



Are you giving your kitchen the protection it deserves?

Kitchens are the nerve centre of any chain restaurant operation, but they are also notoriously hazardous environments. Specifying a reliable and flexible restaurant fire suppression must be a priority for operators, writes Jan Waldow of Tyco Fire Protection Products.

Commercial kitchens are highly susceptible fire risk areas, and incidents in such environments can incur serious consequences. The concentration of grease-laden, vapour-producing appliances — such as fryers, griddles, ranges and charbroilers — in a compact area, together with extract ventilation systems, poses challenges to kitchen designers and specifiers in providing a productive and safe working environment.

Repercussions of such high risk foodservice equipment catching fire and spreading through a building's ventilation system can include not only critical levels of property damage, but also serious injury.

To guard against these consequences, kitchen designers seek dependable fire suppression technology which is designed to overcome the application challenges of a commercial kitchen environment. Factors such as third party performance testing, fast flame knockdown and effective distribution of extinguishing agent are critical to achieving this. At the same time, suppression systems should not hinder a kitchen's space or design.

The cause and cost of kitchen fires

Fires in any property can be destructive, but in commercial kitchens they can be especially serious. The main



causes of commercial kitchen fires include cooking appliances being left unattended during operation, self-ignition of overheated oils, malfunctioning appliance safety switches and thermostats, fan-motor failure and grease deposits in ventilation systems.

A lack of awareness among kitchen staff is another factor which may cause a commercial kitchen fire to escalate out of control. For example, grease particles in kitchen extraction ductwork may ignite without kitchen staff detecting the danger and grease-laden ductwork is one of the most common hidden fire hazards in a restaurant.

Therefore, strict cleaning regimes, together with fire suppression system service and maintenance programmes,

“ SYSTEMS MUST PERFORM RELIABLY, PROVIDE COMPLETE COVERAGE AND MEET THE STRINGENT REGULATIONS IMPOSED UPON SUPPRESSION TECHNOLOGIES ”

are required to keep grease deposits to a minimum and ensure systems remain fully functional.

Failure to implement a cleaning programme could result in a disastrous fire with severe potential impact on business operations. Recent fires across the world have demonstrated

the disruption which is caused by grease accumulation — a primary consequence of insufficient cleaning practices. In October 2015, the Aya Lebanese restaurant in London was gutted by a fire, which is believed to have been caused by a build-up of fat and grease within the extraction system. This fire not only caused the restaurant to temporarily close, the damage was such that it left a family living above without a home.

Just a couple of months prior to this, a grease fire at the Adobo Grill restaurant in Chicago's Tribune Tower spread to offices in the floors above, resulting in 100 workers having to be relocated. With these recent events in mind, fast knockdown of fire is clearly front of mind for many restaurant and building owners.

Important factors for consideration

There are several key factors for designers and specifiers to consider when selecting an appropriate fire suppression system for a commercial kitchen. Choosing a system that has been performance tested, for example, is a priority. Leading fire suppression systems should be third party tested to UL 300 Standard and be designed, installed

5 MAIN CAUSES OF COMMERCIAL KITCHEN FIRES

1. Cooking appliances being left unattended during operation
2. Self-ignition of overheated oils
3. Malfunctioning appliance safety switches and thermostats
4. Fan-motor failure
5. Grease deposits in ventilation systems

and commissioned by factory-trained and fully-certificated engineers.

It is also important to select fire suppression systems that complement a kitchen's design in order to maintain the restaurant's aesthetic appeal. With the rising popularity of exhibition kitchens, which allow diners to see into cooking areas, aesthetics relating to ventilation systems, which comprise hoods, ducts, grease extractors and filters, have become increasingly important to restaurant owners.

To enhance the whole dining experience, fire suppression systems should therefore blend into the restaurant décor and be unobtrusive to a kitchen's design, while still safeguarding against potential hazards.

Most effective kitchen fire suppression technology

The range of hazards found in com-

mercial kitchens calls for robust fire suppression technology to help maximise protection of people and assets, while not imposing on diners' restaurant experience.

Systems must perform reliably, provide complete coverage and meet the stringent regulations imposed upon suppression technologies, while integrating seamlessly into the aesthetics of a building.

Due to the speed at which restaurant fires can develop, fire suppression systems must be able to extinguish fire quickly and provide complete coverage to prevent re-flash of hot substances. Dual agent technology, which combines the fast flame knockdown of wet chemical and the rapid cool-down capability of water, is ideal for these purposes. Tyco Fire Protection Products' dual agent Piranha Restaurant Fire Suppression System combines the best firefighting characteristics of PRX Liquid Fire Suppressant and water to knock down flames and cool cooking equipment quickly.

Tests have revealed a dramatic increase in firefighting performance from the Ansul Piranha system's agent-plus-water fire suppression technology, compared to conventional single agent systems. It can cool cooking oils up to 15 times faster, provides increased coverage of hazard zone areas and uses 60% less agent, requiring fewer storage tanks. This ensures maximum efficiency and helps minimise clean-up costs for operators. **FEJ**

Jan Waldow is product manager of pre-engineered systems at Tyco Fire Protection Products, a division of leading pure-play fire protection and security company Tyco. www.tycofsbp.com



The growth in exhibition kitchens has led to greater emphasis on the aesthetic look of fire suppression systems.