

**TYPE I AND TYPE II KITCHEN HOOD SUBMITTAL CHECKLIST –  
required for any commercial kitchen hood application**

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Submittal Requirements for 2020 NYSUC Compliance

5/12/20

**This worksheet must be signed and sealed by the Registered Design Professional (RDP) and submitted along with the construction documents for the hood and grease duct under one permit application.**

**1. Project Address:** \_\_\_\_\_

**Name, Firm & Address of RDP completing form:** \_\_\_\_\_

FIRM

NAME

STREET ADDRESS

CITY

STATE

ZIP

SIGNATURE

AFFIX SEAL BELOW:

**2. 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 for Change of Use/Change of Tenant/Interior Alteration: \_\_\_\_\_

**3. Location of Exterior Ductwork and Mechanical Equipment:**

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

\*If yes, as per NYSMC 501.3.1, ductwork/mechanical equipment must be a minimum of 10' from the property line. Town of Islip Zoning regulations also apply.

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

**4. Type of Hood (2015 NYSMC 507.1):**

a. For grease and smoke removal: Type I: \_\_\_\_\_Quantity (NYSMC 507.2)  
*(i.e. deep fryer, char broilers, grill, ovens, and all solid-fuel appliances)*

b. For steam, vapor, heat or odor removal: Type II\*: \_\_\_\_\_Quantity  
*(i.e. steamer, soup kettle, dishwashers)*

\*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.

**5. Type of Material and Gage (NYSMC 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
<b>Duct &amp; Plenum</b>	Galvanized Steel	16 gage		<b>Duct &amp; Plenum</b>	Refer to SMACNA		
	Stainless Steel	18 gage					
	Factory-built	Provide UL listing					
<b>Hood</b>	Galvanized Steel	18 gage		<b>Hood</b>	Galvanized Steel	22 gage	
	Stainless Steel	20 gage			Stainless Steel	24 gage	
	Note – Black Iron is not in code. Submit Manufacturer & U.L. Listings NYSMC 304				Copper	Not less than 24 ounces per square foot	

**6. Quantity of air exhausted through the hood (NYSMC 507):**

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

Type of hood proposed:  Canopy  Non-canopy

Proposed distance between lip of hood and cooking surface: Canopy \_\_\_\_\_ft. Non-canopy \_\_\_\_\_ft.  
4 ft. maximum allowed 3 ft. maximum allowed

b. Complete the following for a listed or unlisted hood as applicable:

i. Listed Hood (see NYSMC 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: \_\_\_\_\_

ii. Unlisted Hood – Complete the calculation using the table below:

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

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ ft } \times \underline{\hspace{2cm}} \text{ ft. } = \underline{\hspace{2cm}} \text{ CFM}$$

QUANTITY OF AIR                      LINEAL FT OF HOOD FRONT                      CFM FROM TABLE BELOW

**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 NYSMC 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

**GENERAL NOTES:**

1. All kitchen hoods and exhaust duct construction plans and this worksheet shall clearly convey and depict code compliance by the RDP and shall bear the seal and signature of said person.
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 2020 NYSMC.  
See section 507.1.2.
3. Kitchen hoods shall also be shown to comply with the 2017 NYSECCC by matching the appropriate energy code compliance path as per the 2020 NYSECCC by using one of the below reference standards:
  1. 2020 NYSECCC SECTION C403.7.5
  2. ASHRAE 90.1 2016 SECTION 6.5.7.2

The applicable codes, rules and regulations for NYS for commercial kitchen hoods are as follows:

1. 2020 NYS UNIFORM CODES and NYCRR Title 19 Subchapter B
2. 2020 NYS ENERGY CODE
3. 2020 NYSMC
4. 2020 NYSFC
5. 2020 NYSBC
6. For Pollution Control Units, see NYSMC Section 506.2.5 (*new section*)

**ADDITIONAL DESIGNER COMMENTS:**

**7. 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 mechanical plans and indicate sheet # \_\_\_\_.
- c. Makeup air shall be provided by a mechanical or gravity means of sufficient capacity. Window 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. <sup>2</sup>
Duct Dimension:	area	ft. <sup>2</sup>		Duct Dimension Requirement =			
Air Velocity = CFM/area	=		CFM	Eff. Damper Opening =	X	=	ft. <sup>2</sup>
	CFM	/	area				
			fpm				

**8. 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 = \_\_\_\_\_ in x \_\_\_\_\_ in. = \_\_\_\_\_ ft<sup>2</sup>  
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Type of Hood	Air Velocity (FPM)	CFM/Duct Area (ft <sup>2</sup> )	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 <sub>2</sub> 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: _____			

**9. 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	10 ft.	
	Type II		
Distance from property line	Type I	10 ft.	
	Type II		
Distance from windows and doors	Type I	10 ft.	
	Type II	3 ft.	
Distance from mechanical air intake	Type I	10 ft.	
	Type II		

**10. Duct Slope and Cleanout Access (506.3.7, 506.3.8, 506.3.9):**

- a. 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.  
 Total Proposed: \_\_\_\_\_ in./ft.
- b. Tight-fitting cleanout doors shall be provided at every change in ductwork direction.
- c. Refer to State amendments for vertical ducts.

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

- a. 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.*

- b. Where no enclosure is provided, ducts shall have a clearance from combustible construction of not less than 18 inches. (506.3.11 and 506.3.6) 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 hood 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."**

**12. Multiple Hood Venting (506.3.5):**

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

**13. Provide seismic restraint vertical support and attachment details for the hood; shall be prepared by someone knowledgeable in structural engineering. (NYSMC 301.18, NYSBC 1613, ASCE7-2016) Hoods and equipment over 400 pounds require calculations and details for review.**

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

- a. 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
- b. 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.
- c. 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.

- d. Grease gutters shall drain to an approved collection receptacle that is fabricated, designed and installed to allow access for cleaning.

- e. Hoods less than 12 inches from ceilings or walls shall be flashed solidly.
- f. 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)
- g. 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)
- h. 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)
- i. 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.
- j. 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)