

Change the Oil ... to Bare Metal

So you've bought yourself a new, snappy European sports car. It purrs like a kitten...until the oil needs changing. You go to service it and you discover that the motor is sealed tight; no oil pan...no drain. How are you going to get that old filthy oil out? Now your once-admired machine is a source of frustration!

This analogy also fits for most commercial kitchen exhaust systems. Some custom-designed systems have only recently come equipped with pre-installed access panels; but they are still in the minority. And even with these systems, many access panels are obstructed by other building components, such as plumbing pipes and electrical conduit. Even though the National Fire Protection Association's Code (NFPA #96) calls for access and indicates the intervals by which these need to be installed, there are many thousands of older, existing systems that never had access installed in the first place.

Regarding access openings the NFPA #96 Standard states at 4-3.4.1 (1998 Edition), or 7.4.1.1 (2001 Edition TIA)

"On horizontal ducts, at least one 20-in. x 20-in. (508-mm x 508-mm) opening shall be provided for personnel entry ... Where an opening of this size is not possible, openings large enough to permit thorough cleaning shall be provided at 12-ft (3.7-m) intervals."

4-3.4.3 (1998 Edition), or 7.4.2.1 and 7.4.2.2 (2001 Edition) states:

"On vertical ductwork where personnel entry is possible, access shall be provided at the top of the vertical riser to accommodate descent. Where personnel entry is not possible, adequate access for cleaning shall be provided on each floor."

Regarding frequency of cleaning needed for commercial exhaust systems the NFPA #96 Standard states:

NFPA #96 8-3.1 and 8-3.1.1 (1998 Edition), or 11.4.1 and 11.4.2 (2001 Edition) states:

"Upon inspection, if found to be contaminated with deposits from grease-laden vapors, the entire exhaust system shall be cleaned by a properly trained, qualified, and certified company or person(s) acceptable to the authority having jurisdiction."

"Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to bare metal prior to surfaces becoming heavily contaminated with grease or oily sludge."

Where the system is used on a daily basis, the system should be inspected, and cleaned if necessary, according to the following schedule:

Systems utilizing solid cooking fuels or 24-hr, high-volume frying, char broiling, or Oriental cooking: monthly

Systems utilizing high volumes of fast-food frying, char broiling, or Oriental cooking: quarterly

Systems utilizing normal volumes of commercial cooking or baking: semiannually

Systems utilizing low vapor-producing cooking (pizza ovens, steam tables): annually

NOTE: Intervals between inspections and cleaning specified in A-8-3.1 (a) through (d) will vary depending on types and volumes of use, condition of equipment, and efficiency of hood filtration. The authority having jurisdiction may be permitted to adjust the

frequency of cleaning required if conditions so warrant. Systems that are only used on a part-time or seasonal basis could require a reduced frequency."

When many of these systems were designed and installed it had not been anticipated that a great diversity in both styles and volume of cooking, would be coming. When you combine char-broilers with woks and steam cooking or griddles with ovens and solid-fuel meat broilers you end up with some very interesting grease combinations!

It is unfortunately not true that the greater amount of grease-laden vapours are exhausted from the building into the atmosphere. Very often, depending on the nature of the system (length of duct work, type of fan, angles, degree of vertical versus horizontal, etc.), much of the grease condenses onto the cool metallic surfaces of the hood, duct work or fan. Even in so-called water-wash systems, where an appreciable amount of grease is extracted, a lot of oil and other particulate still adheres to the inner surfaces of the system. It is important to remember that NFPA also states that interior surfaces must be cleaned to "Bare Metal."

The key then is access. And there's some good news for fabricators and installers, as well as designers, where access panels are concerned. Several UL listed panels are now available that can be installed prior to market...but can also be applied afterwards. These panels are designed to be put in place with the simple aid of a drill and cutter. A template is provided which makes land-marking easy. No welding is necessary...and they conform to NFPA codes, which stipulate not penetrating the duct or not allowing fasteners to protrude.

The above excerpts were taken from the *Inspectors Edition* of **Phil Ackland's Commercial Kitchen Exhaust Systems Manual**. Phil Ackland has had 36 years experience in the commercial kitchen exhaust maintenance industry.

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