



# Coffee Break Training - Fire Protection Series

## Commercial Cooking: Grease Filters for Exhaust Ducts

No. FP-2009-3 January 20, 2009

**Learning Objective:** The student shall be able to identify three functions of listed grease filters in commercial cooking applications.

Historically, grease filtration and extraction devices have been fire-protection devices intended to keep grease accumulations inside exhaust ducts under control and prevent flames from reaching the grease.

Approved grease filters (or grease extractors) must be provided for all hoods over cooking equipment that produces smoke- or grease-laden vapors. Three main types of grease filters and extractors in use today include the baffle filter, water wash filter, and dry-cartridge (or removable) filter.

These baffle-style filters have surface areas larger than mesh filters that were predominant for many years. The baffles condense vapor and moisture, and increase centrifugal separation to significantly improve grease collection efficiency.

The nationally-recognized testing standard for these items is UL 1046, *Grease Filters for Exhaust Ducts*.

Grease filters tested to determine their abilities to:

- a) Remove grease from grease-laden effluent.
- b) Drain off the collected grease in such a manner that it does not fall back onto the cooking surface.
- c) Limit the projection of flames downstream when attacked by flame on the upstream face after exposure to grease-laden air.



These “baffle-style” grease filters meet listing requirements for commercial cooking ventilation systems.

This filter design is constructed of two layers of stainless, galvanized steel or heavy-duty aluminum roll-formed baffles that channel an air flow that causes grease to collect and drain down the baffle. Drain holes in the frame allow the grease to drain into a collecting trough and into a collection cup for easy removal.

Grease filters must be installed at an angle greater than 45 degrees from horizontal and have a drip tray beneath the lower edge of the filters. Filters must be installed in frames so that they are removed easily for cleaning.

For additional information, refer to NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, or the *International Mechanical Code*<sup>®</sup>, Chapter 5.



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