

Confined spaces—Physical hazards

Explain dangers

In addition to dangerous atmospheres, confined spaces such as tanks, vats, vessels, hoppers, and bins can present physical hazards such as

- Poor entry and exit
- Cramped working conditions
- Temperature extremes
- Rotating or moving equipment
- Reactive or corrosive residues
- Electrical hazards
- Uncontrolled movement of liquids or solids.

Some of these hazards involve greater risk inside a confined space than outside.

For example, electrical flashover can be more dangerous in a cramped maintenance hole where there's limited escape than in an electrical room with clear exits. And fire in a confined space can be far more dangerous than fire in an open work area.

Identify controls

- Isolate the space by disconnecting supply and drain lines. Lock out and tag the lines so they won't be reopened while you're working inside.

- Inspect the space for dangerous contents such as grain or sand that could slide, shift, and bury you inside.
- Lock out any electrical, hydraulic, or pneumatic equipment that could unexpectedly rotate, drop, roll, or snap shut in the space.
- Block and secure any equipment that could move because of gravity or stored momentum.
- Wear safety harnesses and lifelines to make rescue more efficient in case of an emergency.
- Develop a rescue plan for the space and practice to make sure that everyone knows what to do.
- Use an entry permit system. This helps identify hazards and controls, and keeps track of who is inside.

Demonstrate

Review procedures for lockout, tagging, and entry. Discuss some of the controls shown in the diagram below.

