

KITCHEN HOOD SYSTEM REQUIREMENTS

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<p>2015 IFC:BC 105.2.5 / 2015 IBC:BC 105.7 - All required permits and work authorizations are posted.</p>	<p>(IFC) Work requiring a permit/work authorization shall not commence until said permit/work authorization is posted in a conspicuous place on the job site and approved plans are available at this location. Where work is commenced prior to obtaining said permit/work authorization, the fees may be increased by 100% as determined by the AHJ, but payment of the increased fee shall not relieve any person from fully complying with the requirements to obtain a permit/work authorization, nor of any other penalties herein. (IBC) The reviewed building plans and building permit/work authorization or copy shall always be kept readily available on the site of the work is being performed until the completion of the project.</p>
<p>2015 IFC:BC 105.4.7 / 2015 IBC:BC 105.7 - Reviewed and stamped set of plans are available on job site.</p>	<p>(IFC) When a permit/work authorization or approved plans are not available upon request by the Fire Marshal or the Fire Marshal's designee, the reviewed building plans and building permit/work authorization or copy shall always be kept readily available on the site of the work is being performed until the completion of the project.</p>

General / Operational Testing

<p>2013 NFPA 17A 6.4.10.4 - Design, installation, and maintenance manual provided to owner</p>	<p>The owner shall be provided with a copy of the manufacturer's design, installation, and maintenance manual or the owner's manual.</p>
<p>2013 NFPA 17A 6.4.8 / 4.3.1.6 / 6.4.4.2.1 - System operational test performed properly: Nozzle caps blow off during test; contents properly discharge from nozzles.</p>	<p>The protection device shall blow off, blow open, or blow out upon agent discharge. The test shall verify that nitrogen or dry air has discharged out of each nozzle in the system. System operational tests shall be performed in accordance with the manufacturer's design, installation, and maintenance manual and include functional tests of the automatic detection system, the manual release devices, the gas shutoff, the shutoff of makeup air supplied internally to a hood, and the electrical power shutdown.</p>
<p>2013 NFPA 17A 6.4.8 - System operational test performed properly: Heat sensor in hood turns exhaust fan on with the switch to the exhaust fan in the off position.</p>	<p>System operational tests shall be performed in accordance with the manufacturer's design, installation, and maintenance manual and include functional tests of the automatic detection system, the manual release devices, the gas shutoff, the shutoff of makeup air supplied internally to a hood, and the electrical power shutdown.</p>
<p>2013 NFPA 17A 6.4.8 - System operational test performed properly: Manual Activation (pull station)</p>	<p>The following occurred on system activation: 1- Make up air shut off; 2-Exhaust fan stayed on; 3-Gas feed shut off and had to be manually reset; 4-Electrical tripped to all appliances under hood; 5-Fire Alarm activated and reported with accurate description System operational tests shall be performed in accordance with the manufacturer's design, installation, and maintenance manual and include functional tests of the automatic detection system, the manual release devices, the gas shutoff, the shutoff of makeup air supplied internally to a hood, and the electrical power shutdown.</p>
<p>2013 NFPA 17A 6.4.8 - System operational test performed properly: Automatic Activation (fusible link).</p>	<p>The following occurred on system activation: 1- Make up air shut off; 2-Exhaust fan stayed on; 3-Gas feed shut off and had to be manually reset; 4-Electrical tripped to all appliances under hood; 5-Fire Alarm activated and</p>

KITCHEN HOOD SYSTEM REQUIREMENTS

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2013 NFPA 17A 6.4.5 - Devices properly labeled	The labeling of devices with proper designations and instructions shall be verified.
2013 NFPA 17A 4.9.2 - Extinguishing agent cylinder properly secured	All extinguishing agent storage containers shall be examined to ensure that they are fastened securely to their mounting brackets.
2013 NFPA 17A 6.4.10.2 - System back in full-service and monitoring company notified	After completion of functional testing, if the system is connected to an alarm-receiving office, the alarm-receiving office and all concerned personnel at the end user's facility shall be notified that the fire system test is complete and that the system has been returned to full-service operational condition.
2014 NFPA 96 11.2.5.1 / 11.3.3.2 / 11.7.1 - State inspection tag on system is current and signed by licensed installer. (A photo of the tag is required.)	If tag is current, this item should be marked No Violation. If tag is expired or a red or yellow tag is present, this item should be marked Violation. The year of manufacture and the date of installation of the fusible links shall be documented. The tag shall be signed or initialed by the installer. Inspection and servicing of the cooking equipment shall be made at least annually by properly trained and qualified persons.
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).
Portable Fire Extinguishers	
2014 NFPA 96 10.2.1 / 14.7.8 - Portable fire extinguishers required. Type K required within 20 feet of the appliance/protected hood, preferably near the hood pull station and in the path of egress.	Fire-extinguishing equipment shall include both automatic fire-extinguishing systems as primary protection and portable fire extinguishers as secondary backup.
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).
Appliances	
2014 NFPA 96 12.1.2.4 / 12.1.2.5 - Deep-fat fryer placement or Baffle(s) properly installed.	All deep-fat fryers shall be installed with at least a 16-inches space between the fryer and surface flames from adjacent cooking equipment. An 8-inch-high steel or tempered glass baffle is required if space is less than 16 inches.
2015 IFC 609.4 - Appliance connection to building piping. Chain installed that is shorter than the gas lines secured to the wall and the appliances.	Gas-fired commercial cooking appliances installed on casters and appliances that are moved for cleaning and sanitation purposes shall be connected to the piping system with an appliance connector listed as complying with ANSI Z21.69. The commercial cooking appliance connector installation shall be configured in accordance with the manufacturer's installation instructions. Movement of appliances with casters shall be limited by a restraining device installed in accordance with the connector and appliance manufacturer's instructions. This requirement is intended to end the practice of replacing listed flexible piping with residential flexible piping. Residential flexible piping is more easily damaged when the cooking equipment is moved for cleaning, thus causing a fire/life safety problem with gas leaks and fires. This section also intends to limit the distance the

KITCHEN HOOD SYSTEM REQUIREMENTS

	appliances can be moved for cleaning to further protect the connection.
2013 NFPA 17A 6.4.3 - Appliances are in place as approved per plans and are located within the perimeter of the hood.	It shall be verified that the installed appliances are the same and in the same locations as the approved system design.
2013 NFPA 17A 6.4.1 - Appliances, hoods, and ducts are properly protected	It shall be verified that the appliances, hoods, and ducts are properly protected with nozzles and positioned in accordance with the manufacturer's design, installation, and maintenance manual.
2013 NFPA 17A 5.6.4 - Movable appliances are provided with means to correctly position equipment	Movable cooking equipment shall be provided with a means to ensure that it is correctly positioned in relation to the appliance discharge nozzle during cooking operations.
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).
Notification (Visual / Audible)	
2013 NFPA 17 4.10 - Indicators on dry chemical systems	Dry chemical systems shall be provided with an indicator to show that the system is in a ready condition or is in need of recharging. Note - The indicator must be readily identifiable upon inspection; positional labeling must be legible and free of debris.
2014 NFPA 96 10.6.2 - Fire alarm signaling system required	Where a fire alarm signaling system is serving the occupancy where the extinguishing system is located, the activation of the automatic fire-extinguishing system shall activate the fire alarm signaling system. Also, in NFPA 17A 5.2.1.9
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).
Hoods / Ducts	
2014 NFPA 96 A.7.5.2.1.2 / 2015 IMC 506.3.2.5.1: Light leakage test performed.	The leakage test should consist of a light test, a water pressure test, or an approved equivalent test. The permit holder should be responsible for providing the necessary equipment and for performing the test. Refer to ANSI/ASHRAE 154, Ventilation for Commercial Cooking Operations, for specific information on such tests. 2015 IMC 506.3.2.5.1: The light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of ductwork to be tested. The lamp shall be open so as to emit light equally in all directions perpendicular to the duct walls. No light from the duct interior shall be visible through any exterior surface.
2014 NFPA 96 5.1.4 - Joints / seams are sealed (Internal).	Internal hood joints, seams, filter support frames, and appurtenances attached inside the hood shall be sealed or otherwise made grease tight.
2014 NFPA 96 5.2 - Hood Size is correct and designed according to reviewed plans.	Hoods shall be sized and configured to provide for the capture and removal of grease-laden vapors.
2014 NFPA 96 7.1.2 - Exhaust Duct Systems lead directly to the exterior	All ducts shall lead directly to the exterior of the building, so as not to unduly increase any fire hazard. NFPA 96 A.7.1.2 - Vertical or substantially pitched ducts are preferred over horizontal ducts because of their capacity to drain grease and to transfer heated vapors more rapidly to the exterior of a building.
2014 NFPA 96 7.5.2.1 - Joints / seams are sealed (External)	All seams, joints, penetrations, and duct-to-hood collar connections shall have a liquid tight continuous external weld.

KITCHEN HOOD SYSTEM REQUIREMENTS

2014 NFPA 96 7.6.2 - Duct walls not penetrated.	Bolts, screws, rivets, and other mechanical fasteners shall not penetrate duct walls.
2014 NFPA 96 8.2.2.1 - Proper air flow	Exhaust air volumes for hoods shall be of a sufficient level to provide for capture and removal of grease-laden cooking vapors.
2014 NFPA 96 8.2.3.1 - Exhaust fan operates properly	A hood exhaust fan(s) shall continue to operate after the extinguishing system has been activated unless fan shutdown is required by a listed component of the ventilation system or by the design of the extinguishing system.
2014 NFPA 96 8.2.3.3 - Exhaust fan is activated automatically	The exhaust fan shall be provided with a means so that the fan is activated when any appliance under the hood is turned on.
2014 NFPA 96 8.3.2 - Makeup air shuts off properly	When the fire-extinguishing system activates, makeup air supplied internally to a hood shall be shut off.
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).

Grease Filters

2014 NFPA 96 6.2.1.1 - Separation distance of grease removal device	The distance between the grease removal device and the cooking surface shall be as great as possible but not less than 18 inches.
2014 NFPA 96 6.2.3.3 - Grease filters are of durable construction	Grease filters shall be of rigid construction that will not distort or crush under normal operation, handling, and cleaning conditions.
2014 NFPA 96 6.2.3.4 - Grease filters (air not blocked)	Grease filters shall be arranged so that all exhaust air passes through the grease filters.
2014 NFPA 96 6.2.3.5 - Grease filters are easily accessible	Grease filters shall be easily accessible for removal.
2014 NFPA 96 6.2.3.6 - Grease filters installed properly (not less than 45 degrees)	Grease filters shall be installed at an angle not less than 45 degrees from the horizontal.
2014 NFPA 96 6.2.4.1 - Grease drip trays installed / properly	Grease filters shall be equipped with a grease drip tray beneath their lower edges. NFPA 96 6.2.4.3 - Grease drip trays shall be pitched to drain into an enclosed metal container having a capacity not exceeding 1 gallon.
2014 NFPA 96 6.2.4.2 - Grease drip trays are proper size	Grease drip trays shall be kept to the minimum size needed to collect grease.
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).

Nozzles / Pipes

2013 NFPA 17A 6.4.2.1 - Nozzle sizes	It shall be verified that nozzle sizes and pipe sizes are in accordance with the manufacturer's design, installation, and maintenance manual.
2013 NFPA 17A 4.3.1.5 - Nozzle caps provided	All discharge nozzles shall be provided with caps or other suitable devices to prevent the entrance of grease vapors, moisture, environmental contaminants, or other foreign materials into the piping.
2013 NFPA 17A 5.5 - Nozzles, correct placement	All discharge nozzles shall be located to minimize damage or misalignment and be within the limitations and constraints of the manufacturer's design, installation, and maintenance manual.
2013 NFPA 17A 6.4.2.2 - Piping supports are secured	It shall be verified that piping supports are securely fastened.
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).

KITCHEN HOOD SYSTEM REQUIREMENTS

Automatic / Manual Actuation	
2014 NFPA 96 10.2.3.2 - ALL Automatic fire-extinguishing systems shall comply with ANSI/UL 300	Effective January 1, 2014, all existing fire extinguishing systems shall meet the requirements of 10.2.3. 10.2.3 - Automatic fire-extinguishing systems shall comply with ANSI/UL 300 or other equivalent standards and shall be installed in accordance with the requirements of the listing. Also in NFPA 17A 5.1
2014 NFPA 96 10.5.1 - Manual station height above floor (42-48 inches)	A readily accessible means for manual activation shall be located between 42 and 48-inches above the floor, be accessible in the event of a fire, be in a path of egress, and clearly identify the hazard protected. Also, in NFPA 17A 5.2.1.10.1
2014 NFPA 96 10.5.1.2 - Manual station activation (max. 40-pounds) (max. 14-inch pull)	Manual activation using a cable-operated pull station shall not require more than 40-pounds of force, with a pull movement not to exceed 14-inches to activate the automatic fire-extinguishing equipment.
2013 NFPA 17A 5.2.1 - Automatic and manual methods of actuation required	All systems shall have both automatic and manual methods of actuation.
2013 NFPA 17A 5.2.1.10 - Manual station located in the path of egress	A readily accessible means for manual actuation shall be located in a path of egress.
2013 NFPA 17A 5.2.1.10.2 - Manual station properly labeled	The manual actuation device shall clearly identify the hazard protected.
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).
Shut-off Devices	
2014 NFPA 96 10.4.4 - Shut off devices require manual reset	Shutoff devices shall require manual reset.
Other	
Other violation(s)	Fire and/or life safety hazard per 2015 IFC 102.8 / NFPA 101: 4.6.1.2 or refer to Inspector's comment(s).