

COMMERCIAL KITCHEN HOOD WORKSHEET



**CITY OF BLACK
DIAMOND**

Community Development Dept.

24301 Roberts Drive / PO Box 599

Black Diamond, WA 98010

(360) 851-4447

**A. Project
Address:**

**Project
Number:**

B. Established use and history of building

Is it an existing restaurant, food processing area or food service area:

☐ Yes ☐ No

If no, provide construction or change of use permit
number:

C. Location of exterior ductwork and mechanical equipment

1. Is ductwork or mechanical equipment located outside of building other than roof top? ☐ Yes ☐ No

2. Applicant shall provide plan and elevation views showing ductwork, duct enclosure, hood, cooking surface air supply, exhaust system, and equipment support including structural detail (See attached examples 1,2 and 3).

D. Type of Hood

1. For grease and smoke removal: Type I Quantity
(Example: deep fryer, charbroilers, grill and all solid-fuel appliances)

2. For steam, vapor, heat or odor removal: Type II Quantity
(Example: steamer, pastry and pizza oven)
Hood shall have a permanent, visible label identifying it as a Type II hood.

3. Is hood for solid-fuel cooking equipment? ☐ Yes ☐ No
If yes, a separate exhaust system is required.

E. Type of material and gauge (IMC 506.3.11, 507.4, 507.5)

Component	Type of Material	Type I HOOD		Type II HOOD	
		Gauge		Gauge	
		<u>Minimum Req.</u>	<i>Proposed</i>	<u>Minimum Req.</u>	<i>Proposed</i>
Duct and	Stainless Steel	18 Ga.	Ga.	26 Ga. Up to 12" Diameter	Ga.
Plenum	Galvanized Steel	16 Ga.	Ga.	22 Ga. Up to 30" Diameter	Ga.
Hood	Stainless Steel	20 Ga.	Ga.	24 Ga.	Ga.
	Galvanized Steel	18 Ga.	Ga.	22 Ga.	Ga.
Flashing	Stainless Steel	22 Ga.	Ga.	NOT REQUIRED	
	Galvanized Steel	22 Ga.	Ga.		

F. Quantity of air exhausted through the hood (507.12, 507.14)

507.5 Capacity of hoods.

Commercial food service hoods shall exhaust a minimum net quantity of air determined in accordance with this section and Sections 507.5.1 through 507.5.5. The net quantity of exhaust air shall be calculated by subtracting any airflow supplied directly to a hood cavity from the total exhaust flow rate of a hood. Where any combination of heavy-duty, medium-duty and light-duty cooking appliances are utilized under a single hood, the exhaust rate required by this section for the heaviest duty appliance covered by the hood shall be used for the entire hood.

507.5.1 Extra-heavy-duty cooking appliances.

The minimum net airflow for hoods, as determined by Section 507.1, used for extra-heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	Not allowed
Double island canopy(per side)	550
Eyebrow	Not allowed
Single island canopy	700
Wall-mounted canopy	550

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.5.2 Heavy-duty cooking appliances.

The minimum net airflow for hoods, as determined by Section 507.1, used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	400
Double island canopy(per side)	400
Eyebrow	Not allowed
Single island canopy	600
Wall-mounted canopy	400

507.5.3 Medium-duty cooking appliances.

The minimum net airflow for hoods, as determined by Section 507.1, used for medium-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	300
Double island canopy(per side)	300
Eyebrow	250
Single island canopy	500
Wall-mounted canopy	300

507.5.4 Light-duty cooking appliances.

The minimum net airflow for hoods, as determined by Section 507.1, used for light-duty cooking appliances and food service preparation shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	250
Double island canopy(per side)	250
Eyebrow	250
Single island canopy	400
Wall-mounted canopy	200

507.5.5 Dishwashing appliances.

The minimum net airflow for Type II hoods used for dishwashing appliances shall be 100 cfm per linear foot (155 L/s per linear meter) of hood length.

Exception: Dishwashing appliances and equipment installed in accordance with Section 507.3.

SECTION 508

508.1 Makeup air.

Makeup air shall be supplied during the operation of commercial kitchen exhaust systems that are provided for commercial cooking appliances. The amount of makeup air supplied to the building from all sources shall be approximately equal to the amount of exhaust air for all exhaust systems for the building. The makeup air shall not reduce the effectiveness of the exhaust system. Makeup air shall be provided by gravity or mechanical means or both. Mechanical makeup air systems shall be automatically controlled to start and operate simultaneously with the exhaust system. Makeup air intake opening locations shall comply with Section 401.4.

508.1.1 Makeup air temperature.

The temperature differential between makeup air and the air in the conditioned space shall not exceed 10°F (6°C) except where the added heating and cooling loads of the makeup air do not exceed the capacity of the HVAC system.

508.1.2 Air balance.

Design plans for a facility with a commercial kitchen ventilation system shall include a schedule or diagram indicating the design outdoor air balance. The design outdoor air balance shall indicate all exhaust and replacement air for the facility, plus the net exfiltration if applicable. The total replacement air airflow rate shall equal the total exhaust airflow rate plus the net exfiltration.

508.2 Compensating hoods.

Manufacturers of compensating hoods shall provide a label indicating the minimum exhaust flow, the maximum makeup airflow or both that provides capture and containment of the exhaust effluent.

Exception: Compensating hoods with makeup air supplied only from the front face discharge and side face discharge openings shall not be required to be labeled with the maximum makeup airflow.

SECTION 509

FIRE SUPPRESSION SYSTEMS

509.1 Where required.

Cooking appliances required by Section 507.2 to have a Type I hood shall be provided with an approved automatic fire suppression system complying with the Building Code & The IFC

506.3.13.3 Termination location.

Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from parts of the same or contiguous buildings, adjacent buildings and adjacent property lines and shall be located not less than 10 feet (3048 mm) above the adjoining grade level. Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from or not less than 3 feet (914 mm) above air intake openings into any building.

Exception: Exhaust outlets shall terminate not less than 5 feet (1524 mm) horizontally from parts of the same or contiguous building, an adjacent building, adjacent property line and air intake openings into a building where air from the exhaust outlet discharges away from such locations.