

According to insurance industry statistics, hot work operations are one of the largest causes of fire loss in the workplace. Any work that produces heat or sparks, such as welding, cutting, brazing, soldering, grinding and similar tasks, qualifies as hot work. In addition to a high frequency of fires, hot work fire losses also tend to be severe. The best way to minimize the potential for these types of fires is to use a permit system that requires all employees and contractors to follow specific guidelines when performing hot work.

Hot Work Permit System

A written hot work permit helps to ensure that all precautions have been taken to reduce the risk of fire. Permits do not need to be issued when hot work operations are performed in designated areas that have been cleared of hazards. For example, a hot work permit would not be necessary in a welding shop; however, if welding is performed on a loading dock, a hot work permit should be issued. The following sections describe the information that should be included on a hot work permit.

Permit Authorization—The hot work permit should contain the following information:

- Name of employee or contractor authorized to perform the hot work
- Location of hot work area
- Nature of work to be performed
- Issue date and expiration date of permit
- Signature of authorizing supervisor

Most organizations develop a hot work permit that can be used by both employees and contractors. Additional supervision should be provided whenever contractors are performing hot work, as they are less familiar with the hazards of the facility.

Permit Posting—Hot work permits should be printed on a highly visible color of paper (e.g., hot pink, bright orange) and posted in a prominent location in the work area. This lets other employees and contractors know that hot work is being conducted in the area.



Precautions and Safeguards—The precautions and safeguards that should be taken when performing hot work will vary in each situation. The supervisor authorizing the permit should verify that all hazards have been controlled in the hot work area before any work begins. Some of the precautions or safeguards that should be evaluated prior to authorizing hot work are:

- Sprinklers, hoses and fire extinguishers are in good working order
- Hot work equipment is in good condition (hoses, compressed gas cylinders, electrical cords, etc.)

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- Within 35 feet of the work area, ensure that:
 - ▶ Flammable liquids, dust, lint and oil deposits are removed
 - ▶ Explosive atmosphere in the work area is eliminated
 - ▶ Floors are swept clean
 - ▶ Combustible floors are wet down and protected by sand or fire-resistant blankets
 - ▶ Combustibles are removed or protected with fire-resistant blankets or metal covers
 - ▶ All floor or wall openings are covered
 - ▶ All doors and fire doors are closed
- If working on walls or ceilings, ensure that:
 - ▶ Construction is noncombustible and there are no combustible coverings or insulation
 - ▶ All combustibles on the other side of the wall or ceiling are moved away
- If working on enclosed equipment, ensure that:
 - ▶ Equipment is cleaned of flammable liquids, combustible dusts and residues
 - ▶ Equipment is purged of flammable vapors
- The fire watch person should monitor adjoining areas (above, below and on opposite sides of walls) where fires may occur.
- After 60 minutes, the fire watch person should sign the permit and keep it posted in the area.
- A designated employee should monitor the hot work area for three hours after hot work is completed. Monitoring does not need to be continuous, but the monitoring frequency should be decided upon prior to beginning the work.
- Once the monitoring period has ended, the authorizing supervisor should conduct a final inspection and sign the permit. Permits should be retained.

Employee Training

All employees involved in hot work operations should receive training on the hot work permit system. Training should occur initially and as needed when deficiencies are noted. All training should be documented with the names of employee and trainer, and date of training.

For Additional Information

Occupational Safety & Health Administration:

www.osha.gov

- Welding, Cutting, and Brazing Standard

EMC Insurance Companies: www.emcins.com

- Tech Sheets
- Loss Control – Hot Work Permit Form

Hot work should not be authorized until hazardous conditions have been eliminated. Never take a shortcut, even if the hot work will only be performed for a few minutes.

Fire Watch

A fire watch should be maintained in the work area during all hot work operations and for at least 60 minutes after work has been completed. Fire watch personnel should not leave for breaks, lunch or other reasons, unless relieved by another person. Other important elements of an effective fire watch are:

- The fire watch person should be supplied with and trained in the use of fire extinguishers or other firefighting equipment.