

College Grove United Methodist Church Engineering & Maintenance

# **STOVE HOOD VENT & FIRE SUPPRESSANT SYSTEM**

**High-Marks Inc  
714 Woodland St  
Columbia, TN 38401  
(931) 840-0970**

**American Hood Systems  
<http://www.americanhood.com/>**

**Serial # 36040**

**Model # EX48 H-L – Box or F**

## College Grove United Methodist Church Engineering & Maintenance

# COMMERCIAL KITCHEN VENTILATION SYSTEMS

Any commercial establishment that produces grease-laden vapors or smoke requires a kitchen ventilation system. The system shall meet the requirements of the 2002 Edition of National Fire Protection Association (NFPA) 17A Code and 2001 Edition of (NFPA) 96 Code **Listed below is general information only and does not contain all information, provided by the codes.**

The kitchen ventilation system generally consists of five parts: The hood, the ductwork, the fans, the fire extinguishing equipment and the cooking appliances.

**HOOD:** A Type I kitchen hood is required for the capture and removal of grease laden vapors and smoke. A Type I hood is constructed from a minimum of 18 gauge steel or 20 gauge stainless steel or other approved material. It shall be of liquid tight-welded construction. The hood shall be sized to capture and remove grease-laden vapors. The hood shall be installed no higher than 84 inches above the finished floor, 18 inches from any combustible material, 3 inches from limited combustible material and may touch non-combustible material under certain circumstances. Clearance to combustible materials may be reduced if protected per approved exceptions. A listed hood assembly shall be installed in accordance with the terms of their listing and the manufacturer's instructions. Listed grease filters, baffles or other approved grease removal devices shall be provided. Mesh filters shall not be used. Each hood shall have a drip tray beneath the lower edge of the filters. The tray shall be pitched to drain into an enclosed metal container having a capacity not exceeding 1 gallon.

**DUCTWORK:** An exhaust duct shall be constructed from a minimum of 16-gauge steel or 18 gauge stainless steel. It shall be liquid tight welded. An exhaust duct shall be connected to the hood and terminate either through a roof or wall. The outlet shall not be within 10 feet of any air intake, operable window, door, walkway, property line or adjacent building. Horizontal exhaust ducts shall slope back toward the hood. Listed access panels with signs shall be every 12 feet on horizontal and every change of direction on vertical ducts. Access panels shall be large enough to permit inspection and cleaning of the duct. The same clearance criteria for hoods pertains to duct work. Supply air ducts, where required in the Kitchen Ventilation System, shall be constructed and installed per the 2000 Edition of the International Mechanical Code. However, there are some instances when NFPA 96 will supersede. If a supply air duct penetrates the hood, a fire damper is required. An access panel shall be provided to clean, test or repair the damper.

**FANS:** Exhaust fans shall be upblast, inline or utility type. All fans shall have an approved listing to be used for grease-laden vapors. Upblast fans shall be hinged type. The exhaust fan shall move the required cubic feet per minute (CFM) per the Mechanical Code. The supply fan shall provide the required CFM makeup air per Section 508 of the Mechanical Code. The manufacturer of the hood may modify each CFM. There shall be an accessible work area provided to allow for inspection, maintenance and cleaning.

**FIRE EXTINGUISHING EQUIPMENT:** Equipment shall include both automatic fire extinguishing systems as primary protection and portable fire extinguishers as secondary backup. The automatic system shall comply with standard UL 300 (Underwriters Laboratories). The system shall be installed

## College Grove United Methodist Church Engineering & Maintenance

by a contractor licensed by the State Fire Marshal's Office and shall meet the requirements of NFPA 17A. Upon activation of the system the fuel source must automatically shut off. A manual activation device must also be provided. A portable Type K fire extinguisher with required signage shall be mounted within 30 feet of the hazard. The top of the fire extinguisher handle shall not be more than 48 inches above the floor.

**APPLIANCES:** Cooking equipment shall be approved based on either a listing by a testing laboratory or test data acceptable by the Fire Marshal or designee. Appliances using solid fuel (wood, charcoal, etc.) shall meet the requirements of NFPA 96 Chapter 14, 2001 Edition. **Note: The information provided above is general in scope and does not take the place of any of the listed codes.**

## Owner/Operator Responsibility for Operation and Maintenance of Commercial Kitchen Ventilation Systems

1. Cooking equipment shall not be operated while its fire extinguishing system or exhaust system is non-operational.
2. Exhaust systems shall be operated whenever cooking equipment is turned on.
3. All filters shall be in proper placement when exhaust system is in operation.
4. Instructions for manually operating the fire extinguishing system shall be posted conspicuously in the kitchen and shall be reviewed with employees by the management.
5. The entire suppression system shall be inspected by a properly trained, qualified and certified person or company, semi-annually. A copy of the report shall be kept on-site.
6. Inspection and/or repair of the suppression system shall be conducted whenever the system has been damaged, has discharged or appliances, hood or ducts have been replaced, modified or relocated.
7. Hoods, grease removal devices, ductwork and fans shall be **inspected** by properly trained owner/operators according to the following schedule:
  - High volume cooking: (Charbroiling, woks or 24 hour cooking) Quarterly.
  - Moderate volume cooking: Semi-annually
  - **Low volume cooking: (Churches, senior centers or occasional use) Annually.**
8. Owner/Operator inspection shall include, but shall not be limited to:
  - Cleanliness of the Exhaust System, especially the filters.
  - Grease filters are in proper position and all exhausted air passes through the filter system.

## College Grove United Methodist Church Engineering & Maintenance

- Appliances have not been moved and are clean and in proper working order.
  - Suppression System nozzles are clean and have a protective cover in place.
  - The cylinders of the Suppression System and any portable fire extinguishers shall display a yellow tag dated within the last six months (within the last 12 months for portables) and an approved licensed contractor shall sign the tag.
  - All Suppression Systems and portable fire extinguishers shall be fully charged which is indicated by its pressure gauge.
9. If hood, grease removal devices, ductwork or fans are found to be damaged or non-operational, the system shall be taken out of service until proper cleaning and repairs are completed.
10. Hoods, grease removal devices, fans ducts must be **cleaned** to bare metal at frequent intervals prior to surfaces becoming heavily contaminated with grease or oily sludge.