



Hot Work Safety Program

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



For assistance with risk management services or safety resources, contact us at RMSolutions@nationwide.com or 1-800-260-1356.

Hot work permit program

A ready-to-use kit for effective hot work monitoring

Help prevent property losses

Even with the most skilled operators, there's always a risk that a blowtorch or grinder could create the one spark capable of starting a major fire that disrupts your farm or agribusiness overnight. However, you can take steps to help avoid such catastrophes when you:

- Make sure you and your workers use equipment that meets federal safety standards and receive proper training before work begins.
- Use a hot work permit form every time a job is required to take place outside of a designated welding area. This includes welding, use of a cutting torch, brazing, grinding or operations that produce heat, sparks or involve open flames.

According to the National Fire Protection Association (NFPA), fire departments respond to more than 4,400 structure fires¹ involving hot work each year. Whether you're a farmer needing a quick repair during harvest or a large agribusiness, hot work could be an important part of keeping your operations up on running. To help prevent devastating property losses, it's critical to carefully monitor the area anytime hot work is performed.

What is hot work?

Hot work is a metalworking process that can include brazing, cutting, soldering, and welding. During this type of work, the sparks and heat produced can cause injuries or ignite a fire if not performed safely. While workers can use personal protective equipment to protect themselves, having a hot work permit program in place can help protect surrounding property.

Three steps to creating an effective hot work program

Step 1: Choose a **work program coordinator**

Designate a permit-authorizing individual to manage and monitor hot work conditions. Arrange for training through NFPA programs on [nfpa.org/Training-and-Events](https://www.nfpa.org/Training-and-Events) or other sources.

Step 2: Develop procedures for your program

Establish procedures for all hot work performed by your workers, including a step for **completing a permit form** to help ensure proper safety precautions are taken each time.

Step 3: Record all hot work projects in a logbook

Use our Hot Work Program kit to create your own logbook for filing completed forms. Download the kit components to your desktop for printing.



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¹ "Structure Fires Started by Hot Work," National Fire Protection Association, August 2023, [nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/structure-fires-started-by-hot-work](https://www.nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/structure-fires-started-by-hot-work) (downloaded Jan 1, 2024).

Choose the right coordinator for your Hot Work Permit Program



According to the National Fire Protection Association (NFPA), structure fires involving hot work cause \$292 million in direct property damage each year.¹ This hot work includes different types of metalworking such as brazing, cutting, soldering and welding. This can also include tasks such as unfreezing pipes, hot roof work, or any other spark and heat generating operations. To help prevent fires from this type of work, hot work permits should be used by workers and managed by a hot work coordinator.

Your coordinator's qualifications

The hot work coordinator, also known as a permit authorizing individual (PAI), should be an employee who:

- Is knowledgeable in your hot work operations
- Is familiar with fire protection systems
- Supervises any hot work performed
- Manages all permit use and recordkeeping
- Is identified by name and phone number to your employees
- Is designated by shift, if you have multiple shifts and coordinators

Coordinators should receive training in both hot work safety and fire protection, which can be obtained through the NFPA. Go to [nfpa.org/Training-and-Events](https://www.nfpa.org/Training-and-Events) to find out what training is available to you.

General tips for hot work safety

- Develop a program with written procedures for safe practices and record keeping any time hot work is performed
- Keep emergency numbers readily available in case of fire
- Consider temporary protection whenever possible, such as easily accessible fire extinguishers
- Identify employees and/or additional security rounds for fire watches
- Enforce a strict “no smoking” policy in and around hot work areas

Leading Types of Hot Work Equipment Involved in Causing Structure Fires¹:



- 45% Welding torches
- 21% Soldering equipment
- 19% Cutting torches
- 14% Burners
- 1% Other

¹ "Structure Fires Started by Hot Work," National Fire Protection Association, August 2023, [nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/structure-fires-started-by-hot-work](https://www.nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/structure-fires-started-by-hot-work) (downloaded Jan 1, 2024).

Hot Work Program Coordinator

Your coordinator's primary roles and responsibilities

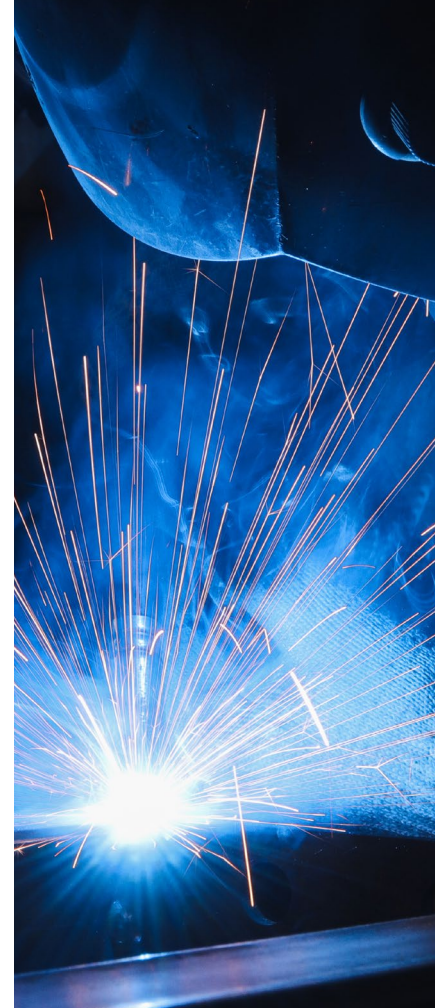
To help reduce the likelihood of a fire, your hot work permit coordinator will oversee all safety measures taken by workers who use tools such as welding torches, cutting torches, burners and soldering equipment. In performing this role, your coordinator will:

- Authorize the necessity of hot work before it begins
- Confirm automatic sprinkler protection is in service
- Conduct pre-job inspection to ensure fire safety precautions are met
- Have workers post permit in area where hot work is being performed until job is completed
- Verify that all post-hot work cleanup is completed and confirm that fire watch is performed
- Sign permit to confirm that worker executed all safety measures
- Maintain permit on file after job is completed

Other ways coordinators can help promote safety

In addition to managing the hot work permit program, a coordinator may be asked to handle other important safety matters for your operation. Here are a few ways they can help:

- Recommend appropriate personal protective equipment (PPE)
- Manage lockout/tagout of necessary equipment
- Perform job hazard analyses to help ensure safe operations
- Be familiar with building safety codes and regulations
- Provide education and training to staff



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Create your Hot Work Permit Logbook

Step 1

Start with a 3-ring binder (1/2" to 1" at the spine) with a clear plastic pocket on the outside of the front cover.

Step 2

Locate the Hot Work Permits sheet (A), and insert that sheet as the first page inside the binder.

Step 3

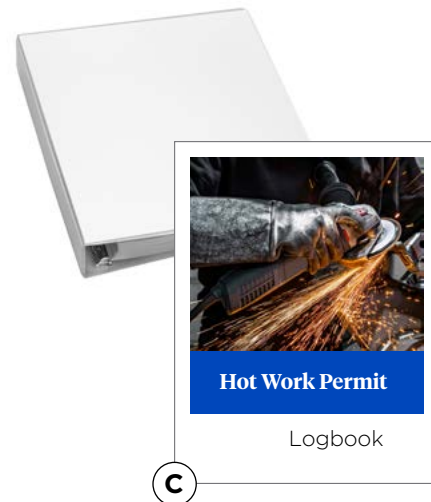
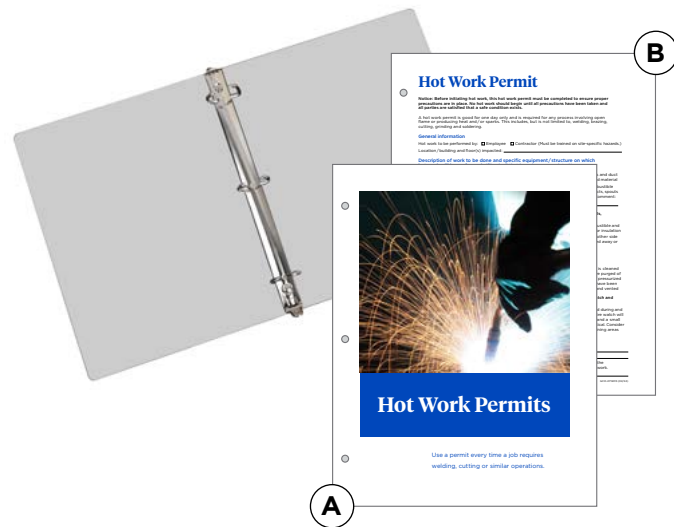
Locate the Hot Work Permit Forms (B) and insert them into the logbook behind the Hot Work Permits sheet (A).

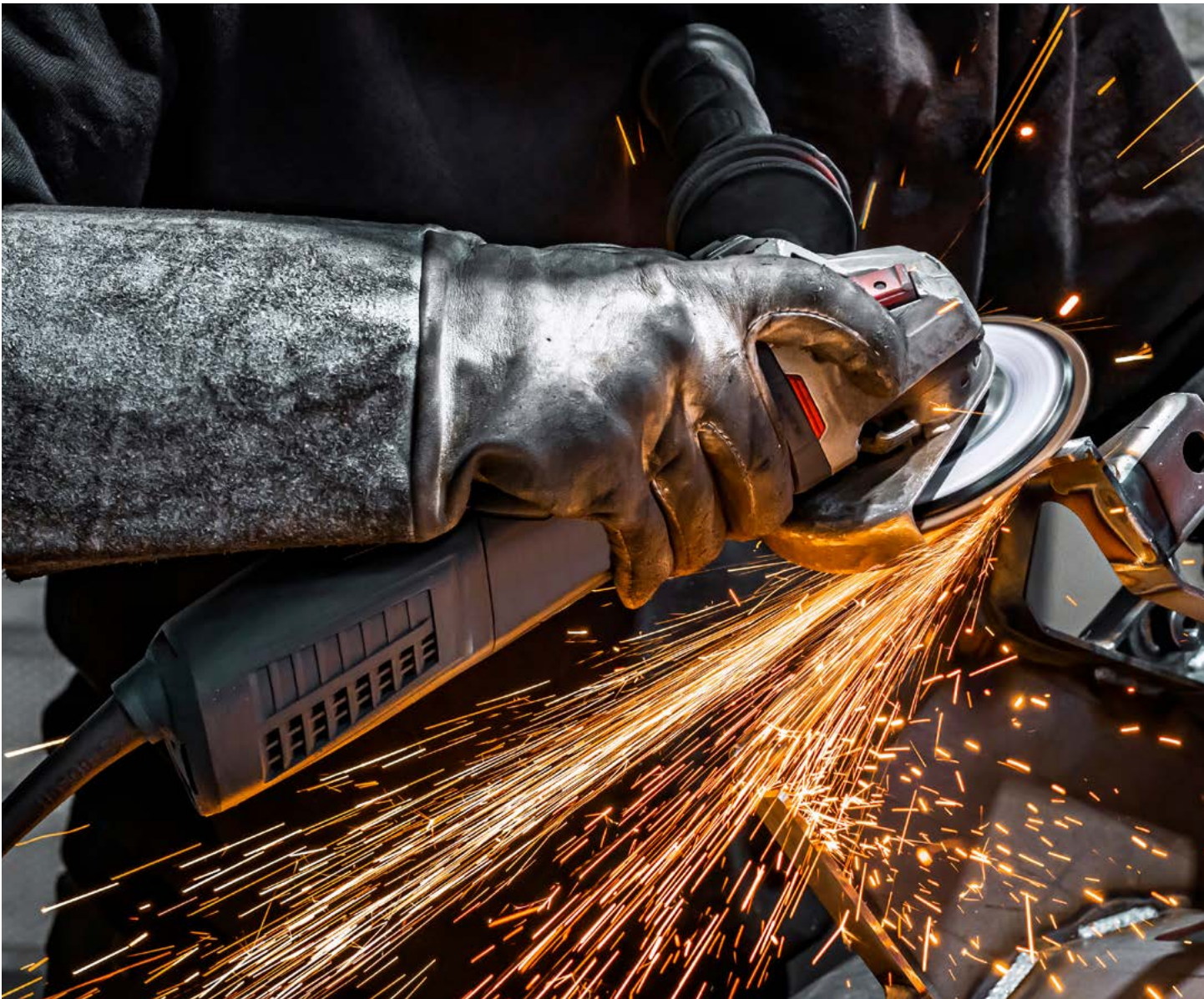
Step 4

Read the second side of the Hot Work Permits sheet (A) to learn how to use the forms.

Step 5

Turn over this page you are reading and insert the Hot Work Permit Logbook cover sheet (C) into the plastic pocket on the front cover of the binder.





Hot Work Permit

Logbook



Hot Work Permits

Use a permit every time a job requires welding, cutting or similar operations.

How to use Hot Work Permits

Easy as 1-2-3

- 1 The person authorized to approve the hot work completes Section I, including the loss prevention checklist, before the work begins.
- 2 Section II is completed by the worker and is posted at the job site. They are to complete the loss prevention checklists that apply to during and after the hot work is finished.
- 3 After the worker finishes the hot work and completes Section II, the form is returned to the Logbook for future reference.

B

Hot Work Permit

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.)

<p>General requirements</p> <ul style="list-style-type: none"><input type="checkbox"/> If contractor is performing hot work, ensure contractor is trained on site-specific hazards<input type="checkbox"/> Verify fire sprinklers and hose streams are in service and condition in accordance with manufacturer's specifications<input type="checkbox"/> Ensure fire extinguisher(s) are readily available<input type="checkbox"/> Ensure hot work equipment is in good working condition and operable<input type="checkbox"/> Shut down and lock out machinery at least 30 minutes prior to performing hot work<input type="checkbox"/> Keep on hand proper safety equipment, including fire-proof gloves, welding shield or goggles and welding apron <p>Requirements within 35 feet of hot work</p> <ul style="list-style-type: none"><input type="checkbox"/> Clean entire area. Sweep floors and remove trash, dust, lint, oily deposits and all flammable liquids.<input type="checkbox"/> Eliminate all explosive atmospheres<input type="checkbox"/> Wet down combustible floors or cover with fire-resistive material (protect personnel from electrical shock when floors are wet)<input type="checkbox"/> 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	<ul style="list-style-type: none"><input type="checkbox"/> Cover all wall and floor openings and duct or spout openings with approved material<input type="checkbox"/> Verify the presence of any combustible materials lining metal vessels, ducts, spouts or piping. Actions to address? Comment: _____ <p>Requirements for hot work on walls, ceilings, roofs</p> <ul style="list-style-type: none"><input type="checkbox"/> Verify construction is non-combustible and without combustible coverings or insulation<input type="checkbox"/> Verify combustible material on other side of walls, ceilings or roofs is moved away or appropriately covered <p>Requirements for hot work on enclosed equipment</p> <ul style="list-style-type: none"><input type="checkbox"/> 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 <p>Requirements for hot work fire watch and fire monitoring</p> <ul style="list-style-type: none"><input type="checkbox"/> 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.
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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: _____

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To download and print more Hot Work Permit Forms, visit MyNSightOnline.com

Hot Work Permit

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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 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.

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-resistive 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

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: _____