

Working Safely in Confined Spaces

Do you ever work in a confined space? There are many types of confined spaces-tanks, silos, pits, tunnels, pipes, boilers-the list goes on and on. No matter what the type, confined spaces have something in common. They have limited ways to get in and out, and the atmosphere within them could be dangerous. This week's **Tail Gate Safety Topic** discusses what you should know to work in a confined space safely.

A confined space is a space that has these three characteristics: It has limited openings for entry and exit, it is large enough to permit a worker to enter, and it is not designed for continuous worker occupancy. The characteristics of a confined space cause it to present unique hazards. Yesterday's miners knew some of the dangers of a confined space. Have you ever heard about the canary that died? Miners once took a bird into the mine. When the bird died, the miners knew the atmosphere within the mine was getting dangerous. The death of the bird told the miners it was time to leave. Today we have more sophisticated ways of testing the atmosphere within a confined space, but the principle is the same: Check the atmosphere to make sure it's safe to work in the confined space.

Confined spaces present many dangers-some of which the miners of yesterday never knew. These are some of the common ones:

- lack of oxygen, presenting a suffocation hazard
- fire or explosion hazards from an accumulation of flammable vapors
- health hazards from toxic vapors
- difficulty exiting the space in the event of an emergency
- cramped spaces to work in, resulting in a danger of being caught in equipment
- poor visibility
- high levels of noise
- temperature extremes

Regulatory agencies require workplaces to have a plan for working in confined spaces safely. If you work in a confined space, you should know your company's procedures for safely entering into the space and working in it. Confined spaces should be identified and classified, and safe entry procedures developed. Some confined spaces are called "permit-required confined spaces," meaning a permit is required for entry into the confined space. In addition to the normal characteristics of a confined space, permit-required confined spaces present one or more of these hazards:

has the potential to contain a hazardous atmosphere

could contain material capable of engulfing someone entering the space

has an internal configuration such that a person could be trapped or asphyxiated by inwardly converging walls or by a floor, which slopes downward and tapers off to a smaller cross section (e.g., a grain silo)

contains any other recognized serious hazard

In general, these are the things you should be aware of before you enter a confined space:

- know how to enter it safely
- know how to exit quickly

- know that the atmosphere in the space is tested and found to be free of dangerous levels of toxic or flammable vapors, and that there is sufficient oxygen
- know that the atmosphere within the space is going to remain safe while you are working
- know the rescue plan in the event of an emergency, and make sure the proper rescue equipment is available and in good condition
- know that another person outside the confined space is keeping an eye on you as you work, and that they know the rescue plan, too
- know what other procedures are necessary to follow to work safely, such as locking out energy sources

Another very important thing to remember is what to do if someone working in a confined space becomes ill or injured. In the event of such an emergency, you should never enter a confined space to rescue someone without the proper equipment, training, and atmospheric testing. Chances are, whatever caused the illness or injury will claim you as a victim too.

It is possible to work safely in a confined space, but it's a task that requires careful planning and preparation. Don't be tempted to take shortcuts when it comes to confined spaces. Follow all safety precautions and don't hesitate to speak up if you are unsure of the correct procedures. You play the most important role of all when it comes to working safely. By consistently following safe work procedures and not taking chances, you will be working safely for a long time to come.