



DANVILLE BOROUGH CODES & ZONING DEPARTMENT

Municipal Building
463 Mill Street
Danville, PA 17821
Phone (570)275-3091 ext 1

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: _____

B. Established use and history of building:

C. Location of exterior ductwork and mechanical equipment:

2. Applicant shall provide stamped plan and elevation views showing ductwork, duct enclosure, hood, cooking surface airsupply, 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.

E. Type of material and gage (507.2.3, 507.3.1, 507.5)

TYPE I HOOD				TYPE II HOOD		
Type of Material	Gage		Proposed	Gage		
	Min. Req.			Min. Req.	Proposed	
Duct and Plenum Hood	Stainless Steel	18 Ga.	_____ Ga.	24 Ga. Up to 12" Diameter	_____ Ga.	
	Galvanized Steel	16 Ga.	_____ Ga.	22 Ga. Up to 30" Diameter	_____ Ga.	
	Stainless Steel	20 Ga.	_____ Ga.	Stainless Steel 24 Ga.	_____ Ga.	
	Galvanized Steel	18 Ga.	_____ Ga.	Galvanized Steel 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)

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:

Canopy _____ ft.
4 ft. maximum allowed

Non-canopy _____ ft.
3 ft. maximum allowed

2. Complete part 'i' for listed hood or part 'ii' for unlisted hood:

i) Listed hood. Make and model No.: _____ Listed CFM _____

ii) Unlisted hood: Quantity of air = Lineal ft. of hood front x CFM from table below:

= _____ 10 ft. x _____ 550 CFM/ft. = _____ 5500 CFM

Minimum net airflow for different types of unlisted hoods. (507.5.1)

Identify the cooking appliance and circle the CFM applied. Where 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.

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.

FAN	MOTORIZED DAMPER
Make and Model _____ HP _____	Recommended air velocity, 500 FPM
Static pressure _____ in. at CFM	Duct area req. = CFM / 500 FPM: _____ CFM / 500 FPM = _____ ft ²
Duct Dimension _____ in X _____ in = _____ ft ²	Duct dimension required = _____
	Eff. Damper opening _____ X _____ = _____ ft ²

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

- Horizontal duct up to 75' long Min. Slope 1/4" in/ft Proposed _____ in/ft
 More that 75' long Min. Slope 1" in/ft Proposed _____ in/ft
- 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, 507.1.1.1)

- Hoods vented by a single duct system (must meet all 4 conditions)
 - located in the same story of the building
 - within the same or adjoining room of the building
 - ducts do not penetrate assemblies required to be fire-resistance rated
 - the ducts do not serve solid fuel-fired appliances.
- 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. (507.1.1.2)
2. Distance between lowest edge of grease filters and cooking surface of: Grill, fryer, without exposed flames 0.5 ft., exposed flame shall be not less than 2 ft. Exposed charcoal, charbroil shall be not less than 3 1/2 ft. (507.2.8).
3. Type 1 hood and duct shall have clearances from construction of:
 GWB on Metal stud (minimum 3" clearance required) (507.2.6, 506.3.6)
 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.	Proposed _____ in.
Duct	min. req. 18 in.	Proposed _____ in.	min. req. 3 in	Proposed _____ in.

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, and capture and containment performance of the exhaust at normal operating conditions. (507.6)

N. References:

1. International Mechanical Code 2018
2. International Building Code 2018

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