

# Staying safe during hot work



Hot work is any work that involves burning, welding, using fire- or spark-producing tools, or that produces a source of ignition. Sparks and molten material in excess of 1000° F can easily ignite nearby flammable materials, liquids or atmospheres resulting in a fire and/or explosion with potentially catastrophic consequences.

To avoid hot work-generated fires, management should implement a hot work program, which requires the issuance of a hot work permit before beginning hot work and observance of hot work preparation and safety guidelines.

## Hot Work Preparation and Safety Guide

1. Employ acceptable cold work alternatives when possible
2. Perform hot work outside, away from combustibles or inside buildings in designated areas  
**Designated areas** are specified areas, such as a maintenance shop, designed and approved for hot work; constructed from fire-resistive or non-combustible materials; and free of combustible or flammable contents or hazards. Hot work in designated areas does not usually require a hot work permit.
3. Avoid conducting hot work in non-permissible areas, such as:
  - Areas unauthorized by management
  - Buildings with impaired fire sprinkler systems
  - Areas having explosive atmospheres (mixtures of flammable vapors or concentrations of combustible particulates)
  - Areas with improperly-prepared equipment or containers or vessels with explosive internal atmospheres
4. All other areas where hot work can be performed by employees or contractors are considered **permit-required areas**, which require the issuance of a hot work permit before hot work operations can begin
  - Permit should be completed, signed and submitted to the permit-authorizing individual (PAI) designated by management to authorize hot work
  - The PAI should examine the hot work location, verify precautions taken and grant permission if warranted
5. Follow these guidelines when hot work is performed:
  - Wear appropriate Personal Protective Equipment (PPE) and/or clothing to minimize the potential for burns, trapped sparks and electric shock
  - Don't perform hot work late in the day or before closing for the weekend
  - Utilize fire watches during hot work operations
  - Don't clean while performing hot work
  - Don't allow machinery or equipment to be operated or grain to be dumped nearby hot work operations
  - Install a designated fire watch for 30 minutes at the completion of hot work. It's a good practice to inspect hot work area periodically thereafter and once more before closing

<<SAMPLE>> **Hot Work Permit** <<SAMPLE>>

**Notice: Before initiating hot work, this hot work permit must be completed to ensure proper precautions are in place. No hot work should begin until all precautions have been taken and all parties are satisfied that a safe condition exists.**

A hot work permit is good for one day only and is required for any process involving open flame or producing heat and/or sparks. This includes, but is not limited to, welding, brazing, cutting, grinding and soldering.

**General information**

Hot work to be performed by:      Employee      Contractor (Must be trained on site-specific hazards.)

Location/building and floor(s) impacted: \_\_\_\_\_

**Description of work to be done and specific equipment / structure on which hot work will be performed: (Check all that have been completed.)**

**General requirements**

- If contractor is performing hot work, ensure contractor is trained on site-specific hazards
- Verify fire sprinklers and hose streams are in service and condition in accordance with manufacturer's specifications
- Ensure fire extinguisher(s) are readily available
- Ensure hot work equipment is in good working condition and operable
- Shut down and lock out machinery at least 30 minutes prior to performing hot work
- Keep on hand proper safety equipment, including fire-proof gloves, welding shield or goggles and welding apron

- Cover all wall and floor openings and duct or spout openings with approved material
- Verify the presence of any combustible materials lining metal vessels, ducts, spouts or piping. Actions to address? Comment: \_\_\_\_\_

**Requirements within 35 feet of hot work**

- Clean entire area. Sweep floors and remove trash, dust, lint, oily deposits and all flammable liquids.
- Eliminate all explosive atmospheres
- Wet down combustible floors or cover with fire-resistant material (protect personnel from electrical shock when floors are wet)
- Remove all combustible storage material or cover with a listed/ approved (ANSI/FM 4950) welding blanket, curtain or pad; or metal shield or non-combustible material

**Requirements for hot work on walls, ceilings, roofs**

- Verify construction is non-combustible and without combustible coverings or insulation
- Verify combustible material on other side of walls, ceilings or roofs is moved away or appropriately covered

**Requirements for hot work on enclosed equipment**

- Make sure enclosed equipment is cleaned of all combustibles; containers are purged of flammable liquids or vapors; and pressurized vessels, piping and equipment have been removed from service, isolated and vented

**Requirements for hot work fire watch and fire monitoring**

- Ensure fire watch will be provided during and for 30 minutes after hot work. Fire watch will provide a suitable extinguisher and a small charged water hose, where practical. Consider additional fire watches for adjoining areas above and below hot work area.

**Authorization**

Name (print) and signature of person performing hot work: \_\_\_\_\_

Date: \_\_\_\_\_ Time started: \_\_\_\_\_ Time completed: \_\_\_\_\_

Permit-Authorizing Individual (PAI): I verify that the above location has been examined, the precautions marked on the checklist have been taken and permission is granted for this work.

**Name (print) and signature of PAI:** \_\_\_\_\_