



State Fire Marshal Policy

Underwriters Laboratories Inc. (UL) 300 Pre-Engineered Fixed Extinguishing Systems

May 31, 2011
Policy No. 11-005

SCOPE:

This policy applies to pre-engineered fixed extinguishing systems protecting cooking surfaces in all occupancies where South Carolina Office of State Fire Marshal (OSFM) has authority.

PURPOSE:

To regulate when and where to install a UL 300 fixed extinguishing system(s) in both new and existing hood and vent exhaust systems. It is also the intent of the OSFM to provide clarification on when to require the upgrade/retrofit to UL 300.

BACKGROUND:

The introduction of modern and better insulated cooking equipment and changes in cooking oils (i.e. animal fats to vegetable oils) creates a greater fire hazard. As a result, these changes require a more effective fire protection system/agent to achieve extinguishment. Today's commercial cooking equipment, primarily deep fryers, in combination with vegetable oils cook at much higher temperatures. This creates hotter fires and makes a grease fire more difficult to control. It is the intent of the OSFM to minimize the possibility of uncontrollable fires resulting from the incorrect application of extinguishing agents.

APPEALS:

If a business owner believes that unnecessary upgrades are being required by the vendor, the business owner may contact the OSFM for clarification and guidance. Should a business owner disagree with the findings of a Fire Inspection conducted by the OSFM, the owner has the right to appeal the findings within **30 calendar days** by writing to the State Fire Marshal.

What is UL 300?

UL 300 is a pre-engineered wet chemical system that is the nationally accepted industry standard for "Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment." Underwriters Laboratories Inc. (UL) is an independent, not-for-profit product-safety testing and certification organization.

How do I know if a system meets UL 300 Standards?

According to UL, there is only one way to verify that a system meets UL 300. First, check with UL that the model number is listed as UL 300 compliant. Then, verify that all components have been installed as specified by the manufacturer's manual.

Another indicator of a UL 300 system is the type of discharge nozzle. All UL 300 compliant systems use a wet chemical extinguishing agent. Wet system nozzles are narrow (three-fourths to one inch) in diameter and, to keep them clean, are typically covered with red, orange or yellow plastic caps or foil seals burst discs. Wet chemical nozzles are located directly above each cooking surface. Discharge nozzles for a dry chemical system (not UL compliant) are two inches in diameter and may cover more than one cooking appliance.

New Installations:

New installations shall conform to the UL 300 standard and be installed in compliance with all applicable codes and standards in accordance with the manufacturer's specifications.

Existing Commercial Kitchen Fire Suppression System Installations:

Cooking Lines (deep fat fryers, tilt skillets, tilt braising pan, range): Existing non-UL 300 fixed extinguishing system installations protecting cooking lines must meet the following conditions:

1. System coverage must meet protection specifications for the cooking equipment. It will be permitted to replace existing equipment that does not require modification of non-UL system. The addition of newer fryers (or larger surface appliances) requires a system up-grade.
2. Hood shall remain unmodified from original installation.
3. Cooking equipment shall not be changed or altered. Adding appliances will require a system up-grade.
4. If the present system requires service and no list parts are available, a system up-grade is required.
5. Changing the cooking medium from an animal fat to vegetable oil requires a system up-grade.

If a business owner is found to be out-of-compliance, he has the opportunity to enter into a stipulated agreement with the OSFM. Within 120 calendar days of noted violation, the owner will agree to bring the fixed extinguishing system into compliance.

What is a Class K Extinguisher?

In commercial kitchens, the Class K fire extinguisher is intended to be a secondary device. It is to be employed after the wet chemical hood and duct fire suppression system operates automatically or manually. Potassium acetate is the extinguishing agent used in Class K fire extinguishers because of its ability to cool and form a crust over the burning oils. A Class K fire extinguisher shall be provided for hazards where there is a potential for fires involving combustible vegetable or animal oils and fats.

*All current memorandums are located on the State Fire Marshal's website: www.scfiremarshal.llronline.com
If you have questions regarding a memorandum, please contact staff at (803) 896-9800.*