



KITCHEN EQUIPMENT HOOD REQUIREMENTS



City of Redding
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Purpose

To establish a list of food processing equipment and their required exhaust hoods to satisfy requirements of the California Mechanical Code and the recommendations of the Food Committee of the California Conference of Directors of Environmental Health.

References:

California Mechanical Code (CMC) Section 508

Food Committee of the California Conference of Directors of Environmental Health (CCDEH)

The table below lists various heat-processing equipment and the recommended hood to be used to comply with CMC Section 508 and CCDEH requirements and recommendations.

- Complete a Type I Hood Worksheet for each hood specified (see page 4).
 - Exhaust flow requirements for canopy-type hoods are specified by the formulas given in CMC Section 508.7 and on the Type I Hood Worksheet.
 - The appropriate exhaust airflow formula is also given next to the type of hood for each given piece of equipment in the list below.
 - Exhaust airflow for non canopy hoods shall be per CMC Section 508.4.2.
 - Listed grease extractors shall have an exhaust air flow that is consistent with their listing data per Underwriters Laboratories, Inc. Standard 710, latest edition.

Equipment		Canopy Hood	
		Type	Section
1	Bain Marie/Steam Table	None	–
2	Boiler (side, over fired, or Salamander) (Gyros)	I	508.4.1.4
3	Charbroiler-under fired (charcoal, solid fuel burning or other than solid fuel burning)	I	508.4.1.2
4	Cheese Melter	II	508.4.1.5
5	Chinese Range (wok)	I	508.4.1.3
6	Coffee Urn	None	–
7	Corn Warmer	None	–
8	Crepe Maker		
	a. Portable	None	–
	b. Nonportable	II	508.4.1.5
9	Deep Fat Fryer	I	508.4.1.3
10	Dishwashing Machine		
	a. High & Low Temperature (CMC 508.1, states “dishwashers”)	II	508.4.1.5
	b. Chemical sanitizing or under counter	None	–
11	Hot Dog Warmer	None	–

Equipment		Canopy Hood Type	Section
12	Hot Plate		
	a. Small 1.5 KW or 5,000 BTU or less	None	–
	b. Large (larger than above)	I	508.4.1.4
13	Griddle/Grill (medium temperature)	I	508.4.1.4
14	Kettle, Steam/Coffee	II	508.4.1.5
15	Kettle, Candy	II	508.4.1.5
16	Oven Exhaust ventilation determinations for ovens should be based on the primary factors of heat (above or below 250° F) and whether or not more than minimal amounts of grease vapors will be produced.		
	a. Maximum temperature 250° F thermostatically controlled	None	–
	b. Greater than 250° F without grease vapor generation (example: enclosed-baking, roasting, rotisserie)	II	508.4.1.5
	c. Greater than 250° F with grease vapor generation (example: open-conveyor, roasting, rotisserie)	I	508.4.1.4
	d. Microwave (only)	None	–
17	Popcorn Popper		
	a. Two gallons or less hopper capacity, no grease vapor generation (enclosed)	None	–
	b. Greater than 2 gallons hopper capacity with grease vapor generation (open)	I	508.4.1.4
18	Pressure Fryer	I	508.4.1.3
19	Range		
	a. High temperature “hot tops”	I	508.4.1.3
	b. All others	I	508.4.1.4
20	Roll Warmer	None	–
21	Rotisserie (open)		
	a. High temperature	I	508.4.1.4
	b. Low temperature	None	–
22	Skillet (tilting or braising)	I	508.4.1.4
23	Steam Cooker	II	508.4.1.5
24	Steam Table	None	–
25	Toasters		
	a. Large production	II	508.4.1.5
	b. Small	None	–
26	Waffle Cone Maker/Waffle Iron		
	a. Portable	None	
	b. Non portable	II	508.4.1.5

Notes:

1. Type I hoods for use over solid-fuel cooking equipment shall be provided with separate exhaust systems. The formula in Section 508.4.1.2 is required for solid-fuel cooking equipment.
2. This guideline does not preclude the use of non canopy hoods. (See applicable sections of the California Mechanical Code)
3. Pant leg or slot hoods for dish machines may be approved for conveyor type dish machines (i.e., where emissions are localized and can reasonably be captured by such a configuration). Use Q = 200 cfm per lineal foot of hood. Similar configurations for nondish machine applications may be approved using Q = 300 cfm.

4. In general, cooking equipment that exceeds 250° F temperature shall be equipped with at least a Type II exhaust ventilation system. Adherence to this standard may be adjusted (more or less restrictive) in consideration of the following factors:
 - a. The existence of other unventilated heat processing units
 - b. The presence of a heating/ventilating (HVAC) system.
 - c. The size of the room or space where equipment is installed.
 - d. The nature of emissions, use of the equipment, and the impact on the facility's environment.
 - e. The relative size of the cooking unit.
5. Portable. The recognized standard of portability is the NSF standard equaling 88 pounds or less.
6. Filters in Type I hoods should be properly mounted to minimize the possibility of being lifted off the upper mounting flange during hood operation. A channel or full-length bracket along the inside edge of the upper mounting flange will generally be adequate.

Replacement Air (*Reference CMC, Section 511.3*):

The introduction of makeup air as required for the above referenced code should be undertaken in a manner that will minimize short circuiting, excessive air velocities, and air turbulence conditions.



HOOD SIZING WORKSHEET



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Project Address	Plan Check Number
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A =

HOOD SIZE:

_____ X _____ = _____ Sq. Ft.

Length Width

COOKING APPLIANCE(S) SERVED

Q =

(Choose from table below)

Q = 100 HIGH TEMPERATURES <i>Q = 150 (if open on 4 sides)</i>	For cooking equipment that includes high-temperature appliances such as deep-fat fryers
Q = 75 MEDIUM TEMPERATURE <i>Q = 100 (if open on 4 sides)</i>	For cooking equipment that includes medium-temperature appliances such as rotisseries, grills, and ranges.
Q = 50 LOW TEMPERATURE <i>Q = 75 (if open on 4 sides)</i>	For cooking equipment that includes low-temperature appliances such as low-temperature ranges, roasters, roasting and pastry ovens, and equipment approved for use under a Type II Hood, such as pizza ovens.

Filter Make and Size	Quantity	Fan Make and Model	Horsepower
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B =

DUCT SIZE:

_____ X _____ = _____ Sq Ft ÷ 144 = _____ Sq Ft

Height Width

PROPOSED CFM _____ **REQUIRED CFM (A X Q)** _____

CFM PER FILTER _____ **DUCT VELOCITY (A x Q ÷ B)** _____