Hardfacts

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Restaurant Kitchen Protection Systems & UL 300 Standard

As a restaurant owner, you know that your business faces unique risks every day, such as product liability, slips and falls, crime, and potential employee injuries. But it's no surprise that the number one risk faced by your business is fire.

Restaurants are susceptible to fires originating in kitchen areas involving cooking operations and associated equipment. In a commercial kitchen, a small fire can escalate quickly and result in costly losses: construction costs as well as business interruption during the rebuilding process.

Fire prevention is a critical and necessary activity for any restaurant manager. By taking a pro-active approach and understanding the benefits of current UL (Underwriters Laboratories) and National Fire Protection Association (NFPA) standard approved kitchen protection systems, you can lower the risk of fire and help keep your business running smoothly.

High temperatures, high risk

The kitchen is the most dangerous part of any restaurant or commercial cooking facility, with over 90% of fires starting here. The dangerous combination of heat, oils, open flame, flammable materials and bustling crowds makes fire prevention a top priority.

Consider how quickly cooking oils can reach unsafe temperatures. The safe cooking temperature for oils and fats is around 205°C. If the temperature continues to rise, flammable vapours will form around 230°C, and spontaneous ignition occurs around 310°C to 360°C. It doesn't take much to go from safety to catastrophe.

Modern kitchen safety

Like most restaurants today, you've likely switched your frying medium from animal fats to vegetable oil in order to meet current health concerns. While these oils reduce the fat and cholesterol content of fried foods, they also pose more of a fire risk.

Vegetable oils burn at higher temperatures and if ignited, can result in fires that are more difficult to extinguish.

Today's energy efficient cooking equipment, such as well-insulated fryers, retain more heat and can also result in fires that are harder to extinguish.

Over time, these industry changes resulted in the development of new standards for kitchen fire suppression systems.

UL Standard 300, NFPA Standard 17A and Standard 96

The UL 300 standard is a benchmark used in standardized testing of commercial cooking fire suppression systems. It includes an extensive series of fire tests for the protection of various cooking equipment and appliances, such as:

- exhaust hoods
- plenum and ducts
- deep fat fryers
- griddles
- range tops
- woks
- upright broilers
- char-broilers

First introduced in 1992, the UL 300 standard has allowed for test conditions that more closely replicate the hazards faced in today's restaurant kitchen fire situations.

The NFPA standards that are relevant to restaurant and commercial cooking operations are:

- NFPA 17A: Standard for Wet Chemical Extinguishing Systems
- NFPA 96: Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations

Complying with the UL 300 standard

Today, all newly manufactured fire protection systems for commercial cooking must comply with UL 300 to qualify for a UL listing label. It is also a requirement of NFPA 96 that these fire extinguishing systems comply with UL 300.

To make sure your business is compliant, check with UL that the model number is listed as UL 300, and that all components have been installed according to the manufacturer's instructions. Other indicators that your system may not be compliant include the use of a dry chemical agent, or a single nozzle designed to protect multiple appliances.

Exiting non-compliant fixed extinguishing systems installed prior to July 1, 1995 must be upgraded to meet the requirements of UL 300. Existing pre-UL 300 wet chemical systems may be upgraded at minimal expense, as most will need only more capacity for the wet chemical agent.

The dry chemical system failed the UL re-ignition test and cannot be upgraded. Currently, no dry chemical system has been listed under UL 300.

You don't need to modify or upgrade an existing pre-UL 300 system if you are not using vegetable oil for cooking or frying, as long as the manufacturer's listing requirements are maintained.

Any restaurant fire protection systems listed prior to the implementation of the new UL 300 are not considered unlisted. However, if you have a dry chemical systems that is unable to meet the new UL 300 standard, it's recommended that you replace the existing system with an approved UL 300 wet chemical system.

Summary

The UL standard 300 has advanced the fire protection capability available to restaurants and commercial cooking operations.

It's critical that commercial cooking operators & restaurant owners are aware that dry chemical systems, where vegetable oils are being used, must be removed and replaced to protect their business investments, and most importantly their customers and employees.

For further information on this topic, please contact your independent insurance broker.

For more information on other loss control topics, visit www.avivalossprevention.com