LOSS CONTROL

Policyholder Training Series

Policy Training Series (PTS) Important Points:

* Recent changes to commercial cooking operations have presented major challenges to dry chemical fire extinguishers and systems.
* Wet chemical commercial hood suppression systems have proven to be the most effective method of extinguishing commercial cooking fires.
* Only the Class K Fire Extinguisher is compatible with wet chemical agents.
* Every commercial kitchen should have a Class K extinguisher to supplement the suppression system.
* The use of a multi-purpose ABC extinguisher may prove ineffective to extinguish a kitchen fire and can also result in damage to cooking equipment.

For information about any of FirstComp's Loss Control Services, please call (888) 500-3344 or email losscontrol@firstcomp.com.

Class K Fire Extinguishers

Understanding the Proper Application for a Class K Extinguisher

Most people are familiar with "ABC" extinguishers. These extinguishers have proven to be very effective in extinguishing paper / wood (A), flammable liquids (B) and electrical fires (C). However, **they are not designed to be used for cooking fires in commercial kitchens.**

Kitchen fires most often occur where cooking media (fats, greases, and oils) are used. These are most often found in commercial cooking operations.

Class K Extinguishers work on the principle of saponification. Saponification takes place when alkaline mixtures such as potassium acetate, potassium citrate, or potassium carbonate are applied to burning cooking oil of fat. The alkaline mixture combined with the fatty acid creates a soapy foam layer on the surface which holds in the vapors and steam and extinguisher the fire.

Recent changes to commercial cooking operations have presented major challenges to dry chemical fire extinguishers and systems. Changes in frying oils from animal fats to vegetable oils have reduced the ability of dry chemicals to extinguish many kitchen fires.

Since vegetable oils have lower fatty acid content, many vegetable oils will prevent the "foam blanket" from developing completely. This inhibits the extinguishing agent by allowing vapors and steam to release.

In addition, newer efficient fryers retain heat much longer than in the past. Vegetable oils have a much higher auto-ignition temperature than animal fats. Therefore, dry chemical agents have trouble preventing a reflash from occurring and cannot pass the current test standards for fryers because of the retained heat. Heat breaks down the weaker foam layer created, making it necessary to cool the oils in addition to the foam layer.

To address these issues, wet chemical agents were introduced and are now required in all new Type I hood fixed fire suppression systems. (ANSUL systems for example).

These agents are alkaline by nature and are the only extinguishing agents listed for suppression of fires in commercial cooking because of their ability to maintain the foamy layer enough to allow complete cooling. In addition, these wet chemical agents pose minimal damage threat to hot appliances.

Only the class K fire extinguisher is compatible with the wet chemical agents. The use of a multi-purpose ABC extinguisher threatens the foamy layer and cooling ability of the wet chemical agent, and consequently can result in damage to cooking appliances.

Fire extinguishers are placed in relation to the hazards they are to protect. Every commercial kitchen should have a Class K extinguisher to supplement the suppression system.

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