



Kitchen fire protection

by Ken Fingler, Risk Manager, HED Insurance

Many municipal facilities such as arenas, curling rinks and community centres are now equipped with restaurant-type cooking equipment, including grills and deep fryers.

The operation of this type of equipment presents a significant fire risk that could result in the total destruction of the facility, if not properly maintained and protected against fires.

Fire suppression systems

A full **'wet chemical'** fire suppression system meeting the UL300 standard is required to protect the cooking equipment, the hood and the exhaust system.

The problem is that there are a number of older kitchens with old obsolete **'dry chemical'** systems that may not extinguish a fire when it is really needed.

Why does this occur?

It occurs for two primary reasons: development of high efficiency appliances and a switch to vegetable cooking oils with higher boiling points.

Newer appliances are better insulated to accommodate the higher operating temperature, with better efficiency by helping cooking oils retain heat longer. In the event of a fire, however, this insulation also may keep the oils above the auto-ignition point longer than older equipment.

Actual fire losses have shown that the dry chemical systems put out the initial fire, but do not cool down the burning oil/grease. This superheated oil often re-ignites. With the extinguishing system now empty, the fire is free to spread unimpeded, often resulting in a fire that totally destroys the building.

These dry chemical systems are no longer

manufactured, and replacement parts and recharge agents are no longer available.

If your kitchen still has an old dry chemical system, it needs to be replaced immediately with a wet chemical system equipped with an automatic fuel shut-off valve that activates upon operation of the fire suppression system. If you have an older wet chemical system, it should also be checked by a qualified contractor to ensure that it meets the new UL300 standard. Some older systems require new or repositioned nozzles and/or upgraded component parts.

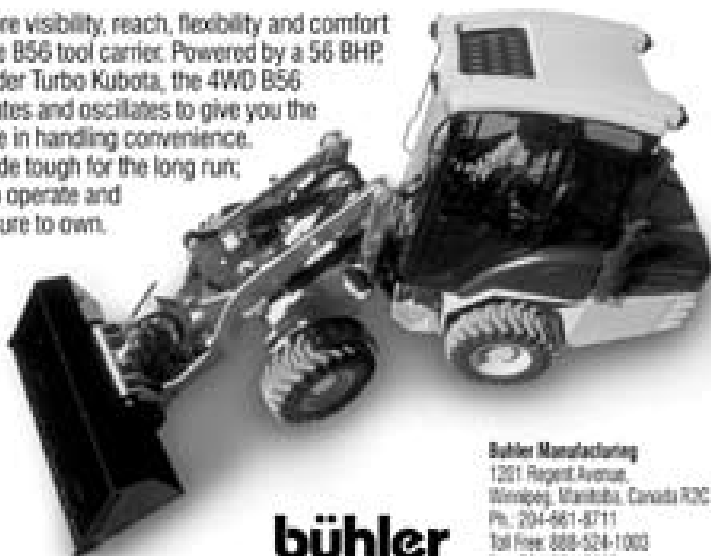
Fire extinguishers

Dry chemical extinguishers that had been used in many kitchens were found to actually impede the effectiveness of the wet chemical systems.

A Class 'K' (for kitchen) wet chemical

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portable fire extinguisher is required for all commercial kitchens to be compatible with the new wet chemical fire suppression system.

Cleaning

Cooking equipment, especially grills and fryers, give off a lot of grease vapour that collects in the hood, filters and exhaust ducts. If this grease is allowed to accumulate, it will provide a large fuel source in the event of a kitchen fire.

Regular cleaning of the hood, filters and steam cleaning of the entire exhaust duct system is needed to keep the grease accumulation to a minimum.

Filters

Many kitchen hoods are equipped with mesh type filters that are cleaned in dishwashers or even car washes. However, it is almost impossible to remove all the grease that accumulates in this type of filter. Actual fire losses have shown that the grease in these filters often catches on fire and results in the fire spreading to the grease accumulated in the exhaust duct.

This type of filter is no longer acceptable for commercial cooking operations due to the increased fire hazard. These filters

should be replaced with steel baffle filters that can be cleaned of grease and will not spread the fire.

Summary

1. All 'dry chemical' fire suppression systems must be replaced with 'wet chemical' systems that meet the UL300 Standard. The system must be equipped with an automatic fuel shut off valve activated by the suppression system.
2. Older wet chemical systems should be checked to ensure compliance with UL300.
3. The fire suppression system must be checked and serviced every six months by a qualified contractor.
4. Provide a Class 'K' wet chemical portable fire extinguisher for the kitchen.
5. Kitchen hoods and filters should be cleaned at least monthly (weekly for busy operations).
6. Kitchen exhaust ducts and fans must be steam cleaned at least annually by a qualified contractor. (Every six months for busy operations.)
7. Replace mesh hood filters with steel baffle filters. ●



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