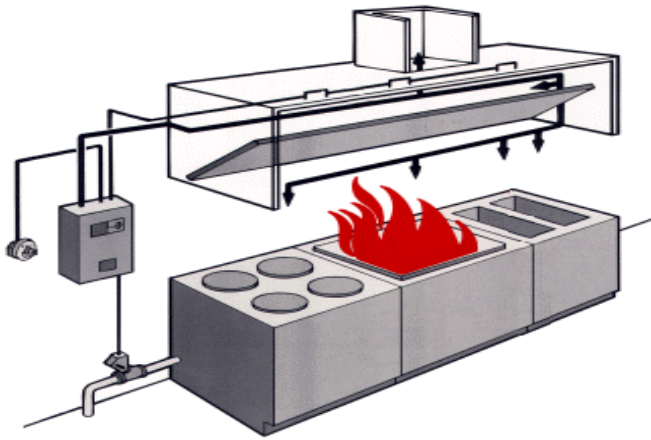


Fire Systems, Commercial Cooking

This handout outlines the conditions under which appliances used in a commercial food service establishment for heating or cooking food and which produce grease vapors, steam, fumes, smoke or odors that are required to be removed through a local exhaust ventilation system. Such appliances include deep fat fryers; upright broilers; griddles; broilers; steam-jacketed kettles; hot-top ranges; under-fired broilers (char broilers); ovens; barbecues; rotisseries; and similar appliances.

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Select: King County | Fire | (Project Type) | (Activity Type) | Other Systems and Equipment



For the purpose of this definition, a food service establishment shall include any building, or a portion thereof used for the preparation and serving of food.

Commercial Kitchen Hoods An air-intake device used to capture by entrapment, impingement, adhesion or similar means, grease and similar contaminants before they enter a duct system.

Type I. A kitchen hood for collecting and removing grease vapors and smoke.

Where Required a Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease-laden vapors.

Operations, Inspection, & Maintenance Commercial cooking systems shall be operated, inspected and maintained in accordance with the International Fire Code (IFC) and Chapter 11 of NFPA 96.

Ventilation Systems The ventilation system in connection with hoods shall be operated at the required rate of air movement, and classified grease filters shall be in place when equipment under a kitchen grease hood is used. When grease extractors are installed, they shall be operated when the commercial-type cooking equipment is used.

Cleaning and Inspection Hoods, grease-removal devices, fans, ducts and other appurtenances shall be inspected and cleaned by qualified individuals at intervals specified in the table below

Fire Systems, Commercial Cooking, continued

TYPE OF COOKING OPERATION	FREQUENCY OF INSPECTION
High-volume cooking operations such as 24-hour cooking, charbroiling or wok cooking	3 months
Low-volume cooking operations such as places of religious worship, seasonal businesses or senior centers	12 months
Cooking operations utilizing solid fuel burning cooking appliances	1 month
All other cooking operations	6 months

Grease Accumulation If during the inspection it is found that hoods, grease-removal devices, fans, ducts or other appurtenances have an accumulation of grease, such components shall be cleaned.

Obtaining an Alternative Fire Extinguishing Systems and Equipment Permit

Go to MyBuildingPermit.com The permit type selections are:

Jurisdiction: King County

Application Type: Fire

Project Type: Non-Residential

Activity Type: (Choose one)

Scope of Work: Other Systems and Equipment

Apply On-Line at MyBuildingPermit.com

Select: King County | Fire | (Project Type) Non-Residential | (Activity Type) | Other Systems and Equipment



If you have questions or would like to inquire about alternatives, please email DPERWebInquiries@kingcounty.gov.

Submittal Requirements

A Fire, Other System and Equipment application form permit submittal package must include:

- 1) Plan set cover sheet and two sets of plans (one digital set when submitting on MyBuildingPermit.com.) Plan sheets should include the following information:
 - a. A statement of the scope of work that this permit is intended to cover.
 - b. Type and size of systems.
 - c. Hood dimensions, exhaust duct and appliance dimensions, along with the interface of the fire extinguishing system detectors
 - d. Appliance(s) description.
 - e. Piping schematic to include an isometric layout.

Fire Systems, Commercial Cooking, continued

- f. Nozzle type and location.
 - g. Manual actuation device and related cable installation in the kitchen.
 - h. Location and temperature of the fusible links.
 - i. System flow point capability, system flow points used and pipe length equivalency calculations
- 2) Also submit extinguishing equipment specifications.
 - 3) The plans shall be stamped and signed by the designer of record (installing contractor). The designer's name shall be clearly printed in the plans (no pseudonyms, acronyms, or aliases). Installation work shall be done by licensed, fully experienced, and responsible persons.
 - 4) All appliances shall be locked in place. If appliances must be moveable for cleaning, location markers shall be permanently installed to indicate the approved location of the appliance (e.g., Wheel chocks designed to precisely relocate mobile cooking equipment under the exhaust hood, at the approved designed location, in accordance with NFPA 96 and NFPA 17A requirements).
 - 5) Safety Interlocks. Systems shall be provided with interlocks of all critical components and operations such that if any interlock components are interrupted the cooking appliance shall not be able to operate.

Extinguishing System Design Criteria

- 1) Activation of fire extinguishing system shall cause the shut-off of fuel and/or power for all appliances under vent-hood.
- 2) Activation of fire extinguishing system shall cause the shut-off of makeup air supply to vent-hood.
- 3) Exhaust ventilation shall continue to operate upon activation of fire extinguishing system.
- 4) Activation of fire extinguishing system shall initiate activation of the fire alarm system, if one is present.
- 5) Extinguishing system's manual pull station shall be located along the path of egress. (Minimum of 10 feet and a maximum of 20 feet from protected kitchen exhaust system and at a maximum height of 48 inches and a minimum height of 42 inches)
- 6) Label multiple manual pull stations.
- 7) Mount a Class K rated fire extinguisher and approved signage within 30 feet from protected kitchen exhaust system.
- 8) All appliances shall be locked in place. If appliances must be moveable for cleaning, location markers shall be permanently installed to indicate the approved location of the appliance (e.g., Wheel chocks designed to precisely relocate mobile cooking equipment under the exhaust hood, at the approved designed location, in accordance with NFPA 96 and NFPA 17A requirements).

Continued

Fire Systems, Commercial Cooking, continued

Additional Resources

King County [Department of Local Services, Permitting Division](#)

[Permit Fees](#)

[Fire, Other Systems and Equipment](#), Information and Application

[On-line Permit Status, Invoice Payment and Inspection Scheduling](#)

[IVR Inspection Scheduling, phone number and codes](#)

