

# **Welding and Cutting in Confined Spaces**

**Scope and Application** - This section applies to welding and cutting operations in confined spaces. OSHA's regulations for these activities can be found in 29 CFR 1910.252 for General Industry and 29 CFR 1926.352 for Construction.

**Ventilation** - Ventilation and/or respiratory protection is required for all welding and cutting done in confined spaces. The type of protection needed varies with the materials involved in the operation. Assistance in the selection and use of respiratory protection is available through EHS.

**Procedures** - The following procedures must be used for all welding and cutting operations conducted in confined spaces:

1. Ensure ventilation is appropriate and adequate.
2. Gas cylinders and welding machines must be left outside the space when work is performed in such spaces as tanks, boilers, or pressure vessels. Heavy portable equipment mounted on wheels must be securely blocked to prevent movement.
3. Whenever the welder must enter the confined space through a manhole or other restricted opening, some means for his or her quick removal must be provided. This could include a body harness and lifeline attached to mechanical retrieval equipment. An attendant with a preplanned rescue procedure must be available to observe the welder and to initiate rescue should it become necessary.
4. When operations are suspended for any substantial period of time, such as lunch or overnight, then electrodes must be removed from their holders and the arc welding machines must be disconnected from their power source. If gas welding or cutting is in use, the fuel gas and oxygen supply must be shut off with the torch valves and at some point outside the confined space. Where possible, the hoses and torches must be removed from the space.
5. After operations are completed, the welder must mark the hot metal or provide for some other means of warning others working in the area.