Type I and II Kitchen Hood Submittal Checklist

This worksheet must accompany plan sets submitted with commercial kitchen hood permit applications. It explains and organizes information needed by the Building Department to efficiently review plans and issue permits. The Building Department will keep this document as part of the permanent project file and will use it to verify code compliance. The applicant is responsible for assuring the accuracy and consistency of the information. **Plans for the hood and grease duct must be submitted together as one application.**

A. Project Address: _____

B. Established Use and Building History:

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

b. If no, then provide Tenant Improvement (Building) permit number: _____

C. Location of Exterior Ductwork and Mechanical Equipment:

a. Is ductwork or mechanical equipment located outside of building, other than rooftop? ☐ Yes ☐ No

i. If yes, there must be a 10' property line.

b. Provide plan and elevation views showing ductwork, duct enclosure, hood, cooking surface, air supply, exhaust system and equipment support, including structural detail.

D. Type of Hood:

a. For grease and smoke removal: Type I: ____Quantity

i. Example: deep fryer, char broilers, grill, ovens, and all solid-fuel appliances

b. For steam, vapor, heat, or odor removal: Type II: ____Quantity

i. Example: steamer, soup kettle, and dishwashers

ii. Note: Hood shall have a permanent, visible label identifying it as a Type II hood.

c. Is hood for solid-fuel cooking equipment? ☐ Yes ☐ No

If yes, a separate exhaust system is required.

E. Type of Material and Gage (506.3.1.1, 507.2.3, 507.3.1):

Type I Hood				**Type II Hood**			
	Type of Material	**Minimum Reqs.**	**Gage Proposed**		**Type of Material**	**Minimum Reqs.**	**Gage Proposed**
Duct and Plenum	Galvanized Steel	16 Gage		**Duct and Plenum**	Refer to SMACNA		
	Stainless Steel	18 Gage					
	Factory-Built	Provide UL listing					
Hood	Galvanized Steel	18 Gage		**Hood**	Galvanized Steel	22 Gage	
	Stainless Steel	20 Gage			Stainless Steel	24 Gage	
					Copper	Not less than 24 ounces per square foot	

F. Quantity of air exhausted through the hood (507.4.1, 507.4.2):

a. Canopy hoods shall extend a minimum of 6" beyond cooking surface on all open sides.

i. Type of Hood proposed: ☐ Canopy ☐ Non-Canopy

ii. Distance between lip of hood and cooking surface:

1. Proposed Canopy _____ ft. (4ft maximum allowed)

2. Proposed Non-Canopy _____ ft. (3ft maximum allowed)

b. Complete part "i" for listed hood or part "ii" for unlisted hood.

i. Listed Hood:

1. Make and Model Number: _____ CFM: _____

ii. Unlisted Hood:

1. Quantity of air = Lineal ft. of hood front X CFM from Table below:
2. =_____ ft. X _____ $\frac{CFM}{ft.}$ = _____ CFM

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 EX #1 and 2.

Hood Exhaust CFM Table		*CFM / Lineal ft. 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

Additional Information

507.1.2 Domestic cooking appliances utilized for commercial purposes shall be provided with Type I, Type II or residential hoods as required for the type of appliances and processes in accordance with Table 507.1.2 and Sections 507.2 and 507.3. Domestic cooking appliances utilized for domestic purposes shall comply with section 505.

507.2 Type I hoods shall be installed where cooking appliances produce grease or smoke as a result of the cooking process. Type I hoods shall be installed over medium-duty, heavy duty and extra-heavy-duty cooking appliances.

Exceptions:

- A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5mg/m3 or less of grease when tested at an exhaust flow rate of 500CFM in accordance with Section 17 of UL 710B.
- A Type I hood shall not be required in an R-2 type occupancy with not more than 16 residents.

TABLE 507.1.2
TYPE OF HOOD REQUIRED FOR DOMESTIC COOKING APPLIANCES IN THE FOLLOWING SPACES [a, b]

Type of Space	Type of Cooking	Type of Hood
Boarding Home, Church, Dormitory, Nursing Home	1. Boiling, steaming and warming precooked food	Type II
	2. Roasting, pan frying and deep frying	Type I
Community or party room in apartment of condo, Day care, Office Lunch Room	1. Boiling, steaming and warming precooked food	Residential[c] of Type II[d]
	2. Roasting, pan frying and deep frying	Type I

a. Commercial cooking appliances shall comply with Section 507.2.
b. Requirements apply to electric or gas fuel appliances only. Solid fuel appliances or char-broilers require Type I hoods.
c. Residential hood shall ventilate to the outside.
d. Type II hood required when more than one appliance is used.

G. Exhaust Duct System (506.3.4): DESIGN MINIMUM 500 FEET PER MINUTE

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

b. Duct Size _____ in. X _____ in., duct area = $\frac{_____ in. X _____ in.}{144}$ = _____ ft^2

Type of Hood	Air Velocity (FPM)	CFM/Duct Area (ft^2)	Proposed Air Velocity
• 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.

H. Exhaust Outlet Location (506.3.13, 506.4.2):

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.	

I. Makeup Air (508):

a. Applicant shall provide makeup air approximately equal to the exhaust. _____CFM

b. 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 no. ____

c. Makeup air shall be provided by a mechanical or gravity means of sufficient capacity. Windows and door openings shall not be used for the purpose of providing makeup air.

Fan			Motorized Damper	
Make and Model: _____	H.P.:		Recommended air velocity, 500fpm_____	
Static Pressure:	_____ in. at CFM		Duct Area Requirement = CFM/500fpm	_____/500=_____ft^2 CFM
Duct Dimension:	_____ area	_____ft^2	Duct Dimension Requirement =	
Air Velocity = CFM/area	_____/_____ = _____ CFM area fpm		Eff. Damper Opening =	____X____=_____ft^2

J. Duct Slope and Cleanout Access (506.3.7, 506.3.8):

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

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

c. Ducts exceeding 75' may require an internal fire sprinkler system. Contact the Fire Department for more information.

K. Duct Enclosure (506.3.10, 506.3.11):

a. Ducts penetrating a ceiling, wall or floor shall be enclosed in a duct enclosure having 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 2021 International Building Code.

Type of Construction	Min. Fire-Resistive Const. of Enclosure	Proposed	Proposed Material and Construction
IF.R., II F.R.	2 Hour	_____hr.	
II, III, IV, V	1 Hour	_____hr.	

b. Duct enclosures shall be separated from the duct by at least 6". (506.3.11) Proposed: _____in.
c. Duct enclosures shall be sealed around the duct at the point of penetration and vented to the exterior through a weather-protected opening.
d. Duct enclosures shall serve only one kitchen exhaust duct. (See multiple hoods venting for exception.)
e. 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."**

L. Multiple Hood Venting (506.3.5)

a. Number of hoods vented by a single duct system:
   i. 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 and are located in adjoining rooms; and the grease duct system does not serve a solid fuel-fired appliance.

b. An unlisted hood outlet shall serve not more than a 12-foot section of hood.

M. Provide seismic restraint vertical support and attachment details for the hood; shall be prepared by someone knowledgeable in structural engineering. (IMC 301.18, IBC 1613, ASCE. 7-10) Hoods and equipment over 400 pounds require calculations and details for review.

N. Additional Information – Type I Hood Only

a. Grease filters shall be installed at a minimum 45 degrees angle and equipped with drip tray and gutter beneath lower edge of filters. (507.2.8.2) Proposed: _____Degrees

b. Distance between lowest edge of grease filters and cooking surface of:
Grill, fryer, exposed flame shall not be less than 2ft. Proposed: _____ft.
Exposed charcoal, charbroil shall be not less than 3.5ft. (507.2.8) Proposed: _____ft

c. Type I hood and duct shall have clearances from construction of: Proposed: _____in.
GWB on metal stud (minimum 3" clearance required) (506.3.6, 507.2.6)
GWB on wood stud (minimum 18" clearance required)

UNPROTECTED (Combustible Construction)	PROTECTED (With 1-hour Fire-Rated Material and Stud Construction)
Hood Min. Req. 18 in. Proposed _____ in.	Min. Req. 3 in. Proposed _____ in.
Duct Min. Req. 18 in. Proposed _____ in.	Min. Req. 3 in. Proposed _____ in.

d. Hoods less than 12 inches from ceilings or walls shall be flashed solidly.

e. All joints and seams shall be made with continuous liquid-tight weld or braze made on the external surface of the duct system. Vibration insultation connector may be used provided it consists of non-combustible packing in a metal sleeve joint. (506.3.2, 506.3.2.4) Joints shall be smooth and accessible for inspection.

f. 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. (506.5.3)

g. Fire Suppression System 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.

h. 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. (507.6.1)

i. A pollution-control unit may be required for side-wall terminations.

References:
1-International Mechanical Code (2021)
2-International Building Code (2021)
3-International Fire Code (2021)
4-International Fuel Gas Code (2021)