

IRISH INSURANCE FEDERATION

HOT WORK – GENERAL GUIDELINES

Hot work is a phrase used to describe all operations using flame, hot-air or arc welding and cutting equipment, blowlamps, bitumen boilers, grinding wheels, cutting discs and other equipment that produces heat or has a naked flame.

You can avoid accidents and make your workplace safer for you and your employees by following a few simple guidelines.

The essential features are:

- Hot work permit system in operation
- Authorised only where safer method of work is not available.
- Hot work only carried out by trained personnel.
- Safe area of work.
- Continuous fire watch by trained person during/after hot work.
- Hot work permit check-list.

The workplace in general

Hot work should only be authorised where a safer way of doing the job is not available. For example, pipe-joining may be possible without soldered fitting. But where hot work is unavoidable, it is essential that the following precautions are taken:-

- A formal hot work permit should be issued by suitably experienced supervisors with the authority to ensure compliance with the procedures.
- Wherever possible, items to be subject of hot work should be removed to a safe area designated for that purpose.
- All water sprinklers should be operative.
- Cutting and welding equipment should be in good repair and adequately secured.
- There should be no combustible liquids, vapours, dust or gasses present.
- Work should be carried out, by and under the supervision of, trained personnel.

You should ensure that both your own employees and outside contractors comply with relevant workplace safety rules.

THE HOT WORK AREA

Employers should ensure that the area in the immediate vicinity of the hot work is fully secure. In particular, you should ensure that:-

- Before starting hot work an area within at least 10m of the hot work process is cleared of all loose combustible material and if work is to take place on one side of a wall or partition, the opposite side is examined to ensure no combustible material will be ignited by conducted heat.
- Where combustible materials cannot be removed from the area, they are completely protected by non-combustible screens or blankets. Flammable liquids must always be removed from the area.
- Combustible floors are covered with overlapping sheets of non-combustible material.
- That the floor is swept clean of combustible materials.
- That all wall and floor openings, and all gaps in walls and floors through which sparks could pass, are covered with sheets of non-combustible material.
- Good ventilation in all areas where hot work is being carried out.
- Where work is above floor level, that non-combustible material is suspended beneath the work to collect sparks.

WORK ON WALLS OR CEILINGS

Where work is being carried out on walls or ceilings, the employer should ensure that combustible constructions are protected by non-combustible curtains or sheets. Combustibles should also be moved away from the opposite side of the wall or ceiling and cleared of any metal likely to conduct heat. Remember, where metal beams or pipes are being worked on, and they extend through walls or partitions, precautions must be taken on the far side of the walls or partitions.

WORK ON ENCLOSED EQUIPMENT

Where hot work is being carried out on enclosed equipment such as tanks, containers, ducts or dust collectors, the equipment must be cleaned out of all combustibles and containers checked to ensure they are free of flammable vapours.

SETTING UP A FIREWATCH

When hot work is being carried out, a trained employee should be in attendance during and for one hour after the completion of the work. This employee should be provided with fire extinguishers or a small bore hose and should be trained to use this equipment and sound the alarm.

Both the fire watch employee and the operatives carrying out the hot work should know where the nearest fire alarm and telephone are located and must know what action to take in the event of a fire. They should also be aware of :-

- Escape Routes – Fire Points – Location of Fire Extinguishers – Alarm Call Points.
- Telephones from which the Fire Brigade(s) may be summoned.
- Means of raising alarm.
- First Aid Facilities.

The employer should ensure that warning notices have been displayed throughout the workplace.

Following completion of Hot Work:

When hot work is complete, items such as pain strippings, hot stub ends of welding rods and other waste materials must be removed and disposed of safely. All equipment, including gas cylinders, should be removed to a secure area at the end of the working period or when the task is completed, if this is sooner. Where bitumen/tar boilers are concerned, only the gas cylinders need to be removed. The fire watch should continue for at least one hour after work is completed.

THE HOT WORK PERMIT

Before beginning hot work, a hot work permit should be obtained from an authorised person, such as the fire or safety officer. This should be done on every occasion that hot work of any type is undertaken within or upon the fabric of established buildings or any structures or plant in the open. This procedure should also apply to all buildings which are being refurbished.

A permit should not be issued without considering the significance of any other permits to work in the vicinity, or adjacent manufacturing processes which may involve the use of flammable liquids or gas.

A hot work permit should be issued of a specific task that is to be undertaken in a clearly identified area. It should not be issued for a protracted period. Separate permits should be issued for hot work which extends from morning to afternoon periods.

Before completing the first part of the hot work permit, the person responsible for carrying out the work should complete the check-list on the reverse side of the form to indicate that fire protection measures are adequate, suitable precautions have been taken and the equipment to be used is safe.

The hot work permit should be completed in duplicate, with the top copy being handed to the person responsible for carrying out the work. The second copy should be retained by the issuer who may wish to inspect the site of the work or instigate spot checks to ensure that conditions have been met and that work is complete before the hot work permit expires.

MODEL HOT WORK PERMIT

Applicable to all operations involving flame, hot air or arc welding and cutting equipment, brazing and soldering equipment, blowlamps, bitumen boilers and other equipment producing heat or having naked flames.

EMPLOYER:

CONTRACTOR:

N.B: Permit applies only to the job, period and area specified below.
Fresh permits should be issued for each half-day, where work carries on from Morning to afternoon or overnight.

1. DETAILS OF WORK

Period of Work: from am/pm to am/pm

Exact Location:

Equipment for the operation:

Fire hazard:

Other hazards:

Comments:

2. FIRE PRECAUTIONS (to be ticked in each case by person carrying out check).

General Conditions:

- The location specified above has been examined.
- Any sprinklers installed are operative.
- Cutting and welding equipment is in good repair and adequately secured.
- There are no combustible liquids, vapours, dust or gasses present.
- The work will be carried out by, and under the supervision of, trained personnel.

Precautions within 15 m of work:

- Floor swept clear of combustible materials.
- Combustible floors protected by wetting down and covering with damp sand or sheet of non-combustible material.

- Combustible materials and flammable liquids protected with non-combustible curtains or sheets.
- All wall and floor openings covered with sheets of non-combustible material.
- All gaps in walls and floors through which sparks could pass covered with sheets of non-combustible material.
- When work is above floor level, non-combustible curtains or sheets suspended beneath the work to collect sparks.

Work on Walls or Ceilings:

- Combustible constructions protected by non-combustible curtains or sheets.
- Combustibles moved away from opposite side and clear of any metal likely to conduct heat. Where metal beams/pipes are being worked on, and extended through walls or partitions, precautions must be taken on the far side of such a wall or partition.

Work on enclosed equipment (tanks, containers, ducts, dust collectors etc):

- Equipment cleaned of all combustibles.
- Containers free of flammable vapours.

Firewatch:

- Provision for the attendance of an employee of the contractor during and for one hour after completion of work. Such employees being supplied with extinguishers or small bore hose and trained in the use of such equipment and in sounding an alarm.
- He and the operatives have had the nearest fire alarm/telephone pointed out to them and have been told what to do in the event of a fire.
- Warning notices have been displayed.

3. AUTHORISATION BY EMPLOYER

I have personally checked the aforementioned precautions and consider it safe to carry out this work.

Date:

Between am/pm and am/pm

Permission is granted to

to use

in the(exact location)

Company Representative (print name)

Signature

Telephone

Date Time

4. ACKNOWLEDGEMENT BY CONTRACTOR

I fully understand the hazards of this work and the precautions to be taken. These have also been fully explained to the operatives carrying out this work and I consider them competent to do it safely. I will return my copy of this permit to the Nominated Official when the work has been safely completed.

Contractor's Supervisor (print name)

Signature

Telephone

Date Time

5. CANCELLATION

Work areas and all adjacent areas to which sparks and heat might have spread were thoroughly inspected on completion of the operation, and one hour later no smouldering fires were discovered.

SIGNATURES

Contractor's Supervisor

Date Time

Company Representative

Date Time