

TYPE I AND TYPE II KITCHEN HOOD SUBMITTAL CHECKLIST

7/1/2016

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 registered design professional is responsible for assuring the accuracy and consistency of the information. **Signed and sealed forms and plans for the hood and grease duct must be submitted together as one application.**

A. Project Address: _____
Name & Address of person completing form : _____

B. Established Use and Building History:

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

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

C. Location of Exterior Ductwork and Mechanical Equipment:

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

If yes, there must be a 10' 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.

D. Type of Hood (2015 IMC 507.1):

1. For grease and smoke removal: Type I: _____Quantity (IMC 507.2)
 (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: 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, 507.2.3, 507.3.1):

TYPE I HOOD				TYPE II HOOD			
	Type of Material	Minimum Reqs.	Gage Proposed		Type of Material	Minimum Reqs.	Gage Proposed
Duct & Plenum	Galvanized Steel	16 gage		Duct & 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	
	Note – Black Iron is not in code. Submit Manufacturer & U.L. Listings IMC 304					Copper	Not less than 24 ounces per square foot

Note 1: ALL KITCHEN HOODS AND EXHAUST DUCT CONSTRUCTION PLANS AND FORMS SHALL CLEARLY CONVEY AND DEPICT CODE COMPLIANCE BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BEAR THE SEAL AND SIGNATURE OF SAID PERSON.

Note 2: RESIDENTIAL APPLIANCES TO BE USED AND INSTALLED IN COMMERCIAL BUILDINGS ARE PERMITTED WHERE APPROVED FOR USE IN COMMERCIAL APPLICATIONS AND SHALL BE PROTECTED BY A TYPE I OR TYPE II HOOD AS PER THE 2017 NYSUC REFERENCE STANDARD 2015 IMC 3RD PRINTING. SEE SECTION 507.1.2.

Note 3: KITCHEN HOODS SHALL ALSO BE SHOWN TO COMPLY WITH THE 2017 NYSECC BY MATCHING THE APPROPRIATE ENERGY CODE COMPLIANCE PATH AS PER THE 2017 NYSECC SUPPLEMENT BY USING ONE OF THE BELOW REFERENCE STANDARDS.

- 1. 2015 IECC 2ND PRINTING SECTION C403.2.8**
- 2. ASHRAE 90.1 2013 (JULY 2014 PRINTING) SECTION 6.5.7.1**

THE APPLICABLE CODES, RULES AND REGULATIONS FOR NYS FOR COMMERCIAL KITCHEN HOODS ARE AS FOLLOWS:

- 1. 2017 NYS UNIFORM CODES AS AMENDED BY THE 2017 UNIFORM CODE SUPPLEMENT**
- 2. 2017 NYS ENERGY CODE AS AMENDED BY THE 2017 NYSECC SUPPLEMENT**
- 3. REFERENCE STANDARD 2015 IMC 3RD PRINTING AS AMENDED BY THE 2017 NYSUC SUPPLEMENT.**
- 4. REFERENCE STANDARD 2015 IFC 3RD PRINTING AS AMENDED BY THE 2017 NYSUC SUPPLEMENT**
- 5. REFERENCE STANDARD 2015 IBC 3RD PRINTING AS AMENDED BY THE 2017 NYSUC SUPPLEMENT**

F. Quantity of air exhausted through the hood (IMC 507):

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

Type of hood proposed: Canopy Non-canopy

Distance between lip of hood and cooking surface:

Proposed: Canopy _____ ft. Non-canopy _____ ft.
 4 ft. maximum allowed 3 ft. maximum allowed

2. Complete part “a” for listed hood or part “b” for unlisted hood.

a. Listed Hood: (See IMC Section 507.1 exception #1 and #2)

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

Make and Model Number: _____ Listed CFM: _____

b. Unlisted Hood:

Quantity of air = Lineal ft. of hood front X CFM from Table below:

$$= \text{_____ ft.} \times \frac{\text{CFM}}{\text{ft.}} = \text{_____ CFM}$$

Minimum net airflow for different types of unlisted hood. (See 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 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 DESIGNER COMMENTS:

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

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

2. Duct Size _____ in. X _____ in., duct area = $\frac{\text{in. X in.}}{144}$ = _____ ft²

Type of Hood	Air Velocity (FPM)	CFM/Duct Area (ft ²)	Proposed Air Velocity
1. Type I Req. 500 to recom. 2500	_____ / _____ = _____ FPM		
Type II Req. min 500 CFM	_____ / _____ = _____ FPM		
2. Static Pressure Loss			
Duct _____ in. + grease filters/extractor _____ in. + other _____ in. = Total _____ In. of H ₂ O			
3. 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):

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

I. 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 no. _____
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.

Fan			Motorized Damper			
Make and Model:		H.P.:	Recommended air velocity, 500 fpm			
Static Pressure:	CFM	in. at	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

J. 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.**

K. Duct Enclosure (506.3.11)(507.2.7 hoods within ceiling cannot use 506.3.11.2):

1. Ducts penetrating a ceiling, wall or floor shall be enclosed in a duct enclosure as per sections 506.3.11.1, 506.3.11.2 and 506.3.11.3 (Provide manufacturer installation and test documents). Shaft enclosures shall comply with section 713 and 712 of the 2015 IBC. A duct may only penetrate exterior walls at locations where unprotected openings are permitted as per 2015 IBC Table 705.8.

Number of Stories	Min. Fire-Resistive Const. of Enclosure	Proposed	Proposed Material & Construction
4 or more	2 hour	hr.	
Less than 4	1 hour	hr.	

Provide manufacturer's installation instructions and listing documents for exceptions.

2. Ducts shall have a clearance from combustible construction of not less than 18 inches. (506.3.11 and 506.3.6) Proposed: _____ in.
3. Ducts shall have a clearance from noncombustible construction and gypsum wall board attached to noncombustible structures of not less than 3 inches. (506.3.11 and 506.3.6) Proposed: _____ in.
4. Duct enclosures shall be sealed around the duct at the point of penetration and vented to the exterior through a weather-protected opening.
5. Duct enclosures shall serve only one kitchen exhaust duct. (See multiple hood venting for exception.)
6. 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):

1. 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 and are located in adjoining rooms; and the grease duct system does not serve a solid fuel-fired appliance.
2. 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 301.15, IBC 1613, ASCE7-05) Hoods and equipment over 400 pounds require calculations and details for review.

N. Additional Information – Type I Hood Only (507.2.5)(507.2.6)(507.2.8)(507.2.9):

1. Grease filters shall be installed at a minimum 45 degrees angle and equipped with drip tray and gutter beneath lower edge of filters. Proposed: _____ degrees
2. Distance between lowest edge of grease filters and cooking surface of:
 Grill, fryer, exposed flame shall not be not be less than 2 ft. Proposed: _____ ft.
 Exposed charcoal, charbroil shall be not less than 3 ½ ft. Proposed: _____ ft.
3. Type I hood shall have clearances from construction of:

UNPROTECTED (Combustible Construction)	EXCEPTION
Hood Min. Required clearance of 18 in. Proposed _____ in.	Clearance shall not be required from gypsum wallboard attached to noncombustible structures provided that a smooth, cleanable, nonabsorbent and noncombustible material is installed between the hood and the gypsum or cementitious wallboard extending not less than 18 inches in all directions from the hood.

4. Grease gutters shall drain to an approved collection receptacle that is fabricated, designed and installed to allow access for cleaning.
5. Hoods less than 12 inches from ceilings or walls shall be flashed solidly.
6. 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)
7. **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)
8. **Up-blast fans serving type I hoods and installed in a vertical or horizontal position shall be hinged, supplied with a flexible weatherproof electrical cable to permit inspections and cleaning and shall be equipped with a means to limit swing of the fan on its hinge. Ductwork shall extend 18 inches or more above roof surface. Exhaust outlet shall be not less than 40 inches above the roof surface (506.3.13)(506.5.3)**
9. Fire Suppression System Fire Suppression System shall be per Fire Code. Portable extinguisher shall also be provide 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.
10. 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)