

Artesia Fire Department



Office of the Fire Marshal

3300 W. Main St. - Suite F
Artesia, NM 88210
575-746-5090

Fire Extinguishing Systems For Cooking Operations

Approved and Authorized by

James Abner
Fire Marshal

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Fire Extinguishing Systems for Commercial Cooking Operations

PURPOSE

This guideline has been prepared to assist those responsible for the design, installation, testing, and inspection of wet chemical fire extinguishing systems, complying with UL 300, used to protect commercial cooking appliances to comply with the International Fire Code 2009, 2002 NFPA 17A, & International Mechanical Code 2009. The information contained in this document is intended to promote compliance and to ensure that commercial-type food heating and processing operations are adequately protected, tested and maintained to adequately operate in the event of a grease fire.

SCOPE

This guideline applies to any facility where cooking operations produce grease-laden vapors. Cooking appliances producing grease-laden vapors shall be equipped with an exhaust system with the following components: hood, grease removal devices, duct system, and fire extinguishing equipment. This guideline defines protection for cooking surfaces, deep fat fryers, griddles, upright broilers, char-broilers, range tops and grills, open face ovens, salamanders, cheese melters, woks, open face pizza ovens, and other similar cooking appliances. Protection shall also be provided for the enclosed plenum space within the hood, above filters, and in exhaust ducts serving the hood.

SUBMITTAL REQUIREMENTS

Artesia Fire Department does not review the installation of the hood but rather the fire extinguishing system which is installed. **Submit one set of legible scaled plans or one electronic copy in .pdf format. All electronic copies may be submitted on CD, DVD, Memory Stick, or by e-mail. Also submit one complete set of the technical data sheets/ manufacturer's specifications (installation manual).** These will be shipped to the following address:

Artesia Fire Department
Attn: Fire Marshal
3300 W. Main Street
Suite F
Artesia, NM 88210

1. A drawing of system showing, duct, appliances, the nozzles and fusible links and the system. Plans shall also show the piping of the system, and the location of the system within the premise. This Drawing must be to scale.
2. The drawing shall clearly indicate the type of system(s) and sizes of cylinders.
3. Drawings shall clearly indicate and show the type and number of automatic fuel shut off devices.
4. Drawings shall clearly indicate and show the number and type (in degrees F°) of the fusible links.
5. Drawings shall show and clearly indicate the manufacturer's nozzle numbers and type of nozzles.
6. Drawings shall clearly indicate the type of appliances protected with their surface dimensions (in inches).

7. Drawings shall clearly indicate, and show the HOOD and Duct dimensions (in inches/feet).
8. Drawings shall also clearly indicate the following;
 - a. 16" Inch space between fryers, and open flame appliances.
 - b. Approved baffle type filters required.
 - c. Whether the system is single or tandem.
 - d. The system installed requires annual semi-annual and annual service (to include changing of the fusible links annually) by the "manufacturer" approved contractor/installer.
 - e. All other requirements by the Authority Having Jurisdiction.
9. The Plan shall also have the complete name and address of the authorized contractor.
10. The Plans shall clearly indicate the complete name and address of the premise where the system is being installed.
11. Dimensioned floor plan layout to include: the location of the cooking equipment, exit doors, manual pull, Class K extinguisher(s) and other non-protected appliances indicated.
12. Each submittal shall be Reviewed and Sealed by a New Mexico Registered Professional Engineer, or will otherwise be returned for correction.
- 13. *Drawings must meet the minimum requirements as contained and outlined in NFPA 96 Standard for Ventilation Control & Fire Protection of Commercial Cooking Operations (2001 Edition) and the Uniform Mechanical Code (2003 Edition).***

FAXED SHOP DRAWINGS

Fire suppression shop drawings shall comply with the guidelines above. Faxed shop drawings **will not** be accepted by the Artesia Fire Department.

DEVIATIONS, ADDITIONS, OR DELETIONS FROM ORIGINAL DRAWINGS

Any deviations from submitted shop drawings (i.e. removal, relocation, or addition of devices) that have not been approved prior to any changes being made will result in failure of system, and occupancy of the building covered by the project. Additionally, a re-submittal of shop drawings will be required. Resubmitted drawings shall indicate any and all device removals, additions, and deletions.

ARTESIA FIRE DEPARTMENT HOOD EXTINGUISHING SYSTEM NOTES

All of the notes listed below shall be placed, verbatim, on the plan or supplied to the contractor, hood owner or manager, and building occupant.

INSPECTIONS

1. Artesia Fire Department final inspection required. Please schedule all field inspections *at least* 24 hours in advance. Call Artesia Fire Department 575-746-5051.
2. The system shall be pre-tested prior to inspection. The system shall be installed and function in accordance with the approved plans and manufacturer's installation specifications. Testing during the inspection shall include a manual and automatic activation via fusible link. The complete technical manual shall be made available to the inspector.
3. All gas fueled, electrically powered, and heat-producing equipment located under the hood shall shut down upon activation of the extinguishing system.
4. Discharge nozzles shall be located and installed as shown in the manufacturer's listed installation manual and the approved plans. All discharge nozzles shall be provided with caps, covers, or other suitable protective devices.
5. Where a building fire alarm or monitoring system is installed, the automatic fire-extinguishing system(s) shall be monitored in accordance with *NFPA 72*. A fire alarm plan shall be submitted under separate review and approval by the Artesia Fire Marshal's Office.
6. Piping shall be rigidly supported to prevent movement. Swivel nozzles shall be rotated to a predetermined aiming point and then tightened to hold that angle. Careful attention shall be given at the time of designing the system as nozzles cannot be moved "out of the way" once approved in the field. Any moving of the pipe or nozzles shall require an approved contractor to evaluate the pipe/nozzle layout.
7. Movable cooking equipment shall be provided with a means to ensure that it is correctly positioned in relation to the appliance discharge nozzle during cooking operations.
8. Fryers shall be separated from surface flame appliances by 16 inches or an 8 inch baffle plate shall be provided between fryers and surface flames.
9. Manual pull stations shall be located no higher than four feet above finished floor and shall be readily accessible for use at or near a means of egress from the cooking area a minimum of 10 feet and maximum of 20 feet from the kitchen exhaust system. The distance is measured from the edge of hood.
10. A Class K rated extinguisher shall be provided within a maximum of 30 ft. of cooking equipment. Placement is at discretion of the inspector. Additional extinguishers may be required based on travel distance for solid fueled equipment or multiple fryers. Portable fire extinguishers shall be conspicuously located along normal paths of travel where they are readily accessible. Portable fire extinguishers shall be maintained in accordance with *NFPA 10*.
11. Hood and duct construction shall be installed in accordance with the 2009 International Mechanical Code and nationally recognized standards. These assemblies are approved and inspected by the Artesia Building Official and are not part of the Artesia plan review process. Approved building department plans are required.
12. Where more than one manual actuator (pull) is installed, they shall be identified with a permanent sign indicating which extinguishing system each will activate.

13. Hood exhaust fans shall continue to operate after the extinguishing system has been activated, unless fan shutdown is required by a listed component of the ventilation system or by the design of the extinguishing system.
14. The inside edge of the hood shall overhang a horizontal distance of not less than 6 inches beyond the edge of the cooking surface on all open sides, and the vertical distance between the lip of the hood and the cooking surface shall not exceed 4 feet unless the manufacturer's specifications states otherwise.

SYSTEM MAINTENANCE

15. The approved set of plans shall be delivered to the owner/manager to be kept on-site for reference and inspection records.
16. Monthly (documented) visual inspections are required by management or their designee.
17. The responsibility for inspection, maintenance, training, and cleanliness of the ventilation control and fire protection of the commercial cooking operations shall be the owner of the system provided that this responsibility has not been transferred in written form to a management company or other party.
18. Records for inspections shall state the following:
 - a. The name of the individual and/or company performing the inspection;
 - b. A description of the inspection;
 - c. When the inspection took place;
 - d. Such records shall be completed after each inspection or cleaning, maintained on the premises and copied to the Artesia Fire Department upon request.
19. The extinguishing system shall be maintained in accordance with the current NFPA 17A and manufacturer's requirements.
20. For existing hood extinguishing systems, where changes in the cooking media, positioning of cooking equipment or replacement of cooking equipment occur, plans shall be submitted to the Artesia Fire Department for the automatic fire-extinguishing system and shall comply with the applicable standards.
21. Extinguishing systems shall be serviced at least every six months, or after activation of the system, by a qualified person. Maintenance shall be conducted in accordance with the manufacturer's listed installation and maintenance manual.
22. Fusible links shall be replaced at least annually.
23. The hood ventilation system shall be operated at the required rate of air movement, and approved grease filters shall be in place when cooking equipment under a kitchen grease hood is operated.
24. Hydrostatic testing of the wet chemical extinguishing system shall be completed in intervals not exceeding 12 years.
25. All interior surfaces of the exhaust systems shall be made accessible for cleaning and inspection purposes. If during the inspection it is found that the hood, grease removal devices, fans, ducts or other appurtenances have an accumulation of grease, such components shall be cleaned.
26. The entire exhaust system shall be inspected for grease build-up by a properly trained, qualified, company or persons. Inspections shall be completed in accordance with the applicable standards.



Artesia Fire Department

Kitchen Hood/Fire Suppression Inspection

3300 W. Main St – Suite F
575-746-5051 – FAX 575-746-5093

Address: _____ Phone: _____

Occupant Name: _____ Number of hoods: ____ Hood number: ____

Owner/Manager: _____ 24 hr Emergency Phone Number: _____

Y / N / NA System interlocked with building fire alarm?
Y / N / NA All appliances properly covered w/correct nozzle?
Y / N / NA Duct & plenum covered w/ correct nozzles?
Y / N Checked position of all nozzles?
Y / N / NA Nozzles clean and unobstructed?
Y / N / NA Proper nozzle caps/covers in place?
Y / N / NA Hood/duct penetrations sealed?
Y / N / NA Hood has documented cleaning
Y / N Grease accumulation?
Y / N / NA Manual release unobstructed?
Y / N / NA Manual release clearly marked/identified?
Y / N / NA Manual/remote set seals in place?
Y / N / NA Cylinder & mount inspected?
Y / N / NA Piping/conduit securely bracketed?

Y / N / NA Proper clearance flame to filters?
Y / N / NA Proper separation between fryers and flame?
Y / N / NA Exhaust fan in operating order?
Y / N / NA Fan warning sign on hood?
Y / N / NA Class K fire extinguisher(s) mounted within 30 feet of appliance(s)?
Y / N / NA Appropriate number of Class K fire extinguishers?
Y / N / NA Class K fire extinguisher within annual maintenance?
Y / N / NA 2A water/wet chemical extinguisher in place for solid fuel appliances?
Y / N / NA System armed?
Y / N / NA Service of certification tag on system?
Y / N / NA Personnel instructed on manual operation of system?
Y / N / NA Personnel instructed on use of the fire extinguishers?
Y / N / NA Monthly inspections performed?

Suppression System Manufacturer: _____ Year installed: _____

Size of system: _____ Number of appliances protected: ____ Number of nozzles in system: ____

Name of company last servicing system: _____ Phone: _____

Comments: _____

This fire inspection was made for the purposes of promoting fire safety and to assist the owner/manager in correcting conditions, which may cause or contribute to a fire. It contains a list of items required by City Code, the IFC, NFPA 17A, and NFPA 96. This inspection does not alleviate the owner/manager's ongoing obligation to locate and correct safety hazards beyond that of the kitchen hood/fire suppression system.

Your next kitchen hood/fire suppression inspection is due on: _____

A follow-up inspection will be made on or about _____

If you have questions, please contact the Artesia Fire Marshal @ 575-746-5051.

Fire Department Personnel _____ Date _____

Owner/Manager _____ Date _____



Artesia Fire Department

Kitchen Hood/Fire Suppression

Monthly Inspection

Address: _____ Inspection Date: _____

Occupant Name: _____ Number of hoods: ____ Hood number: ____

Owner/Manager: _____

YES	NO	Nozzles above cooking appliances?
YES	NO	Nozzles clean and unobstructed?
YES	NO	Nozzle caps/covers in place?
YES	NO	Visible grease accumulation?
YES	NO	Manual release unobstructed?
YES	NO	Manual/remote set seals in place?
YES	NO	Cylinder & mount secured?
YES	NO	Piping/conduit securely bracketed?

YES	NO	Proper separation (16 inches or a baffle plate) between fryers and flame?
YES	NO	Exhaust fan in operating order?
YES	NO	Class K fire extinguisher(s) mounted and unobstructed?
YES	NO	Class K fire extinguisher(s) within annual maintenance?
YES	NO	System armed?
YES	NO	Service tag on system?
YES	NO	New employees trained in system use?

Suppression System Due for Maintenance on: _____

Any changes since last inspection YES NO If yes what are those changes: _____

Other comments: _____

Visual Inspection conducted by: _____ Date _____