

HOT WORK GUIDANCE

General precautions

Hot work should only be authorised where a safer method of carrying out the work is not possible or practical. For example using blow-lamps could be avoided where surfaces are being prepared for painting.

Work involving electrical welding/cutting equipment, open flame or grinding/cutting wheels should only be carried out by suitably competent personnel.

Wherever possible, hot work should be carried out in an area designated for that purpose. It may be appropriate to move the items to be worked on to an existing designated area.

In areas protected by a sprinkler system, hot work operations should not be carried out when the sprinkler system is isolated.

When hot work is being undertaken in premises fitted with an automatic fire detection system only the zone or detector(s) where the work is being carried out should be isolated if required to prevent false alarms. The zone should be reinstated as soon as the task has been completed.

A nominated person should provide a continuous fire watch during the period of hot work, and after it ceases. A final fire check of the work area shall be periodically undertaken for one hour immediately after the hot works have been completed, and before any permit is signed off. The individual should monitor and detect any smouldering or fire in the work area and adjoining areas to which sparks and heat may have spread. These areas include floors below and above the work area and areas on the other sides of walls to where the work is being carried out.

Liaison should be established in multiple occupancy buildings before work commences to ensure all occupants are aware of the work being undertaken and to arrange alternate access if required to areas adjacent to where work is to be undertaken.

Contractors must be made aware of fire safety procedures in place at the premises, including the hot work permit system. The contractor's responsible person must sign the hot work permit prior to the commencement of the work.

Precautions for using hot work equipment

Gas welding and cutting apparatus

Gas/electric welding and cutting procedures must only be carried out by trained personnel using equipment and hoses and leads in good condition and set up in accordance with the manufacturers' instructions. Gas cylinders should always be safely transported, preferably by the use of purpose-built trolleys. They should be sited at least three metres from the burner and have been properly secured in a vertical position, and fitted with a regulator and flashback arrester.



Blowlamps and blowtorches

LPG blowlamps and blowtorches should be extinguished and allowed to cool before changing cylinders. Paraffin or petrol blowlamps must not be used; paraffin or petrol blow-torches should be filled and lit in the open and should not be refilled when hot.

Blowlamps and blowtorches should be lit as short a time as possible before work commences and extinguished immediately the work ceases.

Lighting up should only be carried out in accordance with manufacturer's instructions. Blowlamps/blowtorches should not be left unattended when alight.

Electrically-powered hot air blowers are a particular risk due to there being no visible flame. When using these appliances ensure they are switched off when not in use and unplugged and allowed to cool before storing.

Bitumen/tar boilers

Bitumen and tar boilers, lead (metal) heaters and similar equipment should only be taken onto roofs in exceptional circumstances. If located on a flat roof, a non-combustible heat insulating base must be provided to prevent possible ignition of the roof structure.

Any lit boilers must not be left unattended, and equipment must always be supervised by an experienced operator. It must be sited on a firm and level surface where spilled material can easily be controlled.

Gas cylinders must be located at least three metres from the burner and have been properly secured in a vertical position, and fitted with a regulator and flashback arrester.. Gas hoses must 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 normally be kept on the boiler.

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

Grinding wheels and cutting discs

The correct grade of wheel or disc should be used for the task in hand. Where possible, wet cutting should be undertaken.

Before hot work commences

All personnel involved with the hot work should be familiar with the method of raising the fire alarm, means of escape from the premises and summoning assistance and/or the fire brigade.

Before hot work begins, an area within 5 metres of the work should be cleared of combustible materials and flammable liquids if possible. All elements of combustible construction and surface finishes should be protected, as should any openings, holes or gaps in walls, floors and ceilings through which sparks could pass. In some circumstances the distance may need to be greater than 5 metres, for example where overhead hot work is to be undertaken. If the clearing of combustible materials and flammable liquids is not possible then extra protection such as covering with flame proof sheeting must be provided. Protection, except where indicated otherwise, should be by the use of non-combustible or purpose-made blankets, drapes or screens.

Any services such as gas pipes and electric cables should be identified, isolated and protected where possible.

All floors should be swept clean and combustible floors in the hot work area 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.

Hot work should never be carried out in an atmosphere containing flammable/explosive vapours, gas or combustible dust. Where a hazardous atmosphere is suspected, gas/vapour monitoring should be undertaken 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 periodic or continuous testing of the atmosphere will be necessary.

Flammable solvents should not be used to clean surfaces immediately before work commences.

Before carrying out work on one side of a wall or partition, an examination of the area on the other side of the wall or partition should be carried out to ensure that any combustible materials are not at risk of ignition by direct or conducted heat. Heat may be conducted where walls or partitions are metal or metal items such as beams or bolts penetrate to the other side.

Where hot work is to be undertaken on composite building panels or similar construction the type of insulating or other materials behind metal cladding or other non-combustible surfaces should be assessed. If combustible materials are identified or suspected, alternative methods of carrying out the work should be employed.

Good ventilation should be maintained in all areas where hot work is to be carried out as the work may produce copious volumes of smoke and fumes.

At least two fire extinguishers appropriate to the environment and material being worked with should be provided at the location where the hot work is to be undertaken.

Following completion of hot work

When the work is complete, stub ends of welding rods and all waste materials should be removed and disposed of safely.

Hazardous materials will be removed from the hot works location as soon as work is completed.

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 involved, only the gas cylinders need to be removed.

A fire watch should be maintained for at least one hour after work is completed - see 'General Precautions'.