



City of Santa Barbara
Fire Prevention Bureau

Plan Check Guide for Commercial Kitchen Fire Extinguishing & Exhaust Systems

I. GENERAL REQUIREMENTS:

1. Commercial kitchen fire extinguishing and exhaust systems shall be designed and installed in accordance with applicable NFPA standards, State Codes, local regulations, and manufacturers' specifications.
2. Working plans, along with the appropriate permit fees, shall be submitted to the City of Santa Barbara Land Use Controls Division.
 - a. Fees for each permit issued for the installation of fire extinguishing and exhaust systems shall be as set forth in the fee resolution.
 - b. Installing contractor shall have a valid contracting license and a valid City business license for such work that is being done.
 - c. Three sets of plans are required with submittal.
 - d. Please allow one week for plan review.
 - e. Plan approval must be granted prior to installation of the system.
 - f. A 24 hour advance notice is required to schedule an inspection.
 - g. Field acceptance test shall be performed as specified by the manufacturer or requested by the Inspector.

II. SPECIFIC REQUIREMENTS - PLAN AND DESIGN SUBMITTAL:

1. Drawings (fully dimensioned or to scale 1/8 inch min.)
 - a. Name and address of where the work is being done.
 - b. Site plan showing location of work within the building.
 - c. Floor plan showing location of appliances or equipment being protected. Location of gas valve, tanks and pull station.
 - d. *See Commercial Kitchen Exhaust Section for additional requirements.*

2. For fire protection of kitchen hoods, include the following:
 - a. Hood dimensions.
 - b. Duct dimensions.
 - c. Number of ducts.
 - d. Plenum dimensions.
 - e. Grease extractor.
 - f. Number of fusible links.
 - g. Temperature of fusible links.
 - h. Dimensions and type of appliances.
 - i. Fryer liquid surface area.
 - j. Distance from nozzles to cooking surface.
 - k. Number and type of nozzles.
 - l. Number and type of pipe fittings.
 - m. Type of pipe and length of supply.
 - n. Type of fuel shut-off device.

3. For pre-engineered systems:
 - a. Include all items in Section Two.
 - b. Indicate flow point information.
 - c. Model number of nozzles.
 - d. Attach copies of applicable design specifications from the manufacturer's installation guide.

III. COMMERCIAL KITCHEN EXHAUST SYSTEMS:

Complete details of the kitchen ventilation system should be submitted to show compliance with the Mechanical Code. The following should be used as a guide for the information needed to be shown:

- a. Type of cooking equipment should be clearly identified on the plans along with sizes and distances underneath hood. Manufacturer's fact sheet shall also be provided listing the proper installation procedure.
- b. Solid-fuel charbroiler should be provided with a separate exhaust system independent of all other systems serving other cooking appliances, as required by the Mechanical Code.
- c. Kitchen ventilation duct gage should be at least No. 16 gage steel or No. 18 gage stainless steel. Hood should be No. 22 gage steel
- d. Kitchen ventilation duct should slope not less than 1/4 inch per lineal foot toward the hood where the duct length does not exceed 75 feet.
- e. Horizontal exhaust duct that exceeds 75 feet in length, the slope shall be at least 1 inch per lineal foot towards the hood.
- f. Show on plans cleanout locations of the exhaust duct.
- g. The kitchen exhaust duct should be enclosed in at least a one-hour shaft (or two-hour shaft in Type I and Type II fire-resistive buildings). The duct enclosure should be sealed around the duct at the point of penetration and vented to the exterior at the point of termination. The shaft shall be separated from the duct by at least 3 inches and not more than 12 inches and shall serve a single grease exhaust system.
- h. Provide calculations for sizing the kitchen hood and duct. Show on plans the CFM rating of the fans, and the air velocity in the duct.
- i. Kitchen exhaust outlets shall terminate at least 2 feet above the roof, at least 10 feet from parts of the same or contiguous buildings, adjacent property line, or air intake opening into any building, and should be located at least 10 feet above the adjoining grade level.
- j. Canopy-type kitchen exhaust hoods shall extend a minimum of 6 inches beyond the cooking surface on all open sides. The vertical distance between the lip of the hood and the cooking service shall not exceed 4 feet.
- k. Rooms containing a kitchen exhaust shall have make-up air supplied to the room equal to the amount to be exhausted. The exhaust and make-up air systems shall be interlocked.
- l. An exhaust outlet within the hood shall serve not more than a 20 foot section of any hood.
- m. Kitchen grease hood and exhaust systems should be provided with

approved fire extinguishing equipment.

- n. Type I hoods and exposed grease ducts shall have a clearance of at least 18 inches from combustibles. This clearance may be reduced to 3 inches if the combustible construction is protected with material required for one-hour fire-resistive construction.
- o. Hoods less than 12 inches from the ceiling shall be flashed solid as required by the Mechanical Code or with materials conforming to one-hour construction.
- p. The lowest edge of the grease filters shall not be closer to the cooking surface than the distances specified in Table No. 20-A.
- q. Grease filters shall be installed at an angle greater than 45 degrees from the horizontal and shall be equipped with a drip tray beneath the lower edge of the filters.
- r. The compensating hood shall extract at least 20 percent of the required exhaust air flow from the kitchen area.
- s. A centrifugal exhaust fan with a bottom horizontal discharge may be provided with a duct or duct fitting that will discharge the grease exhaust duct in an upward direction, provided the following conditions are met:
 - 1. The duct or duct fitting shall be constructed of metal as set forth in the Mechanical Code.
 - 2. The maximum total developed length of the duct or duct fitting measured along the center line shall not exceed three times the vertical dimension of the fan outlet.
 - 3. The duct should be provided with an opening at the lowest point to permit drainage of grease to an approved collection device.