

TAYLOR BUILDING / ZONING DEPARTMENT

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COMMERCIAL KITCHEN HOOD WORKSHEET / CHECKLIST

Two copies of this worksheet / checklist must accompany plan sets submitted with commercial kitchen range hood permit applications. It explains and organizes information needed by the Building Department to efficiently review plans and issue permits. The applicant is responsible for assuring the accuracy and consistency of the information.

A. Project Address:_____

В.	Estab	lished u	ise an	d hist	ory of b	uilding:			
							-		

Is it an existing restaurant	, food processing area or food se	ervice area: 🖵Yes 🖵 No
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C. Location of exterior ductwork and mechanical equipment:

1. Is ductwork or mechanical equipment located outside of building other than roof top?

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: (507.2)

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

2. For steam, vapor, heat or odor removal:

Type II _____Quantity

(Example: steamer, pastry dishwashers)

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 gage (506.3.1.1, 507.4, 507.5)

	TYPE I HOOD			TYPE II HOOD	
		Gag	le	Gage	
Туре	e of Material	Min. Req.	Proposed	Min. Req.	Proposed
Duct and	Stainless Stee	l 18 Ga.	Ga.	26 Ga. Up to 12" Diameter	Ga.
Plenum	Galvanized Ste	eel 16 Ga.	Ga.	22 Ga. Up to 30" Diameter	
Hood	Stainless Stee	l 20 Ga.	Ga.	Stainless Steel 24 Ga.	Ga.
	Galvanized Ste	eel 18 Ga.	Ga.	Galvanized Steel 22 Ga.	Ga.
Flashing	Stainless Stee	l 22 Ga.	Ga.	Not Required	
C C	Galvanized Ste	eel 22 Ga.	Ga.		

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

1. Canopy hoods are hoods that extend a minimum 6" beyond cooking surface

Type of hood proposed:	Canopy	Non-canopy
Distance between lip of hood and cooking surface:		
	Canopyft.	Non-canopyft.
	4 ft. maximum allowed	3 ft. maximum allowed
2. Complete part 'i' for listed ho i) Listed hood. Make ar	•	Listed CFM
ii) Unlisted hood: Quan	tity of air = Lineal ft. of hood fron	x CFM from table below:

=____10 ft. x _____550 CFM/ft. = _____5500 CFM

Minimum net airflow for different types of unlisted hoods. (507.13)

Identify the cooking appliance and circle the CFM applied. Where any combination of cooking appliances are utilized under a single hood, the highest exhaust rate required by this table shall be used for the entire hood.

HOOD EXHAUST CFM TABLE					
Type of Hood	Extra Heavy Duty	Heavy Duty	Medium Duty	Light Duty	
Wall – mounted canopy	550	400	300	200	
Single island canopy	700	600	500	400	
Double island canopy	550	400	300	250	
Back-shelf / pass-over	Not allowed	400	300	250	
Eyebrow	Not allowed	Not allowed	250	250	

Definitions:

Extra Heavy Duty cooking appliance. include appliances utilizing solid fuel such as wood, charcoal, briquettes, and mesquite to provide all or part of the heat source for cooking.

Heavy Duty cooking appliance. include electric under-fired broilers, electric chain (conveyor) broilers, gas under-fired broilers, gas chain (conveyor) broilers, gas open-burner ranges (with or without oven), Electric and gas wok ranges, and electric and gas over-fired (upright) broilers and salamanders.

Medium Duty Cooking appliance. include electric discrete element ranges (with or without oven), electric and gas hot-top ranges, electric and gas griddles, electric and gas double-sided griddles, electric and gas fryers, (including open deep fat fryers, donut fryers, kettle fryers, and pressure fryers), electric and gas pasta cookers, electric and gas conveyor pizza ovens, electric and gas tilting skillets (braising pans) and electric and gas rotisseries.

Light Duty Cooking appliance. Include gas and electric ovens (including standard, bake, roasting, revolving, retherm,convection, combination convection / steamer, conveyor, deck or deck style pizza, and pastry), electric and gas steam-jacketed kettles, electric and gas compartment steamers (both pressure and atmospheric) and electric and gas cheese-melters.

G. Exhaust duct system (506.3.4) Welding Certifications must be on site. Light test required

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

2. (Duct size	_24 in X36in.) / 144 = (dc	fm)6 ft2		
3. Type of Hood	Air Velocity (FPM)/CFM /	/ Duct Area (ft2)=	Proposed Air	Velocity
	0 req. to 2500 recommended)_ to 2500 recommended)	1500 / 500 /	6 (dcfm)ft2 =6 (dcfm)ft2 =6	250 FPM 83.3 FPM
•	rease filters / extractor	in. + other	in. = Total	_ in.of H ₂ 0

5. 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. The activation of the exhaust fan shall occur through an interlock with the cooking appliances.

Fan make and model	Н	Р
Static pressure	in. at	CFM.
 H. Exhaust outlet location (506.3.12) 1. Exhaust outlet shall terminate above roof Distance from same or adjacent building 	Min. required Type I 40 in. Type II 24 in. 10 ft.	Proposed in. in. ft.
Distance above adjoining grade	10ft.	ft.
Distance from property line	10 ft.	ft.
Distance from windows and doors	10 ft.	ft.
Distance from mechanical air intake	10ft.	ft.
Distance of duct above adjoining grade at alley	16 ft.	ft.

I. Makeup air (508.1)

1. Applicant shall provide makeup air not less than 90% of the exhaust. (dcfm)_____6 ft₂X.9=_____8.1 CFM.

2. Makeup air system shall be electrically interlocked with the exhaust system, such that the makeup air system will operate when the exhaust system is in operation. Provide note on plan

3. 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.

4. If more than 2500 CFM supplied to the space other than the hood, provide heater capable of heating makeup air supplied to the space to 65 degrees F.

Heater model #	Input BTU	Output BTU
Heater CFM	AFUE	

FAN	MOTORIZED DAMPER		
Make and ModelHP	Recommended air velocity, 500 FPM		
Static pressurein. at CFM Duct Dimension in X in = ft2	Duct area req. = CFM / 500 FPM: CFM / 500 FPM =ft ₂ Duct dimension required =		
	Eff. Damper openingX=ft ₂		

J. Slope of duct and cleanout access (506.3.7, 506.3.8)

1. Horizontal duct up to 75' long	Min. Slope 1/4" in/ft
More that 75' long	Min. Slope 1" in/ft

Proposed _____in/ft Proposed _____in/ft

2. Tight-fitting cleanout doors shall be provided at every change in ductwork direction. Total number proposed

K. Duct enclosure (506.3.10, 506.3.11)

1. Ducts penetrating a ceiling, wall or floor shall be enclosed in a duct enclosure having a fire rating per IBC 707.4 from point of penetration to the outside air. A duct may only penetrate exterior walls at locations where unprotected openings are permitted by Table 704.8 of 2006 International Building Code.

2. Duct Enclosure clearances from duct to shaft:

Type of construction	Distance from duct to shaft
GWB w/ wood stud wall	18 in.
GWB w/ steel stud wall	6 in.
506.3.10 Exc. #1- ASTM E 814 and ASTM E 2336	Per mfg
506.3.10 Exc. #2- ASTM E 814 and UL 2221	Per mfg
506.3.10 Exc. #3- see 506.3.6 for distance to combustible	18 in.

3. Duct enclosures shall be sealed around the duct at the point of penetration and vented to the exterior through a weather-protected opening.

4. Duct enclosures shall serve only one kitchen exhaust duct. (See multiple hood venting for exception)

5. Tight-fitting hinged access door shall be provided at each clean-out. Access enclosure doors shall have a fire resistance rating equal to the enclosure. An approved sign shall be placed on access door. "ACCESS PANEL. DO NOT OBSTRUCT"

L. Multiple hood venting (506.3.5, 507.15)

- 1. Hoods vented by a single duct system (must meet all 4 conditions)
- i. located in the same story of the building
- ii. within the same or adjoining room of the building
- iii. ducts do not penetrate assemblies required to be fire-resistance rated

iv. the ducts do not serve solid fuel-fired appliances.

2. A hood outlet shall serve not more than a 12 foot section of hood

M. Additional information for Type 1 hood only (507):

1. Grease filters shall be installed at min 45 degree angle and Equipped with a drip tray and gutter beneath lower edge of filters. (507.11.2)

2. Distance between lowest edge of grease filters and cooking surface of: Grill, fryer, exposed flame shall be not less then 2 ft.. Exposed charcoal, charbroil shall be not less then 3 1/2 ft. (507.11).

3. Type 1 hood and duct shall have clearances from construction of: GWB on Metal stud (minimum 3" clearance required) (506.3.6,507.9) GWB on wood stud (minimum 18" clearance required)

UNPROTECTED (Combustible Construction)			PROTECTED (1-hour fire-rated material and metal stud construction)		
Hood	min. req. 18 in. Proposed	in.	min. req. 3 in.	Proposedin.	
Duct	min. req. 18 in. Proposed	in.	min. req. 3 in	Proposedin.	

4. Hoods less than 12 inches from ceilings or walls shall be flashed solidly. Flashing provided: Yes No Distance from ceiling _____in., Wall _____in.

5. All joints and seems 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 non-combustible packing in a metal sleeve joint. (506.3.2, 506.3.2.4) Joints shall be smooth and accessible for inspection. (506.3.2)

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.** Fire Suppression System shall be per fire code. Portable fire 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.

8. Performance test certificate of the hood system shall be provided to owner before final approval. Test shall verify proper operation, the rate of exhaust, make-up air, capture and containment performance of the exhaust at normal operating conditions. (507.16)

N. References:

- 1. International Mechanical Code 2006
- 2. International Building Code 2006
- 3. International Fire Code 2003 and NFPA 96
- 4. International Fuel Gas Code 2006