

COMMERCIAL COOKING HOODS, VENTILATION & FIRE SUPPRESSION SYSTEM GUIDELINES AND PROCEDURES



These guidelines are to be used for **ALL** commercial cooking hoods, ventilation systems and related fire suppression systems drawings required to be submitted for building permit process.

Note: Assurance of proper installation of a hood and duct system cannot be made without complete plans and specifications. The procedures set forth in this document are **minimum key requirements** necessary to ensure a timely review and issuance of permits as applied for. These are NOT all inclusive.

Code References: All codes, regulations and requirements are pursuant to: N.F.P.A. #96 2001 ed.; 2004 Florida Fire Prevention Code; 2004 Florida Building & Mechanical Code; and National Electrical Code, 2005 ed.

Plan Submittal & Drawing Requirements: Four (4) complete set of drawings of the system installation including the hood(s) exhaust duct(s) and appliances along with the interface of the fire extinguishing system detectors, piping, nozzles, fuel shut-off devices, agent storage container(s), and manual activation device(s) shall be submitted with the original building construction plans as part of the complete building package.

Fan specification shall be submitted with fans to verify CFM and Model Number.

Inspections: Required Field inspections are mandatory for final approvals.

1. A separate inspection will be required if grease duct is to be encased by metal chase before it is enclosed.
2. Contractor shall do a complete system test prior to Fire Inspector Acceptance Test.
3. A Final Mechanical inspection is required by the Building Department for grease hood and duct. Contractor must provide ladder for roof ventilation inspection.
4. A Final Fire Suppression System inspection.
5. A Final Building inspection required for rated enclosure.

48 hour advance notice is the recommended time for scheduling the acceptance test.

General Commercial Hood Design: It is recommended that the drawing submitted for permitting should indicate either by details or by notes the following areas:

1. All duct seams and joints must have a liquid-light continuous external weld.
2. An opening shall be provided at each change in direction of the duct for purposes of inspection and cleaning. This access door shall be made to be removed without the use of tools.

Details to be shown and noted on plans.

3. A manual pull station shall be located at or near one of the exits from the cooking area securely mounted not less than 42" (inches) or more than 48" (inches) from the floor. Manual controls shall not require a pull of more than a forty (40) pound force, nor a movement of more than fourteen inches (14") to secure operation.

4. The system bottles (tanks) may not be installed in ceiling, attics, concealed spaces, crawl spaces and locked rooms.
When practical, there should be five feet (5') from the floor to the bottom of the container.
5. Pizza ovens, cabinets or sectional-type appliances that do not generate grease-laden vapors are not required to have a fire extinguishing system installed unless hood extends over appliances generating grease-laden vapors. Gas fired pizza ovens, cabinets, sectional type appliances shall be vented to the outdoors in vent solely for this use and not vented under the hood. A pizza oven in lieu of venting through the roof, the gas valve may interlock to hood fan to shut down gas valve when hood fan is shut off.
6. Grease extractors (filters) are to be U.L. listed and baffled-type.
7. **Mesh-type filters shall not be used and will not be acceptable under any circumstance.**
8. A portable extinguisher adjacent to cooking equipment shall carry a **Class "K"** rating and be compatible with the fire suppression system extinguishing agent. Other required extinguishers shall be of proper classification and located as approved by the local fire department.
9. The operation of any extinguishing system shall automatically shut off all sources of fuel and heat to all equipment protected by an extinguishing system.
The fuel and electrical supply reset shall be manual.
10. All system piping is to be (puff) tested with inert gas. All nozzles in the suppression system shall be accessible.
11. Except for vertical installation of fire extinguishing piping, all piping shall be installed on the outside of the hood or shall be installed in the hood plenum behind the filters and at least 3/4 inches (3/4") away from all hood surfaces.
12. The hood and other parts of the primary collection system is to be constructed of steel or stainless steel. The minimum nominal thickness of steel shall be 0.043 inch (No. 18 Manufacturers Standard Gauge). The minimum nominal thickness of stainless steel shall be 0.037 inch (No. 20 U.S. Standard Gauge).
13. The interior surfaces of the hood shall not have any areas that can accumulate grease.

Exception:

- Grease collection systems under filters and troughs on the perimeter of canopy hoods.
14. Canopy hoods must be designed to completely cover the cooking equipment. The edge of the hood shall extend a minimum horizontal distance of six inches (6") beyond the edge of the cooking surface on all open sides. Vertical distance from lower lip of the hood and the cooking surface shall not exceed four-feet.
 15. Hoods of the non-canopy type shall be located a maximum of 3 feet above the cooking surface. The edge of the hood shall be set back a maximum of 1 foot from the edge of the cooking surface.
 16. Makeup air shall be supplied during the operation of the kitchen exhaust system. The amount of makeup air shall be approximately equal to the amount of exhaust air. The makeup air shall not reduce the effectiveness of the exhaust system. A fire damper may be required in the makeup air entered through the grease hood.
 17. The makeup air shall be identified on drawing including CFM of fun units.

18. The air exhausted in every commercial exhaust hood shall pass through grease filters or a grease-removal device.
19. The grease filters shall bear the label of an approved agency and shall be installed in accordance with the manufacturer's instructions for the labeled equipment.
20. All grease filters shall be easily accessible and removable for cleaning.
21. The grease filters shall be installed at a minimum angle of 45 degrees to the horizontal. The filters shall be so arranged to capture and drain grease to a point of collection.
22. Grease filters shall be installed a **minimum** height of 18 inches above the cooking surface and as specified in the following table:

Type of cooking equipment	Height above cooking surface (feet)
Without exposed flame	½ (6 inches)
Exposed flame	2 (24 inches)
Charcoal burning	4 (48 inches)

Exception: With cooking devices without exposed flame and where flue gasses bypass filters, filters shall be installed at an effective height of not less than 6 inches above cooking surfaces.

Note: Grease filters shall have a minimum area of 1 square inch for each 2 CFM of air exhausted.

Commercial Duct Systems: - Proper installation of hood and duct systems cannot be made without complete plans and specifications. Drawings must denote the following:

1. The duct system shall be an independent system designed for the removal of kitchen exhaust without any obstructions that may collect grease or residue. A point of collection shall be provided at the base of each vertical rise.
2. The ducts shall be constructed of steel or stainless steel. The minimum nominal thickness of steel shall be 0.055 inch (No. 16 Manufacturers Standard Gauge). The minimum nominal thickness of stainless steel shall be 0.044 inch (No. 18 U. S. Standard Gauge).
3. All external joints and seams are to be welded liquid-tight. Duct connections to the hood shall be welded liquid-tight.

Exception: Joints that bear the label of an approved agency which are used to connect the hood to the duct are not required to be welded liquid-tight.

4. The air velocity in the duct shall be a minimum of 1,500 feet per minute and a maximum of 2,500 feet per minute.
5. The ducts that penetrate a floor, wall, or **fire resistance rated** assembly shall be enclosed in a fire resistance rated shaft in accordance with the building code. A minimum clearance of 6 inches shall be maintained between the shaft and duct. Access openings shall be provided at clean-out points.
6. The clean-out is to be located on horizontal sections of ducts spaced not more than 20 feet apart. The clean-outs shall be located on the side of the duct having a minimum opening dimension of 12 inches or the width of the duct when less than 12 inches.
7. The motor to an exhaust fan is to be located outside the exhaust air stream.

8. The ducts are exhausted directly as possible to the outdoors.
9. The ducts that terminate above the roof has the discharge located a minimum of 40 inches (40") above the roof surface. (**must be shown on the plans**)
10. The exterior wall in which a duct terminates is of noncombustible in accordance with the building code. Other exterior openings shall not be located within 3 feet of the duct termination.
11. Combustible construction shall not be installed within 18" of hood.
12. No electrical shall penetrate the grease duct. (Electrical going to exhaust fan)

FireHood Suppression 8-15-6



**HERNANDO COUNTY COMMERCIAL
FIRE HOOD / SUPPRESSION
APPLICATION**

Contact Person: _____
 Phone: _____ Fax: _____
 Email: _____

Key # _____ Date _____

Valuation Of Work To Be Done: \$ _____ HOOD SUPPRESSION

Legal Description: Lot _____ Block _____ Subdivision _____ Unit _____

Address Of Job Site: No. _____ Street _____

Project Name _____ **Shopping Center Name** _____

Directions To Job Site: _____

Property Owner: _____ Phone: _____

Address _____ City _____ State _____ Zip _____

Interest In Property: _____

Name Of Fee Simple Titleholder: _____

Address _____ City _____ State _____ Zip _____

FIRE HOOD/SUPPRESSION CONTRACTOR _____

Phone: _____ Fax: _____

Email: _____

Address _____ City _____ State _____ Zip _____

License Number _____ (State Certification or Hernando County # Only)

Application is hereby made to obtain a permit to do the work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work will be performed to meet the standards of all laws regulating construction in this jurisdiction. I understand that a permit must be secured for **ELECTRICAL WORK, PLUMBING, SIGNS, WELLS, POOLS, FURNACES, BOILERS, HEATERS, TANKS, and AIR CONDITIONERS, ETC.**

OWNER'S AFFIDAVIT: I certify that all of the foregoing information is accurate and that all work will be done in compliance with all applicable laws regulating construction and zoning.

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT FOR JOBS EXCEEDING \$2,500.00 MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY.

IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

Owner or Agent (Including Contractor) Print Name

State of _____ County of _____

The foregoing instrument was sworn to and subscribed before me this _____ day of _____, 20____ by _____,

- who is personally known to me; or
- who has produced _____ as identification.

Notary Public

Application Approved By: _____
Permit Representative

HERNANDO COUNTY DEVELOPMENT DEPARTMENT
789 Providence Boulevard
Brooksville FL 34601
Phone (352) 754-4050 Fax: (352) 754-4151

www.co.hernando.fl.us