

Why do I need a UL 300 fire-extinguishing system for my commercial kitchen?

NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, specifies that automatic fire-extinguishing systems shall be used for the primary protection of grease removal devices, hood exhaust plenums and exhaust duct systems, and shall comply with UL 300, the Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment (or other equivalent standards). It also specifies that the primary protection of cooking equipment that produces grease-laden vapors and that might be a source of ignition of grease in the hood, grease removal device or duct shall comply with UL 300 (or other equivalent standards). These automatic fire-extinguishing systems shall be installed following the requirements of the listing, i.e., as published by an organization such as UL Solutions, concerned with evaluating the products and maintaining periodic inspection of production.

Why and when does it need to be inspected, maintained and recharged?

In order to maintain automatic fire-extinguishing systems in proper working order, NFPA 17A, Standard for Wet Chemical Extinguishing Systems, specifies a range of inspection, maintenance and recharging requirements that include monthly physical inspection (as specified in the manufacturer's owner's manual, including the information specified in NFPA 17A), semi-annual maintenance (as specified in the manufacturer's design, installation and maintenance manual, including the information contained in NFPA 17A), recharging (as specified in the manufacturer's design, installation and maintenance manual, including the information contained in NFPA 17A) and hydrostatic pressure tests every 12 years (for agent storage containers, auxiliary pressure containers and hose assemblies as specified in the manufacturer's design, installation and maintenance manual). Please note that in accordance with NFPA 17A, wet chemical fire-extinguishing systems for the protection of cooking operations shall be listed and meet or exceed the requirements of UL 1254, the Standard for Pre-Engineered and Engineered Dry and Pre-Engineered Wet Chemical Extinguishing System Units, and UL 300. Additional details regarding these types of products certified by UL Solutions can be found in the online UL Product iQ® database under GOAS or GMXH.

Why do we need a hood and duct exhaust system?

As described in NFPA 96, hoods are devices for a cooking appliance to direct and capture grease-laden vapors and exhaust gases. Filters are removable components of the grease removal system designed to capture grease and direct it to a safe collection point. Grease ducts are containment systems for the transportation of air and vapors. They are designed and installed to reduce the likelihood of the accumulation of combustible condensation and the occurrence of damage if a fire occurs within the system.

Why does it need to be serviced quarterly/semi-annually?

NFPA 96 specifies that the entire exhaust system shall be inspected for grease buildup at a frequency defined by the type of cooking operation and production volume ranging from monthly to annually. The primary focus of an inspection for cleanliness is to establish whether the volume of grease buildup within the exhaust system warrants cleaning and determine whether adequate access is available throughout the exhaust system to remove the grease buildup. Hoods, grease removal devices, fans, ducts and other appurtenances shall be cleaned to remove combustible contaminants prior to surfaces becoming heavily contaminated with grease or oily sludge.

How can a clean kitchen that is free of grease on the cooking equipment and filters help reduce fires?

Simply put, grease-laden cooking vapors, exhaust gases and residues are primary combustible hazards in a commercial cooking environment. It is the tendency for these combustible elements to build up on each other and further limit the ability of the cleaning and exhaust systems to function at full capacity.

Why do I need a Class K-rated fire extinguisher specific for the commercial kitchen area?

NFPA 96 indicates that a Class K-rated fire extinguisher is to be available as a secondary backup device for cooking appliance hazards that involve combustible cooking media (vegetable or animal oils and fats). In addition, a placard shall be conspicuously placed near each Class K extinguisher that states that the fire protection system shall be activated prior to using the fire extinguisher.

References:

NFPA 96:2024, Ventilation Control and Fire Protection of Commercial Cooking Operations

NFPA 17A:2024, Wet Chemical Extinguishing Systems

UL 300:2022, the Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment

UL 1254:2022, the Standard for Pre-Engineered and Engineered Dry and Pre-Engineered Wet Chemical Extinguishing System Units

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