

Fire safety in kitchens



Fires in kitchen and cooking areas are very common, often resulting in extensive damage to the premises and disruption to the business.

Risks associated with cooking are not just restricted to commercial food catering operations, they may also play a significant part in the activities of other occupations, e.g. schools, hotels, heritage properties and village halls.

The risks must be identified and managed to minimise the chances of a fire starting and to limit the impact of such a fire should it occur. This will help to protect an organisation against the devastating effects of fire, both human and financial.

A fire risk assessment must be undertaken for all commercial premises, as set out in the Regulatory Reform (Fire Safety) Order 2005 for England and Wales, Fire Safety (Scotland) Regulations 2006 for Scotland and The Fire Safety Regulations (Northern Ireland) 2010 for Northern Ireland. The fire risk assessment must include any cooking/catering facilities within a premises, identifying the associated fire risks and a range of controls to eliminate or minimise those risks.

Fire risks stem from two main areas:

- Cooking processes and the equipment associated with them e.g. accidental overheating of cooking fats and oils leading to ignition, spillage of fats and oils onto hot equipment, cooking left unattended. Cooking equipment not fitted with safety devices such as flame failure/safety cut-off devices, and other cooking methods that may produce flames, e.g. flambé cooking in close proximity to grease deposits within extraction hoods or ductwork.
- Lack of servicing and maintenance and inadequate cleaning of the kitchen/cooking areas and the equipment associated with it e.g. inadequate cleaning regimes for cooking appliances and extraction equipment leading to build-up of grease and oil deposits which may be ignited, cooking equipment thermostats broken or not working properly, faulty equipment (including electrical faults) and spontaneous combustion of oil soaked cloths and towels.

As part of the fire risk assessment of your kitchen you should consider introducing a range of controls. These can be split into the following categories:

Installation

- Installation, repairs and servicing of cooking equipment and other associated plant such as extraction hoods, ducting, should be undertaken by a competent contractor in accordance with the manufacturers' instructions.
- Any gas installation connections, repairs or maintenance must be carried out by a Gas Safe registered installer. Electrical equipment must be installed and tested in accordance with the Institute of Engineering and Technology (IET) Wiring Regulations – BS 7671 by an NICEIC, ECA or NAPIT approved contractor with 'full scope' membership to undertake work on commercial premises.

- Cooking appliances should be fixed in position, or lockable castors used if mobile.
- Appliances should be sited well away from combustible materials, including combustible parts of the building. Where it is not possible to remove combustible building materials these should be overlaid/lined with non-combustible materials.
- Extraction hoods and ducting should be constructed of non-combustible materials such as stainless or galvanised steel, with liquid tight joints. They should be located a minimum of 150mm from any combustible building elements and fitted with non-combustible or fire resisting collars where they pass through any combustible parts of the building. Ducting should exit the building by the shortest route possible, avoiding horizontal runs and bends where grease deposits can accumulate. If ductwork passes through any fire compartment walls these sections should be fitted with automatic fire dampers to provide the same level of fire resistance as the wall. Adequate access hatches must be provided to allow for thorough cleaning and inspection of ductwork.
- Suitable safety devices such as thermostats, high limit thermostats, flame failure and supervision devices for gas appliances should be fitted. The cooking range should only operate when any extract system is working, controlled by an interlock system.

Operation

- Where deep fat frying is undertaken a separate high limit non-self setting thermostat must be installed, in addition to the normal operator thermostat, to shut off the heat source if the temperature of the oil exceeds 230°C. The use of liquid level monitoring devices should also be considered to warn of over or under-filling of cooking oil.
- Regularly refresh cooking oils used for deep fat frying. The risk of self ignition of cooking oils increases with use/contamination. This should be completed in accordance with the manufacturers recommendations when the fryer is turned off and cooled down.
- Deep fat fryers should be provided with metal lids.
- Cooking appliances must be attended at all times when the heat source is on.
- Fit manually operated emergency cut-off devices to all power and fuel supplies. These should be located in an easily accessible position on an exit route and be clearly labelled.
- If portable LPG blowtorches are used these must not be placed on or near hot surfaces or open flames.
- Any supplementary fuel, e.g. butane or propane gas, used in the cooking process must be appropriately and safely stored.
- Staff should be trained in the safe use of cooking appliances and the action to be taken in the event of an emergency. Where appropriate, written instructions should be prominently displayed.
- All cooking appliances and any extract system must be switched off outside business hours.

Servicing, maintenance and cleaning

- Inspection and servicing should be undertaken in line with the manufacturer's instructions (and at least annually) by a competent contractor. This should include any safety devices and portable electrical appliance testing. This should be recorded.
- Hoods, canopies, traps and grease filters should be cleaned at suitable intervals, as determined in your fire risk assessment, but as a minimum on a weekly basis, by competent, trained staff.
- Any extract system installed should be serviced and deep cleaned by a specialist contractor, preferably one working to the standards laid out in LPS 2084. The frequency of cleaning will vary with the amount of use and type of cooking being undertaken and must be determined from your fire risk assessment.



Fire protection

- Appropriate fire-fighting equipment, as determined from your fire risk assessment, must be provided. This should include a fire blanket and an annually maintained wet chemical (Type F) extinguisher where deep fat frying is undertaken.
- Consider installing a wet chemical automatic fire suppression system, designed to protect both cooking appliances, overhead canopies and ducting systems. The system should include a manually operated override switch and be linked to fuel shut-off valves and any automatic fire alarm system. The system should be designed and installed to an appropriate standard e.g. LPS1223.

LPS1223 sets out the requirements and testing procedures for LPCB (Loss Prevention Certification Board) certification and listing of fixed fire extinguishing systems for catering equipment.

- Wet chemical automatic fire suppression systems must be maintained in accordance with the manufacturer's recommendations with a minimum 6 monthly service.
- Consider installing an automatic fire alarm system, designed, installed and maintained in accordance with the requirements of BS 5839-1 to include coverage of cooking facilities. The system should include both audible and remote signalling to an alarm receiving centre operating to BS 5979 Category II or BS8591 Category I.

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