

## KITCHEN HOOD SUPPRESSION SYSTEM AND UL300 REQUIREMENTS

UL uses a test, UL300, to determine if a suppression system will suppress a cooking fire. The test is designed around changes that have occurred in the cooking industry. Those changes involve the use of vegetable oil with high-efficiency high-temperature equipment that can cook the oils at a higher temperature. The most common cooking practice involves using the higher temperature deep fat fryers and WOKs with vegetable oil.

The manufactures retested their systems that were pre-UL300 to determine if any design modifications were necessary to meet UL300 criteria. Even with modifications, none of the old dry-chemical systems could pass the UL300 tests. The UL300 test has initiated this policy and information bulletin. This document may be used to provide an explanation to kitchen equipment owners why any changes to their suppression system or cooking operation may require installing a system that is UL300 listed.

**Warning:** Dry-chemical systems may not extinguish fires on equipment (woks, fryers, griddles, and stove tops) using the vegetable oil. The dry-chemical agent reacts with lard (animal fat) and creates a foam blanket on the grease thereby extinguishing the fire. It will not react with vegetable oil to create a foam blanket. Thus, a dry-chemical suppression system does not have the ability to keep the fire suppressed and it permits the fire to flash back and continue burning.

### **Maintenance Inspections:**

Service contractors are required by code to verify that a system will provide protection according to its listing. Now it is necessary for the contractor to determine what type of cooking oil is being used with specific equipment. If vegetable oil is used, it is incumbent on the contractor to notify the owner whether or not the system is in compliance with UL300 designs and if it is listed for the cooking hazard it protects. If a system requires replacing parts in order to be repaired or maintained and listed parts are not available, the system must be replaced with a UL300 system.

### **New System Installations:**

All systems shall be designed to meet UL300 criteria. Designs submitted for plan review shall be provided with manufacturer cut sheets so the reviewer can verify proper design. Manuals are preferred.

### **Reinstalling Used Systems:**

Used systems may be installed if the new installation is designed to meet UL300 listing criteria. Used systems require a permit before installation.

### **Existing Systems:**

Pre-UL300 systems may continue without modification if kitchen equipment owners are not using vegetable oil for cooking or frying and the manufacture listing requirements are maintained. If owners are using vegetable oils with non UL300 systems, then the system is not listed to cover that hazard and the system must be replaced with a UL300 system. If systems are being modified, or cooking equipment is being replaced, then the system shall be upgraded to UL300 requirements.

Pre-UL300 dry or wet chemical systems may continue providing protection for plenums, ducts, and cooking equipment not using vegetable oil and if they can be maintained per the manufacturer's listing. If vegetable oil is being used, UL300 modifications must be made or a supplemental suppression system should be provided to properly protect the cooking hazards associated with using vegetable oils.