

GUIDE TO ANSI/ASSP Z117.1-2022

An Overview of the Voluntary Consensus Standard:
Safety Requirements for Entering Confined Spaces



AMERICAN SOCIETY OF
SAFETY PROFESSIONALS

STANDARDS

A circular metal cover, possibly a manhole or access panel, is mounted on a larger metal surface. The cover is light grey and has a ring of approximately 24 bolts around its perimeter. A rectangular warning label is affixed to the center of the cover. The label has a black top section with the word "DANGER" in white, a white middle section with "CONFINED SPACE" in black, and a white bottom section with "ENTRY BY PERMIT ONLY" in black.

DANGER
**CONFINED
SPACE**
ENTRY BY PERMIT ONLY

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INTRODUCTION

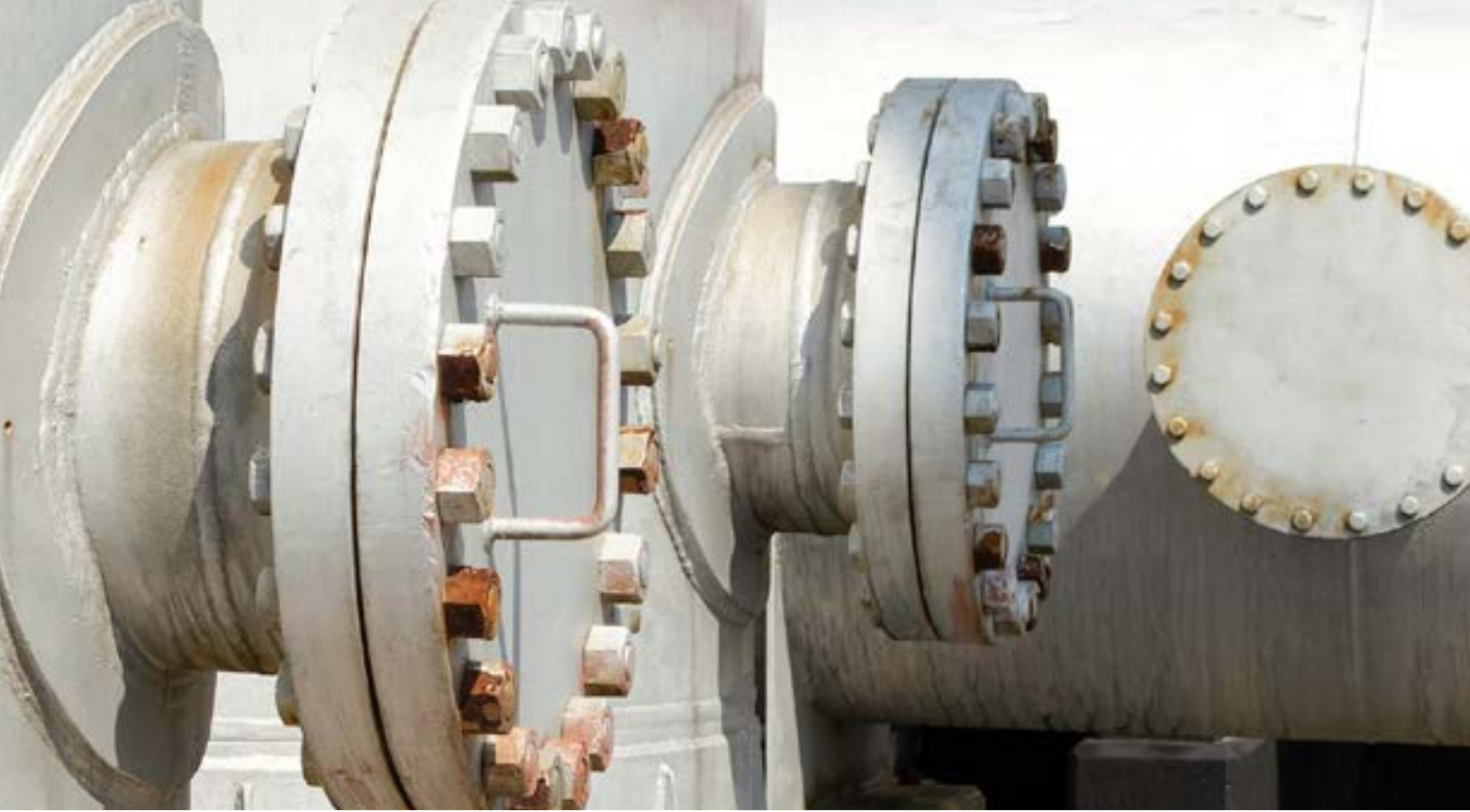
On Jan. 28, 2022 the American National Standards Institute (ANSI) announced the approval of the updated Z117.1 confined spaces safety standard titled:

ANSI/ASSP Z117.1-2022, SAFETY REQUIREMENTS FOR ENTERING CONFINED SPACES

This standard provides minimum safety requirements to be followed while entering, exiting and working in confined spaces at ambient atmospheric pressure.

The scope of this standard does not address confined space design issues. The foreword of the standard provides general information addressing confined space design.





Confined spaces are found in nearly every work environment. These spaces can expose workers to hazards related to oxygen deficiency and toxic or combustible atmospheres.

Safety professionals can use the ANSI/ASSP Z117.1-2022 standard to help employers establish procedures that protect the safety and health of employees who work in, and in connection with, confined spaces.

The standard covers a wide range of topics, including atmospheric testing, isolation and lockout/tagout, ventilation, cleaning and decontamination, protective equipment and rescue.





THE Z117.1-2022 **STANDARD**



Background and Purpose

The purpose of the standard is to establish minimum requirements and procedures for the safety and health of employees who work in, around and in connection with, confined spaces.

This is a performance standard, and as such, is not intended to replace existing specific standards and procedures, but rather to support those that meet the performance objectives defined in this standard.

The standard also provides a listing of other established national consensus standards pertaining to confined space.

Using the Standard

The Z117.1-2022 standard provides minimum safety requirements to be followed while entering, exiting and working in and around confined spaces at ambient atmospheric pressure. This standard is designed for voluntary acceptance and use.

This standards does not pertain to underground mining, tunneling, caisson work, intentionally inert confined spaces or other similar tasks that have established national consensus standards.

The Z117 Committee acknowledges the critical role of design in influencing the safe entry and work in confined spaces.

ANSI has an existing standard ANSI/ASSP Z590.3, Prevention through Design, that should be consulted when considering design modifications. Failure to incorporate safety during the design process or overlooked design deficiencies can increase risk for entrants.

How the Standard was Developed

ANSI requires the secretariat of a standard revise or reaffirm the standard within five to ten years of publication.

The Z117.1 committee members represent a broad range of experts, industries and organizations from the public, private and not-for-profit sectors. They collaborated to revise and improve the 2016 version of the standard. The revised standard was approved by ANSI on Jan. 28, 2022.

What's New in Z117.1-2022?

Additional resources and guidance have been developed for the appendix section of the standard. This includes updated standards and other referenced materials related to confined spaces as well as examples of confined space surveys and permits.

The requirements for teams entering confined spaces have been clarified in this new version of the standard.



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DANGER

**CONFINED SPACE
DO NOT ENTER
WITHOUT PERMIT**

CONFINED SPACES SAFETY RESOURCES

Confined Spaces Safety Resources

ASSP Article [Six Questions That Help Define Confined Space Safety](#)

ASSP Article [The Seven Steps of Confined Space Rescue](#)

ASSP [Podcast Episode 28: Confined Space Safety](#) | Terry Ketchum, ANSI/ASSP Z117.1 Committee

Learn more about the ANSI/ASSP Z117.1 Confined Spaces standard here:

[ASSP Confined Spaces website](#)

[Purchase the ANSI/ASSP Z117.1-2022 standard](#)

Confined Space Resources by Industry

More than two million workers operate in confined spaces every year across a variety of industries. The following is a compilation of links to reference materials by industry.

General Industry

[OSHA Confined Spaces Resources Citing Z117.1 Standard](#)

[OSHA Safety and Health Topics Confined Spaces](#)

[Hercules OSHA Violation Detail Report](#)

[OSHA Confined Space Standard for General Industry](#)

[OSHA Preamble to Final Rule Permit-Required Confined Spaces](#)

[OSHA Decision on CBI Services Inc.](#)

[US Army Confined Space Standards and Regulations](#)

Oil and Gas Industry

[OSHA Oil and Gas Well Drilling, Servicing and Storage Standards](#)

[OSHA Oil and Gas Extraction Standards](#)

[OSHA Oil and Gas Industry Violation](#)





Farming Industry

[OSHA Confined Space Entry on a Farm](#)

[OSHA Local Emphasis Program - Dairy Farming Operations Document 1](#)

[OSHA Local Emphasis Program - Dairy Farming Operations Document 2](#)

[OSHA Local Emphasis Program - Dairy Farming Operations Document 3](#)

[Hazards of Animal Handling and Farm Structures](#)

[DL Cattle Citation by Department of Labor](#)

Construction Industry

[OSHA General Industry Standards to Construction Activities](#)

[OSHA Confined Spaces in Construction Proposed Rule](#)





Construction Industry (continued)

[Construction Safety and Health Advisory Committee Notes](#)

[OSHA General Industry Standards to the Construction Industry](#)

[OSHA Confined Spaces in Construction Proposed Rule](#)

[OSHA Confined Spaces in Construction Final Rule](#)

[Design for Construction Safety Guide 1](#)

[Design for Construction Safety Guide 2](#)

[Montgomery KONE Inc. and Parsons Brinckerhoff Construction Services Inc.](#)



Standards Development Information

Links and information related to American National Standards:

Essential Requirements Used by ANSI

The links below explain how voluntary national consensus standards are used in regulatory settings.

Voluntary consensus standards can transform your safety program from a compliance-driven cost center into a corporate sustainability initiative that can save lives and boost profits

ASSP Podcast Episode 3: How Government Agencies Use Industry Consensus Standards | Lauren Bauerschmidt, ASSP standards development

ASSP Podcast Episode 1: Industry Consensus Standards | Tim Fisher, ASSP standards and technical services



ANSI/ASSP standards promote recognized best practices that prevent worker injuries, illnesses and fatalities

Working together for a safer, stronger future.®



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