



Hot Work Precautions

During vehicle and building maintenance, fires can be triggered when flammable materials such as gasoline, hydraulic fluid, or other flammable or combustible liquids come in contact with ignition sources. Careless handling of fuel (even in the form of small leaks or spills) can lead to a fire or explosion. Ignition sources include friction sparks, static discharges, electrical arcs from faulty equipment, and hot work such as welding. Careless smoking by employees can also be an ignition source.

Specifically with vehicle maintenance, there are several steps that can be taken to prevent a fire. Drain or fill fuel into a stable container that cannot be easily knocked over, bearing in mind that draining or filling into a container can generate static electricity, which can ignite gasoline vapors. Use bonding cables between bare metal on the vehicle chassis and the receiving container to reduce the risk of static sparks. Disconnect the vehicle battery before draining. Keep a dry chemical fire extinguisher nearby and know how to use it.

Flammables

Flammables should be stored in posted, well-ventilated, fire resistant cabinets or rooms.

- Do not store with oxidizing materials such as certain pool chemicals or oxygen cylinders, as they can make a fire more likely and intense.
- Make sure containers are sealed and marked with hazard labels to show their contents.
- Petroleum gas (LPG) cylinders not in use should be stored outside, preferably in secured, open-air cabinets. Combustible refuse should not be stored, even as a temporary measure, in escape routes such as corridors, stairways or lobbies, or where it can come into contact with potential sources of heat.
- Oily or solvent soaked rags need to be stored in sealed metal containers to prevent spontaneous combustion. If flammable solvents are used, store solvents in their original, closed and labeled containers in a flammable storage cabinet or in an approved parts cleaning pan.

Practice good housekeeping to minimize the accumulation of potential fuel load, remove waste materials on a daily basis and store away from the building. Flammable solvents can easily ignite and should be replaced with non-flammable solvent or environmentally-friendly water-based cleaner instead.

Hot Work Area

- Pay particular attention to locations where hot work is to take place.
- Check to make sure that all ignitable materials within 35 feet of the work area are either removed or protected against heat and sparks.
- Before welding, verify that the air does not contain flammable vapor concentrations (with a combustible gas meter, for instance).
- Inspect welding equipment to make sure it is in working condition.
- Under certain circumstances, designate an employee as a fire-watch to observe where the welding slag falls.
- Someone should also observe the area for 30 minutes following completion of the hot work to ensure no smoldering fires remain. Using a written hot work permit system can help ensure all these safety precautions are completed before welding activities proceed.
- At the beginning of the workday, ensure that all fire exits in your work area are clear. Access to fire extinguishers should also be clear.



Required Hot Work Precautions Checklist

DATE:

COMPLETED BY:

- Available sprinklers, hose streams, and extinguishers are in service/operable.
- Hot work equipment in good repair.

Requirements Within 10 Meters (35 Ft.) of Work

- Flammable liquids, dust, lint, and oily deposits removed.
- Explosive atmosphere in area eliminated.
- Floors swept clean.
- Combustible floors wet down, covered with damp sand or fire-resistive sheets.
- Remove other combustibles where possible. Otherwise protect with fire-resistant tarpaulins or metal shields.
- All wall and floor openings covered.
- Fire-resistant tarpaulins suspended beneath work.

Work on Walls or Ceilings/Enclosed Equipment

- Construction is noncombustible and without combustible covering or insulation.
- Combustibles on other side of walls moved away.
- Danger exists by conduction of heat into another area.
- Enclosed equipment cleaned of all combustibles.
- Containers purged of flammable liquids/vapors.
- Pressurized vessels, piping and equipment removed from service, isolated and vented.

Fire Watch/Hot Work Area Monitoring

- Fire watch will be provided during and for 30 minutes after work, including any coffee or lunch breaks.
- Fire watch is supplied with suitable extinguishers.
- Fire watch is trained in use of this equipment and in sounding alarm.
- Fire watch may be required for adjoining areas above and below.
- Monitor hot work area for 30 minutes after job is completed.

Other Precautions Taken

- Confined space entry permit required.
- Area protected with smoke or heat detection.
- Ample ventilation to remove smoke/vapor from work area.
- Lockout/tagout required.

Note: When used in accordance with NFPA 51B, this permit is to be used for, but not limited to, the following: welding, cutting, grinding, open-flame soldering, thawing pipe, and torch-applied roofing.

This Alliant Risk Control Consulting fact sheet is not intended to be exhaustive. The discussion and best practices suggested herein should not be regarded as legal advice. Readers should pursue legal counsel or contact their insurance providers to gain more exhaustive advice.

For more information on this topic, please contact Alliant Risk Control Consulting at (949) 260-5042 or riskcontrol@alliant.com

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