently fail to properly identify an offsite PRCS rescue team or properly assess the team's response capabilities. When a full permit entry is performed and an offsite PRCS rescue team will be utilized, employers must evaluate the rescue service's ability to respond in a timely manner and assess their proficiency in performing the rescue. It is unacceptable to merely identify "911" (i.e., the local fire department) as the rescue team for a full permit entry. Any rescue service must meet the requirements of paragraph (k)(1) of the standard, Rescue and Emergency Services.

Additionally, incomplete, or inadequate training, written permits, written permit-space program, equipment (e.g., air monitoring, including its calibration, and ventilation) are other areas identified

when an employer is assessed for compliance with this standard.

How can I get assistance with complying with PRCS requirements applicable to my facility?

More information is available from the MIOSHA Consultation Education and Training Division at (517) 284-7720 or online at www.michigan.gov/cet.