FACT SHEET » Confined Spaces

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What Is a Confined Space?

Confined spaces occur in many different types of facilities and locations. A space is considered to be a confined space if it meets all the following conditions:

- It is large enough to enter and perform work
- There is limited or restricted means for entering or exiting the space
- It is *not* designed for continuous employee occupancy

While all three conditions must be present to be considered a confined space, the most easily recognized condition is that the space is not designed for someone to work in all day. Crawl spaces, grain bins, manholes, below-grade vaults, tanks of all types, elevator shafts, and some tunnels are examples of such spaces that are often entered for repair, inspection, and maintenance, but they are not designed for an employee to work in all day.

Confined Space Hazards

Since confined spaces are not designed for continuous occupancy, they often have limited ventilation and other hazards that are not controlled as they would be in occupied spaces. These hazards fall into two main categories — hazardous atmospheres and safety hazards.

Atmospheric hazards include the following:

- Toxic contaminants
- Oxygen deficient or enriched environments
- Flammable vapors

Safety hazards include the following:

- Mechanical hazards such as rotating parts
- Electrical hazards such as exposed wiring
- Engulfment with materials such as grain
- Water/drowning in liquids
- Falls in or into the space

DID YOU KNOW? The Bureau of Labor Statistics reported a total of 136 workers were killed in incidents associated with confined spaces in 2015 alone.

Confined Space Safety

In order to help maximize safety for workers in confined spaces, there are a number of safety procedures to follow prior to entry. OSHA requires a signed permit for entry into any confined space entries with hazards. The permit documents these three main steps taken to safely enter the space:

1. **Identification/Recognition** of confined spaces and the hazards in these spaces
2. **Evaluation** of the hazards using methods such as atmospheric monitoring
3. **Elimination and control** of the hazard using methods such as locking out electrical equipment in the space and ventilation of the space to remove atmospheric hazards prior to entry

In addition, a rescue plan must be in place prior to entry. OSHA requires attached entries using a rescue line and winch system when possible, in which an attendant outside the space can remove the employee from the space in an emergency. However, in more complicated entries, a trained rescue team that can enter the space may be required.

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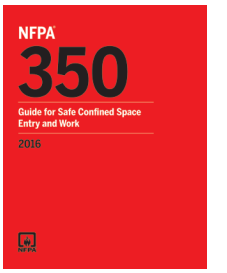
Confined Space Regulations

Because confined spaces typically affect workers, the Occupational Health and Safety Administration (OSHA) has established regulations for entry into confined spaces in industrial settings and general workplace settings (1910.146), shipyards (1915 Subpart B), and more recently construction (1926 Subpart AAA). Employers in the United States are required to comply with the applicable OSHA regulation.

These regulations are not only stated to be *minimum* standards for safety, but they are also performance-based in that they tell you *what* you must do to comply but do not tell you *how to* do it. This is where NFPA 350, *Guide for Safe Confined Space Entry and Work,* is a valuable tool. This document provides guidance to further improve confined space safety beyond the minimum and provides direction on *how to* comply with the regulations.

When to Use NFPA 350

NFPA 350 is designed to not conflict with existing OSHA confined space standards. The document provides additional guidance on *how to* comply with OSHA requirements and direction for those looking to improve their confined space entry program. NFPA 350 also simplifies confined space terminology and addresses gaps in existing regulations.



nfpa.org/350

Visit www.nfpa.org/350 for more information. Here you can find links to the following:

- A five-minute informational video on confined spaces
- The complete NFPA 350 guide, both for online viewing or for purchase
- Information on NFPA 350 training offerings

Highlights of NFPA 350

Terminology and permit entries. NFPA 350 simplifies terminology so only the term *confined space* is used. NFPA 350 also recommends that confined spaces be evaluated using a pre-entry evaluation form and, if hazards exist, permits are filled out and measures are taken to eliminate or control these hazards.

Gaps in standards. NFPA 350 has chapters on hazard identification, atmospheric monitoring, and hazard control that provide information on how to identify hazards, how to select, calibrate, and utilize atmospheric monitors, and how to control hazards through the use of controls such as ventilation. NFPA 350 also addresses an important gap in other standards by including *adjacent hazards* as well as *inherent* and *introduced* hazards.

Competencies. NFPA 350 recommends competencies not only for the attendant, entrant, and entry supervisor, but also for those performing atmospheric monitoring (gas tester), installing ventilation (ventilation specialist), and even for those who are not entering the confined space but could be exposed to adjacent hazards (standby worker).

Other features. NFPA 350 provides information about establishing a management of change (MOC) system and provides a sample MOC form in the annex material. It also includes information on prevention through design (PtD), in which confined space hazards are eliminated or minimized during the design phase.