Development Services

Type I/II Kitchen Hood Submittal Checklist

Submit this worksheet with all commercial kitchen hood permit applications. Submit plans for the hood and grease duct together as one application.

The applicant is responsible for assuring the accuracy and consistency of the information

Project Address _____

Established Use and Building History

Is this an existing restaurant, food processing area or food service area? ☐ Yes ☐ No

If no, provide building permit number _____

Location of Exterior Ductwork and Mechanical Equipment:

1. Is ductwork or mechanical equipment located outside the building, other than rooftop?
   ☐ Yes ☐ No (If yes, there must be a 10-foot property line).
2. Provide plan and elevation views showing ductwork, duct enclosure, hood, cooking surface, air supply, exhaust system and equipment support, including structural detail.

Type of Hood

1. For grease and smoke removal: Type I quantity _____
   (Example: deep fryer, char broilers, grill, ovens, and all solid-fuel appliances)

2. For steam, vapor, heat or odor removal: Type II quantity _____
   (Example: steamer, soup kettle, and dishwashers)
   Note: The hood shall have a permanent, visible label identifying it as a Type II hood.

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

Type of Material and Gage

Type 1 Hood				Type II Hood			
	Type of Material	**Minimum Requirements**	**Gage Proposed**		**Type of Material**	**Minimum Requirements**	**Gage Proposed**
Duct & Plenum	Galvanized Steel	16 gage		**Duct & Plenum**	Refer to SMACNA	Refer to SMACNA	Refer to SMACNA
Duct & Plenum	Stainless Steel	18 gage		**Duct & Plenum**	Refer to SMACNA	Refer to SMACNA	Refer to SMACNA
Duct & Plenum	Factory-built	Provide UL listing		**Duct & Plenum**	Refer to SMACNA	Refer to SMACNA	Refer to SMACNA
Hood	Galvanized Steel	18 gage		**Hood**	Galvanized Steel	22 gage	
Hood	Stainless Steel	20 gage		**Hood**	Stainless Steel	24 gage	
				Hood	Copper	Not less than 24 ounces per square foot	

Hood Size and Location (507.4)

Canopy hoods shall extend a minimum of six inches beyond cooking surface on all open sides.

Type of hood proposed: ☐ Canopy ☐ Non-canopy

Distance between lip of hood and cooking surface (proposed)

Canopy (4 feet maximum allowed) _____feet

Non-canopy (3 feet maximum allowed) _____feet

Listed Hood:

Provide manufacturer's installation instructions and listing documents for listed hoods and grease ducts.

Make and Model Number _____ Listed CFM _____

Unlisted Hood:

Quality of air = lineal foot of hood front x CFM from the table below

= _____ feet x _____feet = CFM/feet = _____CFM

For minimum net airflow for different types of unlisted hoods, refer to 507.5.

Identify the cooking appliances and circle the CFM applied. When any combination of cooking appliances is utilized under a single hood, the highest exhaust rate required by this table shall be used for the entire hood. For hoods that are listed and labeled under UL710 or UL710B, see IMC 507.1, Exceptions 1 and 2.

	Hood Exhaust CFM Table	**CFM / lineal foot of hood front**
1	Extra heavy-duty cooking appliances (non-canopy hood not allowed): all solid-fuel appliances	550-700
2	Heavy-duty cooking appliances: wok, broiler (gas or electric), gas burner range	400-600
3	Medium-duty cooking appliances: conveyor pizza ovens, deep fryer, range (gas or electric), skillet	300-500
4	Light-duty cooking appliances: gas and electric ovens, pasta cookers, steamers	200-400

Refer to Types of Commercial Kitchen Ventilation for general ventilation requirements.

Exhaust Duct System (506.3.4)

Minimum velocity 500 feet per minute.

Applicant shall provide the specified air velocity in the exhaust duct.

Duct Size_____ inches x _____ inches, duct area = $\frac{\text{\_\_\_\_\_ inches x \_\_\_\_\_}}{144}$ = _____feet^2

Type I Req. 500 to recom. 2500	_____/_____ = _____fpm
Type II Req. min 500 CFM	_____/_____ = _____fpm
Static Pressure Loss Duct _____in. + grease filters/extractor _____in. + other _____in. = Total _____ In. of H_2O	
Fan and motor shall be of sufficient capacity to provide the required air movement. Fan motor shall not be installed within ducts or under hood. Fan make and model _____ HP _____ Static pressure _____in. at _____CFM.	
Note: If using a listed duct wrap, provide manufacturer's installation instructions and listing documents.	

Exhaust Outlet Location – Type I (506.3.13) and Type II (506.4.2) Hoods

Exhaust Outlet Location		Minimum Required	Proposed
Exhaust outlet shall terminate above roof	Type I Type II	40 in. 30 in.	
Distance from same or adjacent building	Type I Type II	10 ft. 30 in.	
Distance above adjoining grade	Type I Type II	 10 ft.	
Distance from property line	Type I Type II	 10 ft.	
Distance from windows and doors	Type I Type II	10 ft. 3 ft	
Distance from mechanical air intake	Type I Type II	 10 ft.	

Makeup Air (508)

1. Applicant shall provide makeup air approximately equal to the exhaust. _____CFM.
2. Makeup air system shall be electronically interlocked with the exhaust system, such that the makeup air system will operate when the exhaust system is in operation. Provide note on plan sheet.
3. Makeup air shall be provided by gravity or mechanical means of sufficient capacity. Windows and door openings shall not be used to provide makeup air.

Fan	Motorized Damper
Make and Model: H.P.: _____	Recommended air velocity - 500 fpm
Static Pressure: _____in. at _____CFM	Duct Area Requirement = CFM/500 fpm _____CFM/ 500 =_____ft.²
Duct Dimension: _____area _____ft.²	Duct Dimension Requirement =
Air Velocity = CFM/area _____CFM/_____area =_____fpm	Eff. Damper Opening =_____x_____=_____ft.²

Duct Slope and Cleanout Access (506.3.7, 506.3.8, 506.3.9)

1. Horizontal duct up to 75' long: Minimum Slope ¼ in./ft. Proposed _____in./ft.
   Horizontal duct more than 75' long: Minimum Slope 1 in./ft. Proposed _____in./ft.

2. Tight-fitting cleanout doors shall be provided at every change in ductwork direction.
   Total Number Proposed _____

3. Refer to State amendments for vertical ducts.

Duct Enclosure (506.3.11)

Ducts penetrating a ceiling, wall or floor shall be enclosed in a duct enclosure having a fire rating per IBC 708.4 from the point of penetration to the outside air. A duct may only penetrate exterior walls at locations where unprotected openings are permitted by Table 705.8 of 2009 International Building Code.

Type of Construction	Minimum Fire-Resistive Const. of Enclosure	Proposed	Proposed Material and Construction
I F.R., II F.R.	2 hour	_____hr.	
II, III, IV, V	1 hour	_____hr.	

1. Duct enclosures shall be separated from the duct by at least six inches. (506.3.10) Proposed _____inches.
2. Duct enclosures shall be sealed around the duct at the point of penetration and vented to the exterior through a weather-protected opening.
3. Duct enclosures shall serve only one kitchen exhaust duct. (See Multiple Hood Venting for exceptions.)
4. Tight-fitting hinged access door shall be provided at each cleanout. Access enclosure doors shall have a fire-resistance rating equal to the enclosure. An approved sign shall be placed on the access door, ACCESS PANEL. DO NOT OBSTRUCT.

Multiple Hood Venting (506.3.5)

Number of hoods vented by a single duct system_____Proposed _____

A single-duct system may serve more than one hood located in the same story of the building, provided that the interconnecting ducts do not penetrate any fire resistance rated construction, are located within the same room or adjoining rooms, and the grease duct system does not serve a solid fuel-fired appliance.

Provide seismic restraint vertical support and attachment details for the hood

This shall be prepared by someone knowledgeable in structural engineering (IMC 301.15, IBC 1613, ASCE7-05). Hoods and equipment over 400 pounds require calculations and details for review.

Additional Information – Type I Hood Only (507.2.6)

1. Grease filters shall be installed at a minimum 45-degree angle and equipped with drip tray and gutter beneath lower edge of filters. Proposed: _____degrees
2. Distance between the lowest edge of the grease filters and the cooking surface:
   Grill, fryer, exposed flame shall not be less than 2 feet. Proposed: _____ft.
   Exposed charcoal, charbroil shall be not less than 3 ½ feet (507.11). Proposed: _____ft.
3. Type I hood and duct shall have clearances from construction of
   GWB on metal stud (minimum 3-inch clearance required) (506.3.6, 507.0)
   GWB on wood stud (minimum 18-inch clearance required)
   Proposed: _____in.

Unprotected (Combustible Construction)		**Protected (With 1-hour Fire-Rated Material and Stud Construction)**	
Hood min. req. 18 in.	Proposed _____ inches.	Min. req. 3 in.	Proposed _____ inches.
Duct min. req. 18 in.	Proposed _____ inches.	Min. req. 3 in.	Proposed _____ inches.

4. Hoods less than 12 inches from ceilings or walls shall be flashed solidly.
5. All joints and seams shall be made with continuous liquid-tight weld or braze made on the external surface of the duct system. Vibration insulation connector may be used provided it consists of noncombustible packing in a metal sleeve joint. (506.3.2, 506.3.2.4) Joints shall be smooth and accessible for inspection. (506.3.2.5)
6. Exhaust fans used for discharging grease exhaust shall be positioned so that the discharge will not impinge on the roof. The fan shall be provided with an adequate drain opening at the lowest point to permit drainage of grease to a suitable collection device. (506.5.2)
7. Fire Suppression System shall be per Fire Code. Portable extinguisher shall also be provided per Fire Code. Provide automatic shutoff for make-up air, exhaust system and appliances when suppression system is activated. Dependent on suppression agent and manufacturer's requirements. Separate permit is required.
8. Performance test certificate of the hood system shall be provided to owner before final approval. Test shall verify property operation, the rate of exhaust, makeup air, capture and containment performance of the exhaust at normal operating conditions. (507.6)
9. A pollution-control unit may be required for side-wall terminations.