

Kitchen cooking equipment protection

About

In order to ensure that they operate properly when needed and don't trip unnecessarily, the MN State Fire Code requires that hotels (when equipped) properly inspect, test and maintain the exhaust hoods, filters and fire-extinguishing equipment protecting their kitchen cooking equipment.

Types of kitchen hoods

Type I

Hoods that are designed to remove heat, smoke, and other greasy by-products of cooking commonly found above cooktops, deep fryers, grills, and open-flame stoves. The hood's filter captures grease and other contaminants before the air is exhausted to the exterior through a system of ducts.

Type II

Hoods that are equipped to handle heat, steam, vapor, odors and moisture from appliances that do not produce grease such as ovens and commercial dishwashers.

Type I hood requirements

- Ventilation system. The ventilation system connected to the Type I hoods shall be operating and the grease filters shall be in place whenever equipment under a kitchen hood is used.
- Grease extractors. When grease extractors are installed, they shall operate whenever the commercial-type cooking equipment is used.
- Cleaning. The hoods, grease-removal devices, fans, ducts and other attachment shall be inspected at intervals specified below [see MN State Fire Code Table 609.3.3.1] or as approved by the fire code official. Inspections shall be completed by qualified individuals capable of performing all required tasks.
 - 1 month: Cooking operations utilizing solid fuel burning cooking appliances
 - 3 months: High-volume cooking such as 24-hour cooking, charbroiling or wok cooking
 - 6 months: All other cooking not otherwise listed
 - 12 months: Low-volume cooking such as places of religious worship, seasonal businesses and senior centers
- Grease accumulation. If hoods, grease-removal devices, fans, ducts or other attachments have an accumulation of grease during inspection, such components shall be cleaned.
- Records. Records for inspections shall state the individual and company performing the inspection, a description of the inspection and/or cleaning when the inspection took place. Such records shall be completed after each inspection or cleaning and maintained at the hotel for a minimum of three years.



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Cooking hood fire extinguishing systems

- **Commercial cooking systems.** Pre-engineered automatic dry- and wet-chemical extinguishing systems, commonly known as UL 300 Systems, shall be tested, listed and labeled for the intended application. However, any of the following types may be used when properly installed for commercial cooking operations:
 - Carbon dioxide extinguishing systems, NFPA 12.
 - Automatic sprinkler systems, NFPA 13.
 - Foam-water sprinkler system or foam-water spray systems, NFPA 16.
 - Dry-chemical extinguishing systems, NFPA 17.
 - Wet-chemical extinguishing systems, NFPA 17A.

Factory-built commercial cooking recirculating systems that are tested in accordance with UL 710B are also permitted when installed to the MN State Mechanical Code.

- **Manual system operation.** A manual pull station for the commercial cooking fire extinguishing system will be at or near a means of egress and between 10 to 20 feet from the cooking hood. It shall be clearly marked, readily accessible and not blocked by appliances or furnishings.
- **System interconnection.** When the fire extinguishing system is activated, the system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The fuel and electrical supply shall also be manually reset.
- **Special provisions for automatic sprinkler systems.** Existing water-based fire extinguishing systems are permitted to remain so long as they are maintained and use the proper type of fire sprinkler head, known as an EA-1. These systems shall have their own control valves independent from the rest of the buildings fire sprinkler system.

Portable fire extinguishers

- **Portable fire extinguishers for commercial cooking equipment.** In addition to the required 2A:10-B:C fire extinguishers, cooking equipment involving solid fuels, vegetable or animal oils and fats will have a Class K portable extinguisher within 30 feet of the cooking appliances.
- **Portable fire extinguishers for solid fuel cooking appliances.** All solid fuel cooking appliances, whether or not under a hood, with fireboxes 5 cubic feet or less in volume shall have a minimum of one 2.5-gallon or two 1.5-gallon Class K wet-chemical portable fire extinguishers.
- **Class K portable fire extinguishers for deep fat fryers.** When using deep fat fryers, listed Class K portable fire extinguishers shall be provided as follows:
 - One, 1.5 gallon Class K portable fire extinguisher for the first four fryers containing up to 80 pounds of cooking media.
 - For every additional group of four fryers containing up to 80 pounds of cooking media, one additional Class K portable fire extinguisher of a minimum 1.5-gallon capacity shall be provided.



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Kitchen hood fire extinguishing system operation and maintenance

- Extinguishing system service. Automatic fire-extinguishing systems shall be serviced at least every six months and after activation of the system. Inspection shall be by qualified individuals, and a certificate of inspection shall be forwarded to the local fire code official upon completion.
- Fusible link and sprinkler head replacement. Fusible links and automatic sprinkler heads shall be replaced at least annually, and other protection devices shall be serviced or replaced in accordance with the manufacturer's instructions.

Document your maintenance

It's important that at least two people in your facility know where your maintenance records are kept to increase the likelihood that they can be readily provided if requested during an inspection. It is recommended that these records be maintained for at least three years.

Questions

Any questions related to this issue should be directed to the code specialist with the SFMD at 651-201-7221 or you can e-mail questions to fire.code@state.mn.us.

