

2.02 Submittal Requirements for Kitchen Hood and Duct Extinguishing Systems (2025)

Reference: 2025 CBC, 2025 CFC Sections 607, 608, 904, and 906; 2024 NFPA 17, 2024 NFPA 17A, 2024 NFPA 96, DBI Information Sheet M-09 (See Figure 1 below).

Purpose: All commercial-type cooking equipment must be protected by a fire extinguishment system. All new extinguishing equipment must conform to UL Standard 300.

Scope: This bulletin describes the information to be provided on plans submitted for a building permit to install or modify a kitchen hood and duct fire suppression system.

I. GENERAL REQUIREMENTS (THE FOLLOWING ITEMS MUST BE INCLUDED IN THE PLANS)

1. **Owner/Occupant Information.** Name(s) and Phone Number(s) of Owner and Occupant / Tenant.
2. **Address Information.** Address of Building, Including Assessor's Block and Lot Number.
3. **Contractor Information.** Contractor's Name, Address, Telephone Number, and License Number.
4. **Scale and Documentation.** When permit plans are submitted for the kitchen hood and duct extinguishing systems, the plans shall be drawn to an indicated scale (not smaller than 1/8" = 1') with a graphic scale indication. All fonts on all sheets shall be a minimum 1/8" font size. All plans shall be of uniform size (11" x 17" minimum), with a plan of each floor including a kitchen floor plan showing exits. Plans must be clear with legible text and symbols so they could be electronically scanned. Two sets are needed with the designers' wet signature on each page. All fonts throughout the plans shall not be smaller than 1/8" font size. For Electronic Plan Review (EPR) via Bluebeam: The applicant shall follow all DBI specific requirements for EPR submission and shall provide all the required information included in this section in electronic format. The requirements of this bulletin shall apply to both paper plans and EPR submittals.
5. **Kitchen Layout.** Kitchen layout shall include exits, pantry and access to dining area. This should include hood, duct, plenum, and appliance dimensions. Indicate the actual surface dimension being protected as well as the size of the unit (e.g. 36" griddle with 30" x 24" cooking surface).
6. **Locked in Place.** All cooking appliances must be locked in place. If the cooking appliance is moveable for cleaning, permanent markers shall be installed to ensure that the appliance is returned to its proper design location.
7. **Location.** Show location for the following items:
 - A. Panels.
 - B. Piping (Size and Length).
 - C. Nozzles (Type and Distance to the Appliance).
 - D. Mechanical Fuel Shut-Off Devices.
 - E. Agent Storage Container (Type and Size).
 - F. Manual Pull Station and Related Cable (Show Installation Height Above Floor).
 - G. Detection Devices and Related Cables.

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- H. Type K Portable Fire Extinguisher.
 - I. Alarm or indicator (that shows the system has activated).
8. **Cut Sheets.** Attach to the plans the manufacturers' specification sheets (cut sheets) for all the above. Highlight all proposed parts. Use the same terminology on the plans as is in the design manual (such as "range", not "stove" or "burner"). All parts must be installed according to the manufacturers' specifications. All listed systems must be UL Standard 300.
 9. **Pipe Length Calculations (Both Actual and Equivalency).** For pipe length calculations, indicate actual, maximum, and minimum lengths of pipe and equivalent lengths. Show the actual and maximum vertical rise, and branch line limitations
 10. **Flow Point Calculations.** Include flow point calculations in the plans.
 11. **Building Fire Alarm Connection.** When the building is provided with either a required or voluntary building fire alarm system, the hood and duct suppression system shall be connected to the building fire alarm system (any activation shall be indicated by alarm status at the FACP).
 12. **Building Not Provided With Building Fire Alarm System.** The following conditions shall apply for a building without a building fire alarm system:
 - A. **No Dedicated Function(s) Fire Alarm System.** Where there is no dedicated function(s) fire alarm system, the hood and duct extinguishing system shall remain as a stand-alone system.
 - B. **Dedicated Function(s) Fire Alarm System.** Where the building is provided with one (1) or more dedicated function(s) fire alarm system, the hood and duct extinguishing system shall be permitted to be connected to any of those systems.

II. GENERAL INFORMATION

1. **6 Month Service.** The system shall be serviced at least every 6 (six) months and after system activation. Records shall be maintained per the 2025 CFC Section 606.3.3.1.
2. **Cleaning and Maintenance.** Comply with 2025 CFC Section 606 for cleaning and maintaining Type I Commercial Kitchen Hoods. Note that cleaning intervals have increased for systems that have a high volume of use and systems using solid fuels.
3. **Replacements.** Fusible links and sprinkler heads must be replaced as required by 2025 CFC Section 904.14.5.3.

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III. EXISTING DRY CHEMICAL SYSTEMS

1. **UL 300 Standard.** 2025 CFC Section 904.14 requires all existing dry-chemical and wet chemical extinguishing systems comply with UL 300 requirements. Systems that do not meet the UL 300 standard are not in compliance and shall be upgraded immediately.

INFORMATION SHEET

NO. M-09

DATE : June 18, 2025

CATEGORY : Mechanical / Fire Safety

SUBJECT : Commercial Kitchen Cooking Equipment Listing and Fire Extinguishing

PURPOSE: : The purpose of this information sheet is to clarify the UL KNLZ and UL KNKG listing and fire extinguishing requirements for commercial cooking equipment. Neither type requires a Type I hood; however, KNLZ units require a separate fire extinguishing system, while KNKG units include a built-in fire suppression system.

REFERENCE : 2022 California Mechanical Code (CMC)
2022 California Fire Code Sections 606.2 and 904.13
Underwriters Laboratories (UL) KNKG & KNLZ Guide Info
National Fire Protection Association (NFPA) 96-2017 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations

DISCUSSION :

The 2022-CMC 508.1, Exception (1) waives the Type I exhaust hood requirements to cooking appliance that are in accordance with UL 710B for reduced emissions (UL KNLZ) where the grease discharge does not exceed 2.9 E-09 ounces per cubic inch (oz/in3) (5.0 E-06 kg/m3) when operated with a total airflow of 500 cubic feet per minute (CFM) (0.236 m3/s).

The UL KNLZ Guide Info indicates that "Appliances in this category are not provided with an integral fire extinguishing system. Authorities having jurisdiction should be consulted as to the requirements for this equipment with respect to fire extinguishing systems, such as the need for field installed systems in accordance with ANSI/NFPA 96." Therefore, per SFDBI and SFFD interpretation, a UL-300 listed fire extinguishing system shall be provided to all KNLZ listed cooking appliances not provided with an integral suppression system.

The CMC 508.1, Exception (2) waives the Type I exhaust hood requirements to recirculating systems listed in accordance with UL 710B (UL KNKG) and installed in accordance with CMC Section 516.0.

The UL KNKG Guide Info indicates that "These systems incorporate an automatic fire extinguisher unit which has been investigated with the cooking equipment section." Therefore, KNKG appliances meets the CMC 516.1(6) requirements regarding fire extinguishing system.

Figure 1: DBI Information Sheet M-09 - Commercial Kitchen Cooking Equipment Listing and Fire Extinguishing (Reference)