

Hot Work

Hot Work carried out on buildings, including schools, is one of the most common causes of fire. This guidance is aimed at helping Schools understand what we mean by “Hot Work”, and what steps can be taken to reduce the likelihood of a fire occurring.

What is Hot Work?

Put simply, Hot Work is the application of heat as part of a maintenance or repair job. This could be carried out by contractors, or by in-house maintenance staff. Typically, Hot Work is most commonly associated with roofing work, though it could also be carried out by plumbers, decorators, maintenance engineers or other contractors.

Heat is usually applied by one of the following means:

- Blowtorches or blow lamps
- Hot air guns
- Welding or cutting apparatus
- Bitumen or tar boilers
- Grinding wheels or cutting discs

Potential Hazards

- Hot Work may be carried out without the School’s knowledge
- Fire can start due to the failure to adequately assess and control hot work
- Contractors can be unfamiliar with the construction of the School building, which may have combustible materials and/or unprotected ceiling voids with the potential for fire to develop and spread quickly
- Sub-contracting and/or cost-cutting can result in control measures not being effectively communicated or enforced
- There can be extensive damage, even total destruction, of the School, with fire spreading rapidly across roofing or through unprotected ceiling voids
- Work, equipment and data inside the School can be lost
- Students and staff may have to relocate to other premises whilst the School is rebuilt

Control Measures

- Protect children by carrying out work outside of term time, but ensure there is still sufficient staff presence for contractors to be managed
- Appoint a safe and competent contractor – see our separate guidance document on “Contractors”
- Don’t just assume a “big company” will have all the right procedures and insurance cover in place
- Find out what work will be carried out – does this include Hot Work?
- Review the building construction details to identify any potential hazards
- Can Hot Work be avoided – there may be a safer alternative?
- If the introduction of combustible insulation materials is proposed as part of the contract, could these be replaced with a non-combustible alternative?
- Appoint a Responsible Person to manage and supervise contractors whilst on site – this could be the Site Manager or a senior member of staff
- If Hot Work cannot be avoided, adopt a Hot Work Permit System with your Responsible Person overseeing and enforcing this
- Ensure the fire alarm system and any sprinklers are fully operational
- Check that the area is clear of combustible waste (e.g. leaves)
- Make sure any hot work finishes at least an hour before the end of the working day, allowing time for a final inspection to be undertaken



Hot Work continued

Common Types of Hot Work related to Roofing

1. Torch-On Roofing

This is the use of a blowtorch, directly applying the flame to the felt to help bond (or remove) the felt by melting the bitumen within the material. This method is quick, but highly risky as there is the possibility that the bitumen will ignite.

There is also the possibility of setting fire to the boarding or insulation materials underneath. If possible, the "torch-on" (or off) method should be avoided.

2. Pour and Roll

This is the "traditional" method of applying felt to a roof. It involves a boiler/kettle heated by a gas cylinder, with hot bitumen (tar) then poured onto the roof, where it acts as an adhesive, prior to laying felt. Overheating and/or spillage of the bitumen can lead to a serious fire.

The fire risk can be reduced by locating the boiler on the ground or on scaffold adjacent to the roof, rather than directly on the roof itself. Closed containers or safety buckets can then be used to safely transport the hot bitumen to the roof.

A Safer Alternative?

Cold adhesive applied roofing systems are available for both whole roof replacement and patch repairs. These remove the fire risk associated with roof repair work. Your Zurich Risk Analyst or Risk & Insurance Consultant can give further advice on products that may be suitable.

For plumbing work, could push/press fittings be used as an alternative to metal pipework and welded joints?

Hot Work Permit

If Hot Work is unavoidable, then a permit system should be adopted. Zurich has designed a permit system for use by our customers. This includes the following:

- Details of the work being carried out
- Supervisory responsibilities and checks
- Initial risk assessment
- Contractor verification
- Fire protection equipment
- Protection of combustible & flammable materials
- Authorisation & time constraints
- Fire Watch following completion of work

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