



Beacon Academy Trust

A COMPELLING VISION FOR SUCCESS

Fire Safety – Hot Work Permit Policy/ Procedures

DRAFT

INTRODUCTION

Serious fires frequently occur during maintenance and construction operations, where work is proceeding on either machinery, plant or the fabric of buildings. Most of these are the result of carelessness and ineffective supervision during operations requiring the use of open flames or the local application of heat. The sources of heat most commonly involved include:-

- Gas or electrical welding and cutting apparatus.
- Blow lamps and blow torches.
- Bitumen and tar boilers.
- Grinding wheels and cutting discs.

Whether hot work is carried out by employees or by outside contractors or their sub-contractors it is important that all such work is fully and effectively managed. Contractors working in or around our premises with which they are not familiar present the most serious hazard. It is unlikely that they will know the particular fire risk present or the correct action to be taken in the event of a fire. Our own employees should be familiar with the premises and all of the potential fire risks present. However such familiarity can result in complacency and carelessness. Therefore, exactly the same high standard of management supervision and control should be exercised.

Experience has shown that a satisfactory standard of care and supervision is far more likely to be achieved where a formalised written permit to work system is in force, under a suitably experienced supervisor with the authority to ensure compliance with the procedures. These recommendations comprise overall advice. A sample Hot Work Permit which provides a check list of the most obvious precautions is attached to this document.

RECOMMENDATIONS

1. General Precautions

- 1.1 Hot work should only be authorised where a safer method of work is not available.
- 1.2 Hot work should only be carried out by trained personnel.
- 1.3 Wherever possible items to be the subject of hot work should be removed to a safe area designated for that purpose.
- 1.4 In sprinklered premises welding and cutting operations should not be carried out when the water supply to the sprinkler system is shut off.
- 1.5 When hot work is being undertaken in premises fitted with an automatic fire detection system only the zone where the work is being carried out should be isolated. The zone should be reinstated as soon as the task has been completed.
- 1.6 A trained person should provide a continuous fire watch during and for at least one hour following each period of work. This action will detect and extinguish any incipient burning in the work area and in all adjoining areas to which sparks and heat may spread.

2. Procedure for Hot Work Permits

- 2.1 Prior to the commencement of work a hot work permit should be obtained from an authorised person. 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.
- 2.2 The authorised person should have experience or training in the problems associated with hot work and suitable status within the organisation to ensure compliance with laid down procedures.
- 2.3 Hot work permits should not be issued without considering the significance of any other permits to work in the vicinity or adjacent manufacturing processes.
- 2.4 Hot work permit should be issued for a specific task that is to be undertaken in a clearly identified area.

3. Before Hot Work Commences

- 3.1 Before work commences, an area within 10m of the hot work process should be cleared of combustible materials and flammable liquids. All elements of combustible construction and surface finishes should be protected. This applies to any openings, holes or gaps in walls, floors and ceilings through which sparks could pass. The 10m distance may need to be increased especially in high fire risk areas or when overhead work is to be undertaken.

- 3.2 Where combustible materials within 10m cannot be removed, they should be completely protected by the use of non-combustible or purpose made fire retardant blankets, drapes or screens. Flammable liquids should always be removed from the area.
- 3.3 Combustible floors in the designated areas should be covered with overlapping sheets of non-combustible material or wetted and liberally covered with sand. Particular care should be taken to ensure that any gaps in the flooring are adequately covered.
- 3.4 Floors should be swept clean.
- 3.5 Hot work should never be carried out in an atmosphere containing flammable vapours or combustible dust. Where a hazardous atmosphere is suspected, air samples should be taken and work only commenced when the atmosphere has been certified to be non-hazardous. If there is a risk that the flammable atmosphere may recur, further testing of the atmosphere will be necessary.
- 3.6 Flammable solvents should not be used to clean surfaces immediately before work commences.
- 3.7 Before carrying out work on one side of a wall or partition an examination should be made of the area on the other side to ensure that any combustible materials are not in danger of ignition by direct or conducted heat.
- 3.8 Where hot work is to be undertaken on composite building panels or similar constructions i.e. panels incorporating thermal or other insulation material, the type of insulating or other materials behind metal or other non-combustible surfaces should be assessed. If combustible materials are identified or suspected, especially polystyrene, polyurethane or other foam plastics, alternative methods should be employed.

- 3.9 Good ventilation should be provided in all areas where hot work is to be carried out as procedures may produce copious volumes of smoke and fumes.
- 3.10 At least 2 LPCB approved extinguishers each with a rating of 13A or a hydraulic hose reel should be provided at a place where the hot work is to take place and made ready for immediate use in the event of an outbreak of fire.
- 3.11 All personnel involved with the hot work should be familiar with the means of escape from the premises and the method of raising the fire alarm and summoning the brigade.

4. Following Completion of Hot Work

- 4.1 When work is complete, paint strippings, hot stub-ends of welding rods and other hot waste materials should be removed and disposed of safely.
- 4.2 At the end of the working period all equipment, including gas cylinders, should be removed to a secure area. Where bitumen / tar boilers were employed, only the gas cylinders need to be removed.

5. Recommendation Specific to Individual Items of Equipment

5.1 Blow Lamps and Blow Torches

LPG blow lamps or torches should be extinguished and allowed to cool before changing cylinders. Paraffin or petrol blow lamps should only be filled and lit in the open and should not be refilled when hot.

Blow lamps or torches should be lit as short a time as possible before work commences and extinguished immediately after the work ceases.

Lighting up should only be carried out in accordance with the manufacturer's instructions. Blow lamps or torches should not be left unattended when alight.

Electrically powered hot air blowers are a particular source of danger as no flame is apparent. When using these appliances the same safety measures should be observed as when undertaking other forms of hot work.

5.2 Bitumen and Tar Boilers

To prevent heat igniting the roof, bitumen or tar boilers, lead heaters and similar equipment should only be taken onto roofs in exceptional circumstances where a non-combustible heat insulating base must be provided.

The equipment must always be supervised by an experienced operator and sited on a firm and level surface where spilled material can easily be controlled.

Gas cylinders must be at least 3m from the burner. Gas hoses should be in good condition and properly fitted. Cylinders not in use should be stored away from the working area.

The bitumen level and its temperature should be monitored and the lid should normally be kept on the boiler.

The burner should be turned off before transporting the boiler on a lorry or trailer.

5.3 Grinding Wheels and Cutting Discs

The correct grade of wheel or disc should be used for the task in hand.

Before each period of use the wheel / disc should be checked to ensure that it is securely fastened and in good condition.

6 **Contracted Work**

6.1 Prior to entering into a contractual agreement with contractors, advice should be obtained from your insurance adviser on the adequacy of the contractors insurance. Arrangements and amounts of cover can vary considerably.

6.2 Contractors should be made aware of the fire safety procedures operating at the premises including the hot work permit system. Written undertaking to observe the precautions should be obtained from the contractor prior to the commencement of the work.

7 **Appendix**

7.1 Hot Works Permit

7.2 Hot Works Checklist

FURTHER ASSISTANCE

This is part of a series of information sheets which have been designed to provide guidance on loss prevention and control.

Should you require further guidance please contact your Insurance Broker, your Zurich Risk Analyst or the Risk Support Team on 0121 697 9131 or by e-mail on risksupport@uk.zurich.com

The details in this document are for guidance only. Whilst all descriptions and details are given in good faith and are believed to be correct, no liability can be accepted for any errors or omissions.



HOT WORK PERMIT

For BLOWLAMPS, CUTTING & WELDING or other HEAT PRODUCING EQUIPMENT

IMPORTANT:

Precautions on page two must be adhered to without fail

DATE:

BUILDING: FLOOR:

DEPT/SECT:

WORK INVOLVED:

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The location where this work is to be done has been examined, necessary precautions (as per page 2) taken and permission has been granted for this work.

This Permit

Expires:

Time Commenced: Completed:

Signed:

(Individual responsible for authorising hot work)

FINAL CHECK-UP

Work area and all adjacent areas to which sparks and heat might have spread (including floors above and below and on the other side of walls), were inspected 30 and 60 minutes after the work was completed and were found fire safe.

Signed:

(Supervisor)

This Permit is to be filed for review by the Insurer's Surveyor

PREVENT FIRES

HOT WORK PERMIT CHECKLIST

Prior to approving any hot work the fire safety Supervisor or his appointee shall inspect the work area and confirm that precautions as listed below have been taken to prevent fire.

Check each item carefully

PRECAUTIONS

- Sprinklers and other Fire Fighting Systems and Equipment in service where possible
- Hot Work Equipment is in good condition
- Gas containers/flammable liquid containers to be changed/filled in the open

WITHIN 15 METRES OF WORK

- Floors swept clean of combustibles and wetted down or covered with non combustible material where necessary
- Combustible materials, hazardous or flammable liquids have been removed or are protected with non combustible curtains or sheets
- Non combustible covers suspended beneath work to collect sparks

WORK ON WALLS OR CEILINGS

- Any combustible material has been protected against sparks or heat
- Combustibles moved away from other side of walls and away from metal through which heat can be transferred

WORK ON ENCLOSED EQUIPMENT

(Tanks, containers, ducts, dust collectors etc.)

- Equipment cleaned of all combustibles and dust
- Containers purged of flammable liquids and vapours

FIRE WATCH

- To be provided during and 30 minutes after operation
- Supplied with extinguishers and/or hose reel
- Trained in use of fire fighting equipment and in sounding the fire alarm

FINAL CHECK UP

- To be made 60 minutes after completion of any operation

Signed:

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(Supervisor)