

Hot Work Procedures

Many aspects of maintenance and engineering work involve welding, burning, cutting, grinding and working with bitumen boilers etc. When these activities are carried out in direct contact or in close proximity to flammable or combustible materials there is the risk of explosion, fire and the production of toxic substances, with the potential consequences of serious injury, ill-health and or damage to property and the environment. It is therefore necessary to have a controlled procedure to reduce the risks associated with Hot Work to an acceptable level.

The aim of this policy is to outline the procedure that Shropshire Council should adopt to ensure the risks are adequately controlled.

1 Introduction

Hot Work comprises temporary work activities that involve the application or the generation of heat/sparks during their execution. Such activities include cutting, welding, brazing, grinding soldering and the use of blowlamps. Hot Work, in the main, is associated with the application of heat either directly to, or adjacent to plant, pipes, buildings, roof structures etc. Hot Work may be described as routine or non-routine and normally the former is low risk and the latter high risk. It is non-routine Hot Work, typically taking place during the construction or maintenance of buildings, structures, machinery etc that requires a permit to work. Routine Hot Work requiring or involving heating processes during normal working operations would usually only require a safe system of work to be in place.

The following examples will illustrate the difference between non-routine and routine Hot Work, more detailed definitions are given below in section 4. The maintenance of a flat roof with molten bitumen would be classed as non-routine Hot Work and would require a permit to work; whereas using a laser cutter to form plastic components in a school technology class would be classed as routine Hot Work and would only require a safe system of work.

2 Hazards

The hazards arising from Hot Work comprise:

- i) Fire and explosion risk to the building or surroundings as a result of work activities that generate sparks and heat, such as grinding, burning and welding etc., in areas containing combustible and flammable materials.
- ii) Risk of eye injury including ultra-violet damage (i.e. "arc-eye"), burns and heat exhaustion.
- iii) Asphyxiation by smoke, gases and vapours and/or asphyxiation or poisoning by toxic fumes.
- iv) Flash-back injuries from Oxy/fuel gas equipment.
- v) Burns from contact with hot materials or a naked flame.

3 Risk Assessment for Hot Work

All managers that commission Hot Work must ensure that these activities are undertaken safely. A suitably competent person must undertake a Hot Work Risk Assessment.

Hot Work should only be undertaken if alternatives have been discounted as not reasonably practicable, i.e. mechanical fixing, sawing, use of adhesives etc. Property Services Group (PSG) will always consider less hazardous alternatives to avoid the hot work risk. In roof work, for example, there is an increased risk presented in using hot works on CLASP/SCOLA buildings. Flame free alternatives will be used where practical in all types of roof work.

If the Hot Work involves or produces substances hazardous to health, e.g. cleaning solvents, acids, welding fumes etc. then the work must include any additional control measures as necessary under the Control of Substances Hazardous to Health Regulations.

4 Safety Procedures for Hot Work

To control the risks associated with Hot Work operations, activities must be carried out in accordance with these arrangements.

All Hot Work must be performed by competent person/s who:

- Understand the procedures for Hot Work. The Council's Insurers recommend that contractors comply with The National Federation of Roofing Contractors Ltd.'s (NFRC) - [Safe2Torch Guidance For the safe installation of torch-on reinforced bitumen membranes and use of gas torches in the workplace.](#)
- Are approved contractors from the Council's Approved Contractors List

The work area should be made as safe as possible before the work starts, and all the prescribed preventative precautions must be taken whilst the work is in progress. Refer to Appendix 1 for details.

4.1 Routine operations in designated areas - Standard Operating Procedure

Lower risk, routine Hot Work operations should be carried out in accordance with a **Safe System of Work** that has been derived from a risk assessment that covers these predictable activities.

The types of activities that would fall within this category include:

- Operations in designated facilities i.e. welding bays
- Operations in general workshop or laboratory areas that are designated for routine operations involving heat,
- Operations that are carried out in areas that will not be affected by the hot work.

Higher risk hot work activities may involve:

- Hazardous residues that may be present within or on the item being subjected to heat,
- Work in locations that contain, or are in the vicinity of, highly flammable or highly combustible materials,
- Work in confined spaces.

In these higher risk and non-routine operations the use of one or more permits to work would be a requirement.

4.2 Non-routine operations - Use of Permit to Work

Operations that are of a non-routine nature must be assessed by the Authorised Person to identify whether they may give rise to significant risks to those engaged in the work, the building or to others who may be in the vicinity. Where this is the case then this must be carried out in accordance with a **Permit-to-Work**. See Permit to Work Form, Appendix 3 & 4 and the flowchart Appendix 6.

Only an authorised person may issue a permit to work. See Appendix 2.

A Permit-to-Work involves a methodical assessment of the task to identify and specify the precautions to be taken. Examples of situations for which a Permit-to Work should be issued are as follows:

- Work on pipes that have contained flammable materials, are lined or coated with flammable or

- combustible materials,
- Repair of pipes,
- Work on roofs or internal structures,
- Work in areas that contain flammable or combustible materials that cannot be protected by following the Safe Operating Procedure alone,
- Work in locations that could expose other users of the area to hazards, e.g. work above building entrances or on circulation routes (unless this is a regular activity for which a Standard Operating Procedure is available).

The Authorised Person, i.e. Premise Manager/Head Teacher/Nominated deputy for the premise or Principal Contractor*(see third paragraph below) responsible for managing the activity should issue the Permit-to-Work. This may be carried out in consultation with the PSG who may have been involved with commissioning the work. The precautions should be discussed with the person carrying out the hot work (**Competent Person – Refer to Appendix 2**) to ensure that the nature of the work and the hazards are clearly understood. It is the joint responsibility of the **Authorised Person** and the **Competent Person** to fully understand the contents, limitations and scope of the Permit and its full implications, prior to commencement of work.

The Authorised person should see Appendix 1 for a Check List for fire precautions before issuing the permit to the competent person (contractor) given in Appendix 4. Please note also the Special precautions for the use of certain types of hot work equipment and in certain high risk “special” locations given in Appendix 5.

Where the authorised person will not be available to sign off the hot work permit at the end of the hot work operation e.g. work proposed to be carried out late in the day, the hot work operation should not be started until the authorised person will be available for the duration of the hot work operation, unless a second approved authorised person formally takes over administration of the permit.

Under the Construction (Design and Management) Regulations, a Principal Contractor may be responsible for issuing and managing the Permit to Work during the construction phase. This will need to be confirmed at the planning stage. *Typically, this will apply only to new build and standalone projects where the Principal Contractor is solely responsible for the construction site activities and not where collaborative working is required with the premise management. In this case premise management will be responsible for issuing such permits.

The Permit-to-Work should be validated for a maximum of one day only. If additional time beyond the expiry of the Permit is required then the person who issued it should formally extend this on the Permit, or in their absence another appropriate authorised person after reviewing the criteria under which it was issued.

Method statements should accompany complex jobs and be provided by contractors. Where contractors are commissioned by PSG, it is essential that liaison occurs between Premise Managers/Head Teachers and the Building Surveyor if the hot work might affect the normal activities of the area.

A copy of the Permit to Work must be available at the hot-work location.

5.0 Training

The Authorised Person must be competent to issue the Permit to Work and understand the hazards associated with hot working.

An eLearning Hot Work Awareness package is available for completion by those expected to act in the role of Authorised Person (those issuing the permit to the competent contractor/person).

Authorised Persons must undertake this module before issuing permits.

The eLearning Hot Work Awareness package is available on Leap into Learning.

Where there may be issues with accessing Leap into Learning, Hot Work Awareness Sessions are available through the Health and Safety Team – Contact 01743 252819 to book onto a Hot Work Briefing delivered remotely using Teams.

6.0 Health & Safety Representatives

It should be noted that union and non-union health and safety representatives should:

- Be kept involved, consulted and informed about all aspects of work carried out by contractors,
- See relevant paperwork, such as details of the work to be undertaken, relevant health and safety planning documents, information about the timing of particular works and details of emergency evacuation procedures,
- To inspect work or work processes and to present their finding to management,
- Given paid time off to fulfil above functions and, if required, to attend appropriate training to allow for their safety representatives' functions to be effectively discharged.

7.0 Hot Work on Highways

Hot work may also be carried out on highways. This work would include activities such as bitumen

macadam laying, hot applied binders, hot pinching works, use of pitch boilers, hot lance working and white lining. All hot work is to be performed following the procedure outlined in the hot work risk assessment. This assessment details responsibilities of supervisors and operatives.

8.0 Advice

Further information and advice on Hot Working or Permits to Work can be obtained by contacting the Health and Safety Team on 01743 252819 or the PSG n 01743 281073.

Appendix 1

Hot work permit checklist for fire precautions.			
Setting up:	Yes	No	N/A
<ul style="list-style-type: none"> • Fire equipment and systems are in service; 			
<ul style="list-style-type: none"> • Fire extinguishers/blankets are to hand at points of work; 			
<ul style="list-style-type: none"> • Fire extinguishers are subject to annual maintenance and are full/charged. 			
<ul style="list-style-type: none"> • Hot work equipment is in good condition; 			
<ul style="list-style-type: none"> • Gas containers/flammable liquid containers are to be changed/filled in the open air. Use safety dispensers / containers to store and dispense flammable liquids. 			
<ul style="list-style-type: none"> • Fire alarm zones silenced/smoke detectors covered and appropriate alternative arrangements for activating the fire alarm are in place and relevant staff have been informed. 			
<ul style="list-style-type: none"> • Escape routes from place of work are clear, i.e. Not obstructed with work materials 			
<ul style="list-style-type: none"> • Building users/staff working in the vicinity of, in or near the relevant area of the hot work operation made aware/excluded from hot work zone. 			
Within 15 metres of the work:	Yes	No	N/A
<ul style="list-style-type: none"> • Floors swept, clear of combustibles, wetted down, or covered with non-combustible materials where necessary; 			
<ul style="list-style-type: none"> • Combustible materials, hazardous or flammable liquids have been removed or are protected with non-combustible curtains, sheets or shields; 			
<ul style="list-style-type: none"> • All wall and floor openings through which sparks can fall have been covered with non-combustible curtains or sheets; and 			
<ul style="list-style-type: none"> • Non-combustible materials suspended beneath work to collect sparks. 			
Work on walls and ceilings:	Yes	No	N/A
<ul style="list-style-type: none"> • Any combustible material has been protected against sparks or heat; and 			
<ul style="list-style-type: none"> • Combustibles moved away from the other side of walls and away from metal through which heat can be transferred. 			
Work on enclosed equipment: (tanks, containers, ducts, dust collectors etc.)	Yes	No	N/A
<ul style="list-style-type: none"> • Equipment cleared of all combustibles and dusts; and 			
<ul style="list-style-type: none"> • Containers purged of all flammable liquids and vapours. 			
<ul style="list-style-type: none"> • Confined space precautions undertaken in accordance with Confined Spaces Regulations 			
Work on roofs:	Yes	No	N/A
<ul style="list-style-type: none"> • Two Dry Powder Fire extinguishers available at point of work and at boiler 			
<ul style="list-style-type: none"> • Bitumen boilers at ground level only 			
<ul style="list-style-type: none"> • Gas cylinders for boilers at least 3 metres from building 			

Fire watch:	Yes	No	N/A
<ul style="list-style-type: none"> • Provided during, and then continuously for 60 minutes on completion of work (or after completion of operations). 			
<ul style="list-style-type: none"> • Supplied with suitable fire extinguishers/blankets and/or hose reel. 			
<ul style="list-style-type: none"> • Someone is present in the surrounding area that has been trained in basic firefighting and in sounding the alarm. 			
Final check:			
	Yes	No	N/A
<ul style="list-style-type: none"> • To be made 60 minutes after completion of any operation; and 			
<ul style="list-style-type: none"> • If contractors have had access to the roof space, check the openings in roof voids are properly closed and locked. 			
Precautions required for work on highways:			
	Yes	No	N/A
<ul style="list-style-type: none"> • All LPG cylinders are correctly handled, transported and stored at a safe distance from any sources of heat 			
<ul style="list-style-type: none"> • All equipment to be in good working order, correctly maintained and free from any gas leakage at hoses, joints etc. 			
<ul style="list-style-type: none"> • An appropriate size of fire extinguisher of the correct type is available and in good working order at the site of the hot working operation 			
<ul style="list-style-type: none"> • All appropriate personal protective equipment to be available and worn when doing hot work 			
<ul style="list-style-type: none"> • A fully stocked first aid box to be available and its whereabouts known to all personnel involved 			
<ul style="list-style-type: none"> • No hot appliances or naked flame to be left unattended at any time unless adequately screened to prevent unauthorised access 			
<ul style="list-style-type: none"> • Those carrying containers of hot material must be well protected from moving vehicles and contact with members of the public 			
<ul style="list-style-type: none"> • Where necessary notices warning of hot working to be prominently displayed 			
Comments:			

Duties of the Authorised Person

An **Authorised Person** is the Premise Manager/Head Teacher or trained deputy, /Principal Contractor. The Authorised Person has the following duties:

- (i) To issue the appropriate documentation (hot work permit) to the Competent Person, discussing the practicalities of the safety precautions and control measures required.
- (ii) To monitor that during the hot work activity, the work is carried out in line with the Permit to Work or Standard Operating Procedure.
- (iii) Where the work extends beyond one day, to extend the permit if the conditions are still applicable.
- (iv) To ensure that on completion of the hot work the Competent Person has left the area in a safe condition and to cancel the permit issued.
- (v) To use a contractor from the Approved Contractors List.
- (vi) To seek advice from PSG and/or the Health and Safety Team on procedures for Hot Work, Permit to Work and precautions required for commissioning hot work activities.
- (vii) To remain on site throughout the duration of the hot work operation unless a formal hand-over of the hot work permit takes place to a second authorised person.
- (viii) To ensure that cleaning staff and/or other staff occupying the relevant area controlled by the permit e.g. evening/night class staff and any persons leasing the premises or part of it, are brought under the control of the permit.

Duties of the Competent Person

A **Competent Person** is someone who is trained and experienced in the actual Hot Work activity and has duties as follows:

- (i) On completion or cessation of the Hot Work including expiry of minimum continual **fire watch** period (i.e. 60 minutes), confirm that the Hot Work area is safe and free from any source of ignition or any signs of any smouldering materials, tidy up the work area, remove/replace any fire-fighting equipment, if a permit was issued, it must be signed off by the Authorised Person (Permit issuer) and copies retained by the Competent person and Authorised Person
- (ii) Ensure that they are familiar with these Hot Working arrangements. The Council's Insurers, recommend compliance with The National Federation of Roofing Contractors Ltd's (NFRC) - [Safe2Torch Guidance For the safe installation of torch-on reinforced bitumen membranes and use of gas torches in the workplace.](#)
- (iii) When a permit is issued, to discuss the safety precautions required with the Authorised Person. Sign for acceptance of the permit to confirm understanding of the requirements and the obligation to carry out the instructions correctly.
- (iv) Work in compliance with the job instructions and control procedures.
- (v) Adhere to any provision in the Safe Operating Procedure or Permit to Work.

- (vi) Supervise, erect and maintain any barriers, screens or other protective measures.
- (vii) Ensure/arrange communication and/or reporting procedures for emergency situations as appropriate.
- (viii) Observe all fire precautions.
- (ix) Comply with any monitoring required by the documentation.
- (x) Keep the Hot Work area clean, tidy and free from any combustible materials.
- (xi) Restrict the use and application of heat to the stated points of work.
- (xii) Leave the area in a safe condition if the hot work is suspended. The permit will need to be formally extended or a new permit issued if the hot work is to continue on a different day.
- (xiii) Comply with any requirements laid down in the Hot Work Safe Operating Procedure or Permit to Work to carry out a personal inspection after a specified period following the last application of heat.
- (xiv) On completion or cessation of the Hot Work, confirm that the Hot Work area is safe and free from any source of ignition or any signs of any smouldering materials, tidy up the work area, remove/replace any fire fighting equipment, if a permit was issued, it must be signed off by the Authorised Person (Permit issuer) and copies retained by the Competent person and Authorised Person.

Duties of staff and other relevant persons

- i. To comply with the requirements and controls of the hot work permit.

Permit-to-Work - Hot Work (*Completed example*)

Project: Toilet refurb		
Document reference No: 01/09/2015		
Task or work operation: Soldering	Duration of work: $\frac{1}{2}$ day	
This permit to work is issued for the following work only. No work other than that detailed in this permit is permitted to be carried out.		
Is work to be carried out when plant, equipment or systems are in operation? (* = delete where not applicable)	Yes*	No*
Is work to be carried out in the vicinity or combustible or flammable materials, or where they could be affected (e.g. by conduction, convection, radiation) at a greater distance?	Yes*	No*
Will the work require the disablement or removal of any part of the fire warning and detection system or building structural fire protection?	Yes*	No*
Will the work place persons (including those with disabilities) at significant risk?	Yes*	No*
Location of work: Library toilets		
Description of work: Soldering new pipework		
Method of isolating/making safe: Area cleared of all surplus materials		
Precautions: <ul style="list-style-type: none"> • Ensure that work equipment is suitable for use and in good order • Check the location and means of raising the alarm • Ensure that suitable fire extinguishers and/or fire blanket is provided. Two dry powders are required • Inspect nearby areas for hazards including the potential for ignition of combustibles/flammables, the rate and extent of likely fire spread, and other hazards • Identify persons at risk (including persons with disabilities) and ensure that adequate arrangements are made for their safe escape • Remove any combustible materials from the work area • Remove any flammable liquid/gas containers from the work area (whether full or empty) • Provide suitable and adequate protections against sparks and hot particles. • Fire Watch – Provided during and then continuously for 60 minutes on completion of work (or after completion of operations). • Follow-up/post work inspections • Other general precautions implemented: 		
Extra precautions to be carried out if plant, machinery or systems are in operation:		
Extra precautions to be carried out if work to be carried out in the vicinity or combustible or flammable materials, or where they could be affected (e.g. by conduction, convection, radiation) at a greater distance: No flammable materials stored in this area		

Extra precautions to be carried out if the work requires the disablement or removal of any part of the fire warning and detection system or building structural fire protection:

All staff informed that smoke detectors have been isolated in zone 2, use break glass point to raise alarm in the event of a fire.

Extra precautions to be carried out if the work will place persons (including those with disabilities) at significant risk:

Authorisation of the permit (Authorised Person)

Name of the person issuing the permit: **S. Bury**

Designation: **Library Manager**

Signature: **S. Bury**

Date: **1/09/2015**

Time: **09:30**

Receipt of the permit (Competent Person)

Name: **L. Plumber**

Designation: **Foreman**

Signature: **L. Plumber**

Company: **Leaky Plumbers (Shawbury) Ltd.**

Clearance/completion of the hot work process

Has*

Has not*

A fire check provided during and then continuously for 60 minutes on completion of work (or after completion of operations)

✓

I hereby declare that the work stated above has/has not (indicate at the end of the row) been completed.

✓

Details if not completed:

Name: **L. Plumber**

Designation: **Foreman**

Signature: **L. Plumber**

Company: **Leaky Plumbers (Shawbury) Ltd.**

Cancellation of the permit

All copies of the permit are hereby cancelled.

Name: **S. Bury**

Designation: **Library Manager**

Signature: **S. Bury**

Date: **1/09/2015**

Time: **14:45**

Three copies of this hot work permit must be produced and issued to:

- 1. Management file;**
- 2. Contractor/hot worker;**
- 3. Relevant departmental staff.**

A copy of the hot work permit must remain on the management file after the permit has been signed off on completion of the hot work operation.

Permit-to-Work - Hot Work

Project:		
Document reference No:		
Task or work operation:	Duration of work:	
This permit to work is issued for the following work only. No work other than that detailed in this permit is permitted to be carried out.		
Is work to be carried out when plant, equipment or systems are in operation? (* = delete where not applicable)	Yes*	No*
Is work to be carried out in the vicinity or combustible or flammable materials, or where they could be affected (e.g. by conduction, convection, radiation) at a greater distance?	Yes*	No*
Will the work require the disablement or removal of any part of the fire warning and detection system or building structural fire protection?	Yes*	No*
Will the work place persons (including those with disabilities) at significant risk?	Yes*	No*
Location of work:		
Description of work:		
Method of isolating/making safe:		
Precautions: <ul style="list-style-type: none"> • Ensure that work equipment is suitable for use and in good order • Check the location and means of raising the alarm • Ensure that suitable fire extinguishers and/or fire blanket is provided. Two dry powder extinguishers are required. • Inspect nearby areas for hazards including the potential for ignition of combustibles/flammables, the rate and extent of likely fire spread, and other hazards • Identify persons at risk (including persons with disabilities) and ensure that adequate arrangements are made for their safe escape • Remove any combustible materials from the work area • Remove any flammable liquid/gas containers from the work area (whether full or empty) • Provide suitable and adequate protections against sparks and hot particles. • Fire Watch – Provided during and then continuously for 60 minutes on completion of work (or after completion of operations) • Follow-up/post work inspections • Other general precautions implemented: 		
Extra precautions to be carried out if plant, machinery or systems are in operation:		
Extra precautions to be carried out if work to be carried out in the vicinity or combustible or flammable materials, or where they could be affected (e.g. by conduction, convection, radiation) at a greater distance:		
Extra precautions to be carried out if the work requires the disablement or removal of any part of the fire warning and detection system or building structural fire protection:		

Extra precautions to be carried out if the work will place persons (including those with disabilities) at significant risk:		
Authorisation of the permit (Authorised Person)		
Name of the person issuing the permit:		
Designation:		
Signature:		
Date:	Time:	
Receipt of the permit (Competent Person)		
Name:		
Designation:		
Signature:		
Company:		
Clearance/completion of the hot work process	Has*	Has not*
A fire check provided during and then continuously for 60 minutes on completion of work (or after completion of operations)		
I hereby declare that the work stated above has/has not (indicate at the end of the row) been completed.		
Details if not completed:		
Name:		
Designation:		
Signature:		
Company:		
Cancellation of the permit		
All copies of the permit are hereby cancelled		
Name:		
Designation:		
Signature:		
Date:	Time:	

Three copies of this hot work permit must be produced and issued to:

- 1; Management file;**
- 2. Contractor/hot worker;**
- 3. Relevant departmental staff.**

A copy of the hot work permit must remain on the management file after the permit has been signed off on completion of the hot work operation.

Special precautions for the use of certain types of hot work equipment and in certain high risk “special” locations

EQUIPMENT

FIREFIGHTING EQUIPMENT

No hot work is to be carried out unless suitable and sufficient, serviceable firefighting equipment is provided, which in-date for its check & discharge, is provided by the person(s) proposing to carry out the hot work. The person(s) proposing to carry out the hot work must also be competent in the use of their firefighting equipment.

Two dry powder extinguishers are required for hot work.

GAS WELDING AND CUTTING APPARATUS

Gas welding and cutting procedures must only be carried out by trained personnel, using equipment and hoses in good condition, set up in accordance with the manufacturers' instructions. The gas cylinders must always be adequately supported, or mounted on a purpose-built trolley(s), which is positioned on level stable ground.

ELECTRIC WELDING AND CUTTING APPARATUS

The cable connecting any electric welding apparatus to the source of electrical supply must be as short as possible. Care must be taken to ensure that all wiring is of suitable design and construction to carry the heavy currents required and that all connections are correctly made so that they cannot give rise to overheating or sparking. Operators must be made aware of the importance of three connections (welding lead, welding return and welding safety earth) for every welding circuit.

The electrical welding and cutting equipment must be certified as having an in-date Portable Appliance Test (PAT test) and be powered via a 110 volt transformer or be low voltage. Where doubt exists, Premises Services and/or the Health & Safety Team should be contacted. The PSG may be able to offer a PAT testing service.

This type of equipment would traditionally be used in connection with cylinders of shield gasses (to prevent oxidisation during welding operations); while these gasses are non-combustible the cylinders are pressure vessels and suitable controls need to be in place to ensure the cylinders cannot fall over, crack and take off. The cylinders (if in use) should be chained to the welding trolley or other fixed anchor point.

BLOW LAMPS AND BLOW TORCHES

- LPG blowlamps/blowtorches must be extinguished and allowed to cool before changing cylinders.
- Paraffin or petrol blowlamps must only be filled and lit in the open and should not be refilled when hot.
- Blowlamps/torches must be lit as short a time as possible before work commences and extinguished immediately the work ceases.
- Lighting up must only be carried out in accordance with the manufacturer's instructions. Blowlamps/blowtorches must 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 must be observed as when undertaking other forms of hot work. Before each period of use the electrical cable to the blower must be inspected to ensure that it has not been damaged by heat or abrasion.
- Electrically powered hot air blowers must be certified as having an in-date Portable Appliance Test (PAT test) and be powered via a 110 volt transformer or be low voltage. Where doubt exists, the Premises Services Team and/or the Health & Safety Team should be contacted. PSG may be able to offer a PAT testing service.

BITUMEN/TAR BOILERS

- Bitumen/tar boilers, lead heaters and similar equipment must not be taken onto roofs. Where this is not possible, special permission **MUST** be obtained from Premises Services and/ or the Health and Safety Team.
- The equipment must always be supervised by an experienced operator and be sited on a firm and level surface where spilled material can easily be controlled.
- Gas cylinders must be at least three metres from the burner. Gas hoses must be in good condition and properly fitted. Cylinders not in use must be stored away from the working area.
- The bitumen level and its temperature must be monitored and the lid must normally be kept on the boiler.
- The burner must be turned off before transporting the boiler on a lorry or trailer.
- At least two serviceable 12 kg dry powder fire extinguishers must be provided and readily available for use – within at least 10 metres of the working area.

SPECIAL NOTE TO PSG THE HEALTH AND SAFETY TEAM ON APPROVING THE USE OF BITUMEN/TAR BOILERS, LEAD HEATERS AND SIMILAR EQUIPMENT ON ROOFS

- Bitumen/tar boilers, lead heaters and similar equipment should only be taken onto roofs in exceptional circumstances, when a non-combustible heat insulating base must be provided to prevent heat igniting the roof.

GRINDING WHEELS AND CUTTING DISCS

- The correct grade of wheel or disc must be used for the task in hand.
- Before each period of use the wheel/disc must be checked to ensure that it is securely fastened and in good condition.
- Petrol powered cutting and grinding equipment must be refilled well away from the area of operation, downwind, in a well-ventilated area, away from drains, pits and ditches and other low lying ground where accumulations of flammable vapours may build-up.
- Electrical grinding & cutting equipment must be certified as having an in-date Portable Appliance Test (PAT test) and be powered via a 110 volt transformer or be low voltage. Where doubt exists, the PSG and/or the Health & Safety Team should be contacted. Premises Services may be able to offer a PAT testing service.
- Petrol powered equipment must not be used inside buildings and in confined spaces.

Timing of hot work operations

Hot work operations should be planned for when the minimum number of persons will be present, particularly at locations where higher than average numbers of persons with disabilities and where large numbers of people (particularly those who are unfamiliar with the premises) assemble are likely to be present.

Control of false activation from automatic fire alarm and detection systems/suppression systems

- Automatic sprinkler systems, where fitted, must not be switched off or their operation interfered with
- The zone of an automatic fire alarm and detection system in the vicinity of the hot work operation may be isolated for the duration of the hot work operation but should be reinstated as soon as possible after the hot work operation has been completed. Where this is done, the fire watch being carried out by the hot work contractor etc. must be made aware of this as part of the briefing on the activation of the fire alarm system.
- Where the normal operation of the fire alarm system is reduced, staff in the vicinity/premises of the hot work operation must be made aware so that appropriate vigilance can be increased.

Activities of staff working in the vicinity of the hot work operation

- Due regard must be given to the activities of building users or staff working in the vicinity of, in or near the relevant area of the hot work operation. The hot work permit must where appropriate, place restrictions on the staff to ensure that control measures remain in place e.g. where combustible materials have been moved away from conductive materials such as metal pipes and beams as a control measure; the controls must remain in place until the hot work permit issuer signs off and removes the hot work permit for the relevant department.

Hot Work Flow Chart

This flow chart is intended to be used in conjunction with Shropshire Councils Hot Work Procedures

