



# Comparative Matrix

*A Comparison of the NFPA 96 and ICC Standards and Codes with regard to Commercial Kitchen Systems*

Matrix © 2008 First Edition

## **This document was designed to compliment the 18-part *Inspecting Commercial Kitchens Online Program* by Phil Ackland**

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### **Acknowledgement**

We want to express our appreciation for this document to Scott Stookey of ICC, Steve Bradbury, Rory Wilson, Jim Roberts, Brian Ringwelski, George Zawacki, Kathy and Doug Bell and others.

**First Edition Issues** -- If you notice any typographical error, please communicate them to the author.

For more information on Commercial Kitchen Systems

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**Please Note:** The following "Conversion Table" is generally in the order that the information appears within the Power Point presentation. There is some repetition and other areas where it is best to look up the exact quote from your copy of you local Fire Code. Because jurisdictions will modify any of the Codes to suit their purposes and priorities differ, we can not claim accuracy in the following table.

Where in PP	NFPA 96 – 2008 Ed.	IMC 2006 Ed.
Administration	NFPA 96, Chapter 1.1.1*: (Para) This standard provides only the minimum fire safety requirements	<p><b>506.1 General.</b> Commercial kitchen hood ventilation ducts and exhaust equipment shall comply with the requirements of this section. Commercial kitchen grease ducts shall be designed for the type of cooking appliance and hood served.</p> <p><b>IFC [M] 610.1 General.</b> Commercial kitchen exhaust hoods shall comply with the requirements of the <i>International Mechanical Code</i>.</p> <p><b>IFC [M] 610.2 Where required.</b> A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.</p>
Administration	NFPA 96, Chapter 1.2: (Para) The purpose of this standard shall be to reduce the potential fire hazard of cooking operations	<p><b>509.1 Where required.</b> – Commercial cooking appliances required by Section 507.2.1 to have a Type I hood shall be provided with an approved automatic fire suppression system complying with the <i>International Building Code</i> and the <i>International Fire Code</i>.</p>
Administration		<p><b>102.1 Scope</b> - This code shall regulate the design, installation, maintenance, alteration and inspection of mechanical systems that are permanently installed and utilized to provide control of environmental conditions and related processes within buildings. This code shall also regulate those mechanical systems, system components, equipment and appliances specifically addressed herein. The installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be regulated by the <i>International Fuel Gas Code</i>.</p> <p><b>Exception:</b> Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories high with separate means of egress and their accessory structures shall comply with the <i>International Residential Code</i>.</p>

Administration	NFPA 96, Chapter 1.1.4: This standard shall not apply to facilities where all of the following are met: (1) Only residential equipment is being used. (2) Fire extinguishers located in all kitchen areas in accordance with NFPA 10, <i>Standard for Portable Fire Extinguishers</i> . (3) Facility is not assembly occupancy. (4) Subject to the approval of the authority having jurisdiction.	No equivalent section in the IMC.
Administration	NFPA 96, Chapter 1.3.1: This standard shall be applied as a united whole.	<b>102.8 Referenced codes and standards.</b> The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall apply.
Administration	NFPA 96, Chapter 1.3.2: (Para) The authority having jurisdiction determines compliance and equivalence.	<b>104.1 General.</b> The code official shall enforce the provisions of this code and shall act on any question relative to the installation, alteration, repair, maintenance or operation of mechanical systems, except as otherwise specifically provided for by statutory requirements or as provided for in Sections 104.2 through 104.8.
Retroactivity	NFPA 96, Chapter 1.4 Retroactivity. This standard reflects a consensus of acceptable degrees of protection.	No equivalent section in the IMC
Retroactivity	NFPA 96, Chapter 1.4.2: In cases of unacceptable risk, the authority having jurisdiction shall be permitted to apply the #96 retroactively	<b>102.2 Existing installations.</b> Except as otherwise provided for in this chapter, a provision in this code shall not require the removal, alteration or abandonment of, nor prevent the continued utilization and maintenance of, a mechanical system lawfully in existence at the time of the adoption of this code.
Equivalency	NFPA 96, Chapter 1.5 Equivalency. This standard does not limit the use of other methods or devices that satisfy the AHJ..	<b>105.2 Alternative materials, methods, equipment and appliances.</b> The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material or method of construction shall be approved where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

Listed Components	NFPA 96, Chapter 3.2.4: Listed. Equipment, materials, or services acceptable to the authority having jurisdiction are permitted.	Section 202 General Definitions <b>LISTED.</b> Equipment, appliances or materials included in a list published by a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances or materials, and whose listing states either that the equipment, appliances or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner. Not all testing laboratories, inspection agencies and other organizations concerned with product evaluation use the same means for identifying listed equipment, appliances or materials. Some do not recognize equipment, appliances or materials as listed unless they are also labeled. The authority having jurisdiction shall utilize the system employed by the listing organization to identify a listed product.
General Requirements Owner's Responsibilities - Staff Training	NFPA 96, Chapter 11.1.4: Instructions for manually operating the fire extinguishing system shall be posted conspicuously in the kitchen and shall be reviewed with employees by the management.	
General Requirements	NFPA 96, Chapter 4.1.1: Smoke or grease-laden vapor producing appliances require an exhaust system that complies with the entire standard.	507.1 General. – Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues.  IFC [M] 610.1 General. – Commercial kitchen exhaust hoods shall comply with the requirements of the <i>International Mechanical Code</i> .  IFC [M] 610.2 Where required. – A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.
General Requirements	<b>4.1.9*</b> Cooking equipment used in fixed, mobile, or temporary concessions, such as trucks, buses, trailers, pavilions, tents, or any form of roofed enclosure, shall comply with this standard.	No equivalent section in the IMC or IFC

General Requirements	NFPA 96, Chapter 4.6 Drawings. A drawing (s) of the exhaust system and operating instructions shall be kept on the premises.	<p><b>IFC 901.6.2 Records.</b> Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of three years and shall be copied to the fire code official upon request.</p> <p><b>IFC 901.6.2.1 Records information.</b> Initial records shall include the name of the installation contractor, type of components installed, manufacturer of the components, location and number of components installed per floor. Records shall also include the manufacturers' operation and maintenance instruction manuals. Such records shall be maintained on the premises.</p> <p><i>[NOTE: This IFC section is only applicable to the automatic fire extinguishing system. It is not applicable to the Type I hood].</i></p>
General Requirements	NFPA 96, Chapter 9.2.4: Electrical equipment shall comply with NFPA 70, <i>National Electrical Code</i> .	<p><b>301.7 Electrical.</b> Electrical wiring, controls and connections to equipment and appliances regulated by this code shall be in accordance with the <i>ICC Electrical Code Administrative Provisions</i>.</p>
Air Movement - Exhaust Air	NFPA 96 does not make requirements for Makeup Air	<p><b>508.1 Makeup air.</b> Makeup air shall be supplied during the operation of commercial kitchen exhaust systems that are provided for commercial cooking appliances. The amount of makeup air supplied shall be approximately equal to the amount of exhaust air. The makeup air shall not reduce the effectiveness of the exhaust system. Makeup air shall be provided by gravity or mechanical means or both. For mechanical makeup air systems, the exhaust and makeup air is provided whenever the exhaust system is in operation. Makeup air intake opening locations shall comply with Sections 401.5 and 401.5.1.</p> <p><b>508.1.1 Makeup air temperature.</b> The temperature differential between makeup air and the air in the conditioned space shall not exceed 10°F (6°C).</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Makeup air that is part of the air-conditioning system.</li> <li>2. Makeup air that does not decrease the comfort conditions of the occupied space</li> </ol> <p><b>508.2 Compensating hoods.</b> Manufacturers of compensating hoods shall provide a label indicating minimum exhaust flow and / or maximum makeup airflow that provides capture and containment of the exhaust effluent.</p>

Air Movement - Exhaust Air	NFPA 96, Chapter 8.2.1.1: The air velocity through any duct shall be not less than 365.8 m/min (1200 ft /min).	<p><b>506.3.4 Air velocity.</b> Grease duct systems serving a Type I hood shall be designed and installed to provide an air velocity within the duct system of not less than 1,500 feet per minute (7.6m/s).</p> <p>Exception: The velocity limitations shall not apply within duct transitions utilized to connect ducts to differently sized or shaped openings in hoods and fans, provided that such transitions do not exceed 3 feet (914mm) in length and are designed to prevent the trapping of grease.</p>
Air Movement - Exhaust Air	NFPA 96, Chapter 8.2.2.1: Exhaust air volumes for hoods shall capture and removal of grease-laden cooking vapors.	507.1 General. – Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues.
Service Requirements – Maintenance	4.1.5 The responsibility for inspection, maintenance, and cleanliness of the exhaust and suppression systems are the responsibilities of the owner of the system , unless transferred in written form to a management company or other party.	<b>102.3 Maintenance.</b> Mechanical systems, both existing and new, and parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and sanitary condition. Devices or safeguards which are required by this code shall be maintained in compliance with the code edition under which they were installed. The owner or the owner’s designated agent shall be responsible for maintenance of mechanical systems. To determine compliance with this provision, the code official shall have the authority to require a mechanical system to be reinspected.
After A Fire	NFPA 96, Chapter 4.2.4.2: In the event of a fire within a kitchen exhaust system, the duct and its enclosure (rated shaft, factory-built grease duct enclosure, or field-applied grease duct enclosure) shall be inspected by qualified personnel to determine whether the duct and protection method are structurally sound, capable of maintaining their fire protection function, and in compliance with this standard for continued operation. Also see NFPA 96, Chapter 7.7.3.3:	No equivalent section in the IFC or IMC

Clearances – General	NFPA 96, Chapter 4.2.1: Where enclosures are not required, exhaust components shall have a clearance of at least 457 mm (18 in.) to combustible material, 76 mm (3 in.) to limited-combustible material, and 0 mm (0 in.) to noncombustible material.	<p><b>506.3.6 Grease duct clearances.</b> Grease ducts systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457mm), and shall have a clearance to non combustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches (76mm).</p> <p><b>507.9 Clearances for Type I hood.</b> A Type I hood shall be installed with a clearance to combustibles of not less than 18 inches (457mm).</p> <p><b>Exception:</b> 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 wallboard over an area extending not less than 18 inches (457mm) in all directions from the hood.</p>
Clearances Backsplash –	NFPA 96, Chapter 4.2.4.3: Protection shall be provided on the wall from the bottom of the hood to the floor, or to the top of the noncombustible material extending to the floor, to the same level as required in 4.2.1.	<p><b>507.9 Clearances for Type I hood.</b> A Type I hood shall be installed with a clearance to combustibles of not less than 18 inches (457mm).</p> <p>Exception: 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 wallboard over an area extending not less than 18 inches (457mm) in all directions from the hood.</p>
Field Constructed Clearances	NFPA 96, Chapter 4.2.3.1: Where a clearance reduction system consisting of 0.33 min (0.013 in.) (28-gauge) sheet metal spaced out 25 mm (1 in.) on noncombustible spacers is provided, there shall be a minimum of 229 mm (9 in.) clearance to combustible material.	<p><b>308.2 Listed appliances and equipment.</b> The reduction of the required clearances to combustibles for listed and labeled appliances and equipment shall be in accordance with the requirements of this section except that such clearances shall not be reduced where reduction is specifically prohibited by the terms of the appliance or equipment listing.</p> <p><b>308.11 Kitchen exhaust ducts.</b> The clearance reduction methods specified in Table 308.6 shall not be utilized to reduce the minimum clearances required by Section 506.3.10 for kitchen exhaust ducts enclosed in a shaft.</p>



<p>Field Constructed Clearances</p> <p>Construction Requirements - Clearance Reductions</p> <p>Construction Requirements - Caution on Hood Placement</p> <p>Hood Clearances Reductions</p>	<p>NFPA 96, Chapter 4.2.3.2: Where a clearance reduction system consisting of 0.69 mm (0.027 in.) (22-gauge) sheet metal on 25 mm (1 in.) mineral wool bats or ceramic fiber blanket reinforced with wire mesh or equivalent spaced out 25 mm (1 in.) on noncombustible spacers is provided, there shall be a minimum of 76 mm (3 in.) clearance to combustible material.</p>	<p><b>308.2 Listed appliances and equipment.</b> The reduction of the required clearances to combustibles for listed and labeled appliances and equipment shall be in accordance with the requirements of this section except that such clearances shall not be reduced where reduction is specifically prohibited by the terms of the appliance or equipment listing.</p> <p><b>308.11 Kitchen exhaust ducts.</b> The clearance reduction methods specified in Table 308.6 shall not be utilized to reduce the minimum clearances required by Section 506.3.10 for kitchen exhaust ducts enclosed in a shaft.</p>
<p>Zero Clearance</p>	<p>NFPA 96, Chapter 4.2.3.3: Zero clearance to limited-combustible materials shall be permitted where protected by metal lath and plaster, ceramic tile, quarry tile, other noncombustible materials or assembly of noncombustible materials, or materials and products that are listed for the purpose of reducing clearance.</p>	<p><b>308.2 Listed appliances and equipment.</b> The reduction of the required clearances to combustibles for listed and labeled appliances and equipment shall be in accordance with the requirements of this section except that such clearances shall not be reduced where reduction is specifically prohibited by the terms of the appliance or equipment listing.</p> <p><b>507.9 Clearances for Type I hood.</b> – A Type I hood shall be installed with a clearance to combustibles of not less than 18 inches (457mm).</p> <p><b>Exception:</b> 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 wallboard over an area extending not less than 18 inches (457mm) in all directions from the hood.</p>

<p>Clearances Table</p>	<p>4.2.1 Where enclosures are not required, exhaust components shall have a clearance of at least 457 mm (18 in.) to combustible material, 76 mm (3 in.) to limited-combustible material, and 0 mm (0 in.) to noncombustible material.</p> <p>7.7.1.1 In all buildings where vertical fire barriers are penetrated, the ducts shall be enclosed in a continuous enclosure extending from the first penetrated fire barrier and any subsequent fire barriers or concealed spaces, to or through the exterior, so as to maintain the fire resistance rating of the highest fire barrier penetrated.</p> <p>4.3.1 All listed duct wrap or enclosures shall be installed in accordance with the manufacturers' instructions and listing requirements.</p> <p><b>7.7.1.2</b> Buildings one story, and over are required to have a fire resistance rating.</p> <p>The ducts shall be continuous enclosed from the lowest fire-rated ceiling or floor above the hood, through concealed spaces, to or through the roof to maintain the integrity of the Fire Code separations</p>	<p><b>506.3.10 Grease duct enclosure.</b> (Also see 506.3.6 and exception) – A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the outlet terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the <i>International Building Code</i>. Ducts shall be enclosed in accordance with the <i>International Building Code</i> requirements for shaft construction. The duct enclosure shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings. Clearance from the duct to the interior surface of enclosures of combustible construction shall be not less than 18 inches (457mm). Clearance from the duct to the interior surface of enclosures of noncombustible structures shall be not less than 6 inches (152mm). The duct enclosure shall serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring or systems.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system classified in accordance with ASTM E814 and having an “F” and “T” rating equal to the fire-resistance rating of the assembly being penetrated and where the surface of the duct is continuously covered on all sides from the point at which the duct penetrates a ceiling, wall or floor to the outlet terminal with a classified and labeled material, system, method of construction or product specifically evaluated for such purpose, in accordance with a nationally recognized standard for such enclosure materials. Exposed duct wrap systems shall be protected where subject to physical damage.</li> <li>2. A duct enclosure shall not be required for a grease duct that penetrates only a nonfire-resistance-rated roof/ceiling assembly.</li> </ol>
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Enclosures	NFPA 96, Chapter 7.7.5.1: Each duct system shall constitute an individual system serving only exhaust hoods in one fire zone on one floor.	<p><b>506.3.5 Separation of grease duct system.</b> A separate grease duct system shall be provided for each Type I hood. A separate grease duct system is not required where all of the following conditions are met:</p> <ol style="list-style-type: none"> <li>1. All interconnected hoods are located within the same story.</li> <li>2. All interconnected hoods are located within the same room or in adjoining rooms.</li> <li>3. Interconnecting ducts do not penetrate assemblies required to be fire-resistance rated.</li> <li>4. The grease duct system does not serve solid fuel-fired appliances.</li> </ol>
Enclosures	NFPA 96, Chapter 7.7.5.2: Multiple ducts shall <u>not</u> be permitted in a single enclosure.	<p><b>506.3.5 Separation of grease duct system.</b> A separate grease duct system shall be provided for each Type I hood. A separate grease duct system is not required where all of the following conditions are met:</p> <ol style="list-style-type: none"> <li>1. All interconnected hoods are located within the same story.</li> <li>2. All interconnected hoods are located within the same room or in adjoining rooms.</li> <li>3. Interconnecting ducts do not penetrate assemblies required to be fire-resistance rated.</li> <li>4. The grease duct system does not serve solid fuel-fired appliances.</li> </ol>
Listed Duct Enclosures		<p><b>304.1 General.</b> Equipment and appliances shall be installed as required by the terms of their approval, in accordance with the conditions of the listing, the manufacturer’s installation instructions and this code. Manufacturer’s installation instructions shall be available on the job site at the time of inspection.</p> <p><b>506.3.6 Grease duct clearances.</b> Grease ducts systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457mm), and shall have a clearance to non combustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches (76mm).</p> <p><b>Exception:</b> Listed and labeled factory-built commercial kitchen grease ducts and exhaust equipment installed in accordance with Section 304.1.</p>
Listed Duct Enclosures - Enclosure Exception	NFPA 96, Chapter 7.7.2.2.3: Provisions for reducing clearances as described in Chapter 4.2 shall not be applicable to enclosures.	No equivalent language exists in the IMC

Listed Duct Enclosures	NFPA 96, Chapter 7.7.2.2.4: When listed duct wrap or enclosures are installed in accordance with the conditions of the listing and manufacturers' instructions and are acceptable to the authority having jurisdiction, reduced clearances may be allowed	<b>308.2 Listed appliances and equipment.</b> The reduction of the required clearances to combustibles for listed and labeled appliances and equipment shall be in accordance with the requirements of this section except that such clearances shall not be reduced where reduction is specifically prohibited by the terms of the appliance or equipment listing.
Access In Enclosures (Fire Doors)	NFPA 96, Chapter 7.7.4.2: Fire doors shall be installed in accordance with NFPA 80, <i>Standard for Fire Doors and Fire Windows</i> .	<b>506.3.8 Grease duct cleanouts and other openings.</b> Grease duct systems shall not have openings therein other than those required for proper operation and maintenance of the system. Any portion of such system having sections not provided with access from the duct entry or discharge shall be provided with cleanout openings. Cleanout openings shall be equipped with tight-fitting doors constructed of steel having a thickness not less than that required for the duct. Doors shall be equipped with a substantial method of latching, sufficient to hold the door tightly closed. Doors shall be designed so that they are operable without the use of a tool. Door assemblies, including any frames and gasketing, shall be approved for the purpose, and shall not have fasteners that penetrate the duct. Listed and labeled access door assemblies shall be installed in accordance with the terms of the listing.  <b>506.3.11 Grease duct fire-resistive access opening.</b> Where cleanout openings are located in ducts within a fire-resistance-rated enclosure, access openings shall be provided in the enclosure at each cleanout point. Access openings shall be equipped with tight-fitting sliding or hinged doors that are equal in fire-resistive protection to that of the shaft or enclosure. An approved sign shall be placed on access opening panels with wording as follows: "ACCESS PANEL. DO NOT OBSTRUCT."
Appliance Location  Appliance Modifications	NFPA 96, Chapter 12.1.2.2: Cooking appliances requiring protection shall not be moved, modified, or rearranged without prior reevaluation of the fire-extinguishing system by the system installer or servicing agent, unless other-wise allowed by the design of the fire-extinguishing system.	No equivalent language exists in the IMC or IFC.

Appliance Location	NFPA 96, Chapter A.12.1.2.2: The effectiveness of an automatic extinguishing system is affected by the placement of the nozzles. For this reason, it is essential that cooking appliances be situated in the area in which they were when the extinguishing equipment was designed and installed. If an appliance is moved from under the equipment for cleaning or any other reason, it should be replaced to its original position prior to initiating a cooking operation. When appliances are on wheels or casters for ease of cleaning, it is important that the appliance be placed in its design position to ensure the fire-extinguishing system will be effective. An approved method should ensure that the appliance is returned to its appropriate position before cooking takes place. Channels, markings, or other approved methods will assist in ensuring proper placement.	No equivalent language exists in the IMC or IFC.
Appliance Location	NFPA 96, Chapter 12.1.2.3.1: An approved method shall be provided that will ensure that the appliance is returned to an approved design location.	No equivalent language exists in the IMC or IFC.
Appliance Operation <b>PP03-SL07</b> General Requirements	NFPA 96, Chapter 11.1.1: Exhaust systems shall be operated whenever cooking equipment is turned on.	<b>401.2 Ventilation required.</b> Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403.
<b>Maintenance of Appliances</b> <b>NO SLIDE</b>	<b>11.5 Cooking Equipment Maintenance.</b> <b>11.5.1</b> An inspection and servicing of the cooking equipment shall be made at least annually by properly trained, qualified persons. <b>11.5.2</b> Cooking equipment that collects grease below the surface, behind the equipment, or in cooking equipment flue gas exhaust, such as griddles or charbroilers, shall be inspected and, if found with grease accumulation, cleaned by a properly trained, qualified, and certified person acceptable to the authority having jurisdiction.	<b>102.3 Maintenance.</b> Mechanical systems, both existing and new, and parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and sanitary condition. Devices or safeguards which are required by this code shall be maintained in compliance with the code edition under which they were installed. The owner or the owner's designated agent shall be responsible for maintenance of mechanical systems. To determine compliance with this provision, the code official shall have the authority to require a mechanical system to be reinspected.
Open Fryers	NFPA 96, Chapter 12.1.2.4: All deep fat fryers shall be installed with at least a 406-mm (16-in.) space between the fryer and surface flames from adjacent cooking equipment.	IMC makes no allowance for separation of flames to fryers.
Salamander and Upright Broilers Primary Filtration	NFPA 96, Chapter 6.2.2.3: The baffle plate shall be sized and located so that flames or combustion gases shall travel a distance not less than 457.2 mm (18 in.) from the heat source to the grease removal device.	No equivalent language exists in the IMC or IFC.

Charbroiler to Hood Clearance  Construction Requirements - Hoods Over Charbroilers	NFPA 96, Chapter 4.2.2: Where a exhaust components are listed for clearances less than those required in 4.2.1 the listing requirements shall be permitted.	<b>304.1 General.</b> Equipment and appliances shall be installed as required by the terms of their approval, in accordance with the conditions of the listing, the manufacturer’s installation instructions and this code. Manufacturer’s installation instructions shall be available on the job site at the time of inspection.								
Charbroiler to Hood Clearance  Construction Requirements - Hoods Over Charbroilers	NFPA 96, Chapter 6.2.1.2: Where grease removal devices are used in conjunction with charcoal or charcoal-type broilers, <u>including</u> gas or electrically heated char-broilers, a minimum vertical distance of 1.22 m (4 ft) shall be maintained between the lower edge of the grease removal device and the cooking surface.	Table 507.11 Minimum Distance Between The Lowest Edge Of A Grease Filter And The Cooking Surface Or The Heating Surface <table border="1" data-bbox="1213 464 1965 716"> <thead> <tr> <th>Type of Cooking Appliances</th> <th>Height Above Cooking Surface (feet)</th> </tr> </thead> <tbody> <tr> <td>Without exposed flame</td> <td>0.5</td> </tr> <tr> <td>Exposed flame and burners</td> <td>2</td> </tr> <tr> <td>Exposed charcoal and charbroil type</td> <td>3.5</td> </tr> </tbody> </table> For SI: 1 foot = 304.8mm.	Type of Cooking Appliances	Height Above Cooking Surface (feet)	Without exposed flame	0.5	Exposed flame and burners	2	Exposed charcoal and charbroil type	3.5
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Deep Fat Fryers	NFPA 96, Chapter 12.2 Operating Controls. Deep fat fryers shall be equipped with a separate high-limit control in addition to the adjustable operating control (thermostat) to shut off fuel or energy when the fat temperature reaches 246°C (475°F) at 25.4 mm (1 in.) below the surface.	No equivalent language exists in the IMC or IFC.								
Solid Fuels	NFPA 96, Chapter 3.3.40: Solid Cooking Fuel. Any solid, organic, consumable fuel such as briquettes, mesquite, hardwood, or charcoal.	506.3.5 Separation of grease duct system. – A separate grease duct system shall be provided for each Type I hood. A separate grease duct system is not required where all of the following conditions are met:  4.The grease duct system does not serve solid fuel-fired appliances.								

Filters - Over Solid Fuel	NFPA 96, Chapter 14.5.3: Filters shall be a minimum of 1.2 m (4 ft) above the appliance-cooking surface.	<p>Table 507.11</p> <p>Minimum Distance Between The Lowest Edge Of A Grease Filter And The Cooking Surface Or The Heating Surface</p> <table border="1" data-bbox="1209 277 1965 529"> <thead> <tr> <th>Type of Cooking Appliances</th> <th>Height Above Cooking Surface (feet)</th> </tr> </thead> <tbody> <tr> <td>Without exposed flame</td> <td>0.5</td> </tr> <tr> <td>Exposed flame and burners</td> <td>2</td> </tr> <tr> <td>Exposed charcoal and charbroil type</td> <td>3.5</td> </tr> </tbody> </table> <p>For SI: 1 foot = 304.8mm.</p>	Type of Cooking Appliances	Height Above Cooking Surface (feet)	Without exposed flame	0.5	Exposed flame and burners	2	Exposed charcoal and charbroil type	3.5
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Exposed charcoal and charbroil type	3.5									
Filters - Spark Arrester	NFPA 96, Chapter 14.1.6: Solid fuel cooking operations shall have spark arresters to minimize the passage of airborne sparks and embers into plenums and ducts.	No equivalent language exists in the IMC or IFC.								
Filters - Spark Arrester	NFPA 96, Chapter 14.1.7: Where the solid fuel cooking operation is not located under a hood, a spark arrester shall be provided to minimize the passage of sparks and embers into flues and chimneys.	No equivalent language exists in the IMC or IFC.								
Filters - Spark Arrester Spark Arrester Filters	NFPA 96, Chapter 14.5.2: If airborne sparks and embers can be generated by the solid fuel cooking operation, spark arrester devices shall be used prior to the grease removal device to minimize the entrance of these sparks and embers into the grease removal device and into the hood and duct system.	No equivalent language exists in the IMC or IFC.								
Filters - Non-Compliant	NFPA 96, Chapter 14.5.1: Grease removal devices shall be constructed of steel or stainless steel or be approved for solid fuel cooking.	<p><b>506.3.1.1 Grease duct materials.</b> Grease ducts serving Type I hoods shall be constructed of steel not less than 0.055 inch (1.4 mm) (No. 16 Gage) in thickness or stainless steel not less than 0.044 inch (1.1 mm) (No. 18 Gage) in thickness.</p> <p><b>Exception:</b> Listed and labeled factory-built commercial kitchen grease ducts shall be installed in accordance with Section 304.1.</p> <p><b>506.3.1.2 Makeup air ducts.</b> Makeup air ducts connecting to or within 18 inches (457 mm) of a Type I hood shall be constructed and installed in accordance with Sections 603.1, 603.3, 603.4, 603.9, 603.10 and 603.12. Duct insulation installed within 18 inches (457 mm) of a Type I hood shall be noncombustible or shall be listed for the application.</p>								
Filters - Not Needed? Venting Application	NFPA 96, Chapter 14.1 Venting Application. Venting requirements of solid fuel cooking operations shall be determined in accordance with 14.1.1 through 14.1.7. (Also see 14.3.3)	<p><b>506.3.5 Separation of grease duct system.</b> – A separate grease duct system shall be provided for each Type I hood. A separate grease duct system is not required where all of the following conditions are met:</p> <p>4.The grease duct system does not serve solid fuel-fired appliances.</p>								

Location		<b>304.1 General.</b> Equipment and appliances shall be installed as required by the terms of their approval, in accordance with the conditions of the listing, the manufacturer's installation instructions and this code. Manufacturer's installation instructions shall be available on the job site at the time of inspection.
Location	NFPA 96, Chapter 14.9.1.1: Solid fuel cooking appliances shall be installed on floors of noncombustible construction that extend 0.92 m (3 ft) in all directions from the appliance.	No equivalent language exists in the IMC or IFC.
Hoods	NFPA 96, Chapter 14.3.3: All solid fuel cooking equipment served by hood and duct systems shall be separate from all other exhaust systems.	<b>506.3.5 Separation of grease duct system.</b> A separate grease duct system shall be provided for each Type I hood. A separate grease duct system is not required where all of the following conditions are met:  4.The grease duct system does not serve solid fuel-fired appliances.  507.2.4 Solid fuel. – Type I hoods for use over solid fuel-burning cooking appliances shall discharge to an exhaust system that is independent of other exhaust systems.
Exhaust for Solid Fuel Cooking	NFPA 96, Chapter 14.4.2: A listed or approved grease duct system shall be provided for solid fuel cooking, exhaust systems that is four stories in height or greater.	<b>401.2 Ventilation required.</b> Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403.
Fire-Extinguishing Equipment	NFPA 96, Chapter 14.7.5: Listed fire-extinguishing equipment for solid fuel burning cooking appliances, where required, shall comply with Chapter 10 and shall be comprised of water-based agents.	<b>IFC 904.11 Commercial cooking systems.</b> The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. Other types of automatic fire-extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, its listing and the manufacturer's installation instructions. Automatic fire-extinguishing systems of the following types shall be installed in accordance with the referenced standard indicated, as follows: 1. Carbon dioxide extinguishing systems, NFPA 12. 2. Automatic sprinkler systems, NFPA 13. 3. Foam-water sprinkler system or foam-water spray systems, NFPA 16. 4. Dry-chemical extinguishing systems, NFPA 17.



Fire-Extinguishing Equipment	NFPA 96, Chapter 14.7.2: Where acceptable to the authority having jurisdiction, solid fuel-burning cooking appliances constructed of solid masonry or reinforced portland or refractory cement concrete and vented in accordance with Chapters 3 and 4 of NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances, shall not require fixed automatic fire-extinguishing equipment.	No equivalent language exists in the IMC or IFC.
Cleaning and Inspecting	NFPA 96, Chapter 14.8.1: The combustion chamber shall be scraped clean to its original surface once each week and shall be inspected for deterioration or defects.	<b>IFC 904.11.6.3 Cleaning.</b> Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded, and records shall state the extent, time and date of cleaning. Such records shall be maintained on the premises.
Storage	NFPA 96, Chapter 14.9.2.8: All fuel storage areas shall be provided with a sprinkler system meeting the requirements of NFPA 13, <i>Standard for the Installation of Sprinkler Systems</i> , and acceptable to the authority having jurisdiction.	No equivalent language exists in the IMC or IFC.
Storage	NFPA 96, Chapter 14.9.2 Solid Fuel Storage.	<p><b>IFC 315.1 General.</b> Storage, use and handling of miscellaneous combustible materials shall be in accordance with this section. A permit shall be obtained in accordance with Section 105.6.</p> <p><b>IFC 315.2 Storage in buildings.</b> Storage of combustible materials in buildings shall be orderly. Storage shall be separated from heaters or heating devices by distance or shielding so that ignition cannot occur.</p> <p><b>IFC 315.2.1 Ceiling clearance.</b> Storage shall be maintained 2 feet (610 mm) or more below the ceiling in nonsprinklered areas of buildings or a minimum of 18 inches (457 mm) below sprinkler head deflectors in sprinklered areas of buildings.</p> <p><b>IFC 315.2.2 Means of egress.</b> Combustible materials shall not be stored in exits or exit enclosures.</p> <p><b>IFC 315.2.3 Equipment rooms.</b> Combustible material shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms.</p> <p><b>IFC 315.2.4 Attic, under-floor and concealed spaces.</b> Attic, under-floor and concealed spaces used for storage of combustible materials shall be protected on the storage side as required for 1-hour fire-resistance-rated construction. Openings shall be protected by assemblies that are self-closing and are of noncombustible construction or solid wood core not less than 1.75 inches (44.5 mm) in thickness. Storage shall not be placed on exposed joists.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Areas protected by approved automatic sprinkler systems.</li> <li>2. Group R-3 and Group U occupancies.</li> </ol>

Handling and Ash Removal	Ash	NFPA 96, Chapter 14.9.3 Solid Fuel Handling and Ash Removal.	<p><b>IFC 305.2 Hot ashes and spontaneous ignition sources.</b> Hot ashes, cinders, smoldering coals or greasy or oily materials subject to spontaneous ignition shall not be deposited in a combustible receptacle, within 10 feet (3048 mm) of other combustible material including combustible walls and partitions or within 2 feet (610 mm) of openings to buildings.</p> <p><b>Exception:</b> The minimum required separation distance to other combustible materials shall be 2 feet (610 mm) where the material is deposited in a covered, noncombustible receptacle placed on a noncombustible floor, ground surface or stand.</p>
Handling and Ash Removal	Ash	NFPA 96, Chapter 14.9 Minimum Safety Requirements: Fuel Storage, Handling, and Ash Removal for Solid Fuel Cooking.	<p><b>IFC 315.1 General.</b> Storage, use and handling of miscellaneous combustible materials shall be in accordance with this section. A permit shall be obtained in accordance with Section 105.6.</p> <p><b>IFC 315.2 Storage in buildings.</b> Storage of combustible materials in buildings shall be orderly. Storage shall be separated from heaters or heating devices by distance or shielding so that ignition cannot occur.</p> <p><b>IFC 315.2.1 Ceiling clearance.</b> Storage shall be maintained 2 feet (610 mm) or more below the ceiling in nonsprinklered areas of buildings or a minimum of 18 inches (457 mm) below sprinkler head deflectors in sprinklered areas of buildings.</p> <p><b>IFC 315.2.2 Means of egress.</b> Combustible materials shall not be stored in exits or exit enclosures.</p> <p><b>IFC 315.2.3 Equipment rooms.</b> Combustible material shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms.</p> <p><b>IFC 315.2.4 Attic, under-floor and concealed spaces.</b> Attic, under-floor and concealed spaces used for storage of combustible materials shall be protected on the storage side as required for 1-hour fire-resistance-rated construction. Openings shall be protected by assemblies that are self-closing and are of noncombustible construction or solid wood core not less than 1.75 inches (44.5 mm) in thickness. Storage shall not be placed on exposed joists.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Areas protected by approved automatic sprinkler systems.</li> <li>2. Group R-3 and Group U occupancies.</li> </ol>

Other Safety Requirements	NFPA 96, Chapter 14.9.4.3 Site-Built Solid Fuel Cooking Appliances.	<b>IFC 303.7 Pit locations.</b> Appliances installed in pits or excavations shall not come in direct contact with the surrounding soil. The sides of the pit or excavation shall be held back a minimum of 12 inches (305 mm) from the appliance. Where the depth exceeds 12 inches (305 mm) below adjoining grade, the walls of the pit or excavation shall be lined with concrete or masonry. Such concrete or masonry shall extend a minimum of 4 inches (102 mm) above adjoining grade and shall have sufficient lateral load-bearing capacity to resist collapse. The appliance shall be protected from flooding in an approved manner.
Construction Requirements - Type I Hoods	NFPA 96, Chapter 5.1	
Construction Requirements - Type I Hoods	5.1.1 The hood shall be constructed of and be supported by steel not less than 1.09 mm (0.043 in.) (No. 18 MSG) in thickness, stainless steel not less than 0.94 mm (0.037 in.) (No. 20 MSG) in thickness, or other approved material of equivalent strength and fire and corrosion resistance.	<p>507.1 General. – Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> <li>1. Factory-built commercial exhaust hoods which are tested in accordance with UL710, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14 and 507.15.</li> <li>2. Factory-built commercial cooking recirculating systems which are tested in accordance with UL197, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14 and 507.15.</li> <li>3. Net exhaust volumes for hoods shall be permitted to be reduced during no-load cooking conditions, where engineered or listed multi-speed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this section.</li> </ol> <p><b>IFC [M] 610.1 General.</b> – Commercial kitchen exhaust hoods shall comply with the requirements of the <i>International Mechanical Code</i>.</p> <p>IFC [M] 610.2 Where required. – A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.</p>

<p>Construction Requirements - Type I Hoods</p>	<p>NFPA 96, Chapter 5.3.1  NFPA 96, Chapter 4.2.3.2 Where a clearance reduction system consisting of 0.69 mm (0.027 in.) (22-gauge) sheet metal on 25 mm (1 in.) mineral wool bats or ceramic fiber blanket reinforced with wire mesh or equivalent spaced out 25 mm (1 in.) on noncombustible spacers is provided, there shall be a minimum of 76 mm (3 in.) clearance to combustible material.</p>	<p>507.9 Clearances for Type I hood. – A Type I hood shall be installed with a clearance to combustibles of not less than 18 inches (457mm).</p> <p>Exception: 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 wallboard over an area extending not less than 18 inches (457mm) in all directions from the hood.</p>
<p>Construction Requirements – Thickness</p>	<p>NFPA 96, Chapter 5.1.1: The hood or that portion of a primary collection means designed for collecting cooking vapors and residues shall be constructed of and be supported by steel not less than 1.09 mm (0.043 in.) (No. 18 MSG) in thickness, stainless steel not less than 0.94 mm (0.037 in.) (No. 20 MSG) in thickness, or other approved material of equivalent strength and fire and corrosion resistance.</p>	<p>507.4 Type I materials. – Type I hoods shall be constructed of steel not less than 0.043 inch (1.09mm)(No.18MSG) I thickness, or stainless steel not less than 0.037 inch (0.94mm)(No.20MSG) in thickness.</p> <p>507.6 Supports. – Type I hoods shall be secured in place by noncombustible supports. All Type I and Type II hood supports shall be adequate for the applied load of the hood, the unsupported ductwork, the effluent loading, and the possible weight of personnel working in or on the hood.</p>
<p>Construction Requirements - External Welds</p> <p>Construction Requirements - Non-Compliant Penetrations</p> <p>Previous Penetrations</p>	<p>NFPA 96, Chapter 5.1.2: All seams, in the hood shall be liquidtight continuous external weld.</p>	<p>506.3.2 Joints, seams and penetrations of grease ducts. – Joints, seams and penetrations of grease ducts shall be made with a continuous liquid-tight weld or brazed made on the external surface of the duct system.</p>

<p>Construction Requirements Penetrations</p> <p>–</p>	<p>NFPA 96, Chapter 5.1.12: Devices that require penetration, shall be listed in accordance with UL 1978, <i>Standard for Safety Grease Ducts</i>.</p>	<p>507.7 Hood joints, seams and penetrations. – Hood joints, seams and penetrations shall comply with Sections 507.7.1 and 507.7.2.</p> <p>507.7.1 Type I hoods. – External hood joints, seams and penetrations for Type I hoods shall be made with a continuous external liquid-tight weld or braze to the lowest outermost perimeter of the hood. Internal hood joints, seams, penetrations, filter support frames, and other appendages attached inside the hood shall not be required to be welded or brazed but shall be otherwise sealed to be grease tight.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> <li>1. Penetrations shall not be required to be welded or brazed where sealed by devices that are listed for the application.</li> <li>2. Internal welding or brazing of seams, joints, and penetrations of the hood shall not be prohibited provided that the joint is formed smooth or ground so as to not trap grease, and is readily cleanable.</li> </ol> <p>507.7.2 Type II hoods. – Joints, seams and penetrations for Type II hoods shall be constructed as set forth in Chapter 6, shall be sealed on the interior of the hood and shall provide a smooth surface that is readily cleanable and water tight.</p>
<p>Construction Requirements Lighting</p> <p>–</p>	<p>NFPA 96, Chapter 9.2.3.1: Lighting shall be listed</p>	<p><b>304.1 General.</b> Equipment and appliances shall be installed as required by the terms of their approval, in accordance with the conditions of the listing, the manufacturer’s installation instructions and this code. Manufacturer’s installation instructions shall be available on the job site at the time of inspection.</p>
<p>Construction Requirements Dampers</p> <p>–</p>	<p>NFPA 96, Chapter 5.3.4 Fire Dampers</p>	

Construction Requirements - Non-Compliant Damper Link  Openings	NFPA 96, Chapter 7.3.4: Dampers shall be accessible for cleaning and inspection.	<b>506.3.8 Grease duct cleanouts and other openings.</b> Grease duct systems shall not have openings therein other than those required for proper operation and maintenance of the system. Any portion of such system having sections not provided with access from the duct entry or discharge shall be provided with cleanout openings. Cleanout openings shall be equipped with tight-fitting doors constructed of steel having a thickness not less than that required for the duct. Doors shall be equipped with a substantial method of latching, sufficient to hold the door tightly closed. Doors shall be designed so that they are operable without the use of a tool. Door assemblies, including any frames and gasketing, shall be approved for the purpose, and shall not have fasteners that penetrate the duct. Listed and labeled access door assemblies shall be installed in accordance with the terms of the listing.
Non-Typical/Specialty Hoods - Down Draft System	NFPA 96, Chapter 15.1	
Primary Filtration	NFPA 96, Chapter 11.1.2: Filter-equipped exhaust systems shall <u>not</u> be operated with filters removed.	<b>507.11 Grease filters.</b> Type I hoods shall be equipped with listed grease filters designed for the specific purpose. Grease-collecting equipment shall be provided with access for cleaning. The lowest edge of a grease filter located above the cooking surface shall be not less than the height specified in Table 507.11.  <b>507.11.1 Criteria.</b> Filters shall be of such size, type and arrangement as will permit the required quantity of air to pass through such units at rates not exceeding those for which the filter or unit was designed or approved.
Primary Filtration	NFPA 96, Chapter 6.2.3.4: Grease filters shall be easily accessible and removable for cleaning.	<b>507.11.1 Criteria.</b> Filter units shall be installed in frames or holders so as to be readily removable without the use of the separate tools, unless designed and installed to be cleaned in place and the system is equipped for such cleaning in place. Removable filter units shall be of a size that will allow them to be cleaned in a dishwashing machine or pot sink. Filter units shall be arranged in place or provided with drip-intercepting devices to prevent grease or other condensate from dripping into food or on food preparation surfaces.
Primary Filtration	NFPA 96, Chapter 6.2.3.5: Grease filters shall be installed at an angle not less than 45 degrees from the horizontal.	<b>507.11.2 Mounting position.</b> Filters shall be installed at an angle of not less than 45 degrees (0.79 rad) from the horizontal and shall be equipped with a drip tray beneath the lower edge of the filters.
Separation Distance	NFPA 96, Chapter 6.2.1.1 and 6.2.1.2	

Flue Bypass	NFPA 96, Chapter 6.2.1.3: For cooking equipment without exposed flame and where flue gases bypass grease removal devices, the minimum vertical distance shall be permitted to be reduced to not less than 152.4 mm (6 in.).	<p>Table 507.11</p> <p>Minimum Distance Between The Lowest Edge Of A Grease Filter And The Cooking Surface Or The Heating Surface</p> <table border="1" data-bbox="1209 277 1965 529"> <thead> <tr> <th>Type of Cooking Appliances</th> <th>Height Above Cooking Surface (feet)</th> </tr> </thead> <tbody> <tr> <td>Without exposed flame</td> <td>0.5</td> </tr> <tr> <td>Exposed flame and burners</td> <td>2</td> </tr> <tr> <td>Exposed charcoal and charbroil type</td> <td>3.5</td> </tr> </tbody> </table> <p>For SI: 1 foot = 304.8mm.</p>	Type of Cooking Appliances	Height Above Cooking Surface (feet)	Without exposed flame	0.5	Exposed flame and burners	2	Exposed charcoal and charbroil type	3.5
Type of Cooking Appliances	Height Above Cooking Surface (feet)									
Without exposed flame	0.5									
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Non-Compliant Filters	NFPA 96, Chapter 6.1.3: Mesh filters shall <u>not</u> be used.	<p><b>507.11 Grease filters.</b> Type I hoods shall be equipped with listed grease filters designed for the specific purpose. Grease-collecting equipment shall be provided with access for cleaning. The lowest edge of a grease filter located above the cooking surface shall be not less than the height specified in Table 507.11.</p> <p><b>507.11.1 Criteria.</b> Filters shall be of such size, type and arrangement as will permit the required quantity of air to pass through such units at rates not exceeding those for which the filter or unit was designed or approved.</p>								
Waterwash Hoods	NFPA 96, Chapter 5.4 Listed Hood Assemblies. Listed hood assemblies shall be installed in accordance with the terms of their listing and the manufacturer's instructions.	<p><b>507.1 General.</b> Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues.</p>								
Waterwash Maintenance Servicing – Frequency	NFPA 96, Chapter 11.2.1: An inspection and servicing of the fire-extinguishing system and listed exhaust hoods shall be made at least every 6 months	<p><b>IFC 904.11.6.4 Extinguishing system service.</b> Automatic fire-extinguishing systems shall be serviced at least every 6 months and after activation of the system. Inspection shall be by qualified individuals, and a certificate of inspection shall be forwarded to the fire code official upon completion.</p>								
Waterwash Maintenance Servicing Components –	NFPA 96, Chapter 11.2.2: All components shall be checked in accordance with the manufacturer's listed procedures.	<p><b>IFC 904.11.6.5 Fusible link and sprinkler head replacement.</b> Fusible links and automatic sprinkler heads shall be replaced at least annually, and other protection devices shall be serviced or replaced in accordance with the manufacturer's instructions.</p> <p><b>Exception:</b> Frangible bulbs are not required to be replaced annually.</p>								
Waterwash Maintenance	NFPA 96, Chapter 11.2.3: In addition to these requirements, the specific inspection requirements of the applicable NFPA standard shall also be followed.	No equivalent language exists in the IMC or IFC.								

Principle	NFPA 96, Chapter 7.1.1: Ducts shall <u>not</u> pass through firewalls.	<p><b>506.3.10 Grease duct enclosure.</b> A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the outlet terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the <i>International Building Code</i>. Ducts shall be enclosed in accordance with the <i>International Building Code</i> requirements for shaft construction. The duct enclosure shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings. Clearance from the duct to the interior surface of enclosures of combustible construction shall be not less than 18 inches (457 mm). Clearance from the duct to the interior surface of enclosures of noncombustible construction or gypsum wall board attached to noncombustible structures shall be not less than 6 inches (152 mm). The duct enclosure shall serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring or systems.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system classified in accordance with ASTM E 814 and having an “F” and “T” rating equal to the fire-resistance rating of the assembly being penetrated and where the surface of the duct is continuously covered on all sides from the point at which the duct penetrates a ceiling, wall or floor to the outlet terminal with a classified and labeled material, system, method of construction or product specifically evaluated for such purpose, in accordance with ASTM E 2336. Exposed ductwrap systems shall be protected where subject to physical damage.</li> <li>2. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system classified in accordance with ASTM E 814 and having an “F” and “T” rating equal to the fire resistance rating of the assembly being penetrated and where a prefabricated grease duct enclosure assembly is protected on all sides from the point at which the duct penetrates a ceiling, wall or floor to the outlet terminal with a classified and labeled prefabricated system specifically evaluated for such purposes in accordance with UL 2221.</li> <li>3. A duct enclosure shall not be required for a grease duct that penetrates only a nonfire-resistance-rated roof/ceiling assembly.</li> </ol>
Electrical Equipment	NFPA 96, Chapter 9.2.1: Wiring systems of any type shall <u>not</u> be installed in ducts.	<p><b>301.7 Electrical.</b> Electrical wiring, controls and connections to equipment and appliances regulated by this code shall be in accordance with the <i>ICC Electrical Code Administrative Provisions</i>.</p>



Dampers in Ducts	NFPA 96, Chapter 9.1.1: Dampers shall <u>not</u> be installed in exhaust ducts or exhaust duct systems.	No equivalent language exists in the IMC or IFC.
Dampers in Ducts	NFPA 96, Chapter 9.1.2: Where specifically listed for such use or where required as part of a listed device or system, dampers in exhaust ducts or exhaust duct systems shall be permitted.	<p><b>507.1 General.</b> Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues.</p> <p>Exceptions:</p> <p>2. Factory-built commercial cooking recirculating systems which are tested in accordance with UL197, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14 and 507.15.</p>

Standards	<p>NFPA 96, Chapter 7.1.4: All ducts shall be installed without forming dips or traps that might collect residues. In manifold (common duct) systems, the lowest end of the main duct shall be connected flush on the bottom with the branch duct.</p>	<p><b>506.3.2.2 Duct-to-hood joints.</b> Duct-to-hood joints shall be made with continuous internal or external liquid-tight welded or brazed joints. Such joints shall be smooth, accessible for inspection, and without grease traps.</p> <p>Exceptions: This section shall not apply to:</p> <ol style="list-style-type: none"> <li>1. A vertical duct-to-hood collar connection made in the top plane of the hood in accordance with all of the following: <ol style="list-style-type: none"> <li>1.1 The hood duct opening shall have a 1-inch-deep (25mm), full perimeter, welded flange turned down into the hood interior at an angle of 90 degrees from the plane of the opening.</li> <li>1.2 The duct shall have a 1-inch-deep (25mm) flange made by a 1-inch by 1-inch (25mm by 25mm) angle iron welded to the full perimeter of the duct not less than 1 inch (25mm) above the bottom end of the duct.</li> <li>1.3 A gasket rated for use at not less than 1,500°F (815°C) is installed between the duct flange and the top of the hood.</li> <li>1.4 The duct-to-hood joint shall be secured by stud bolts not less than 0.25 inch (6.4mm) in diameter welded to the hood with a spacing not greater than 4 inches (102mm) on center for the full perimeter of the opening. All bolts and nuts are to be secured with lock washers.</li> </ol> </li> <li>2. Listed and labeled duck-to-hood collar connections installed in accordance with Section 304.1.</li> </ol> <p>506.3.7 Prevention of grease accumulation in grease ducts. -.Duct systems serving a Type I hood shall be constructed and installed so that grease cannot collect in any portion thereof, and the system shall slope not less than one-fourth unit vertical in 12 units horizontal (2-percent slope) toward the hood or toward an approved grease reservoir. Where horizontal ducts exceed 75 feet (22 860 mm) in length, the slope shall not be less than one unit vertical in 12 units horizontal (8.3-percent slope).</p>
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Standards	NFPA 96, Chapter 7 Exhaust Duct Systems	<p><b>506.1 General.</b> Commercial kitchen hood ventilation ducts and exhaust equipment shall comply with the requirements of this section. Commercial kitchen grease ducts shall be designed for the type of cooking appliance and hood served. 506.2 Corrosion protection. – Ducts exposed to the outside atmosphere or subject to a corrosive environment shall be protected against corrosion in an approved manner.</p> <p><b>506.3 Ducts serving Type I hoods.</b> Type I exhaust ducts shall be independent of all other exhaust systems except as provided in Section 506.3.5. Commercial kitchen duct systems serving Type I hoods shall be designed, constructed and installed in accordance with Sections 506.3.1 through 506.3.12.3.</p> <p><b>506.3.1 Duct materials.</b> Ducts serving Type I hoods shall be constructed of materials in accordance with Sections 506.3.1.1 and 506.3.1.2.</p> <p><b>506.3.1.1 Grease duct materials.</b> Grease ducts serving Type I hoods shall be constructed of steel not less than 0.055 inch (1.4mm) (No. 16 Gage) in thickness or stainless steel not less than 0.044 inch (1.1mm) (No. 18 Gage) in thickness.</p> <p>Exception: Listed and labeled factory-built commercial kitchen grease ducts shall be installed in accordance with Section 304.1.</p> <p><b>506.3.1.2 Makeup air ducts.</b> Make up air ducts connecting to or within 18 inches (457 mm) of a Type I hood shall be constructed and installed in accordance with Sections 603.1, 603.3, 603.4, 603.9, 603.10 and 603.12. Duct insulation installed within 18 inches (457 mm) of a Type I hood shall be noncombustible or shall be listed for the application.</p>
Standards	NFPA 96, Chapter 7.2 Clearance. Clearance between ducts and combustible materials shall be provided in accordance with the requirements of Chapter 4.2.	<p><b>506.3.6 Grease duct clearances.</b> Grease ducts systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457mm), and shall have a clearance to non combustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches (76mm).</p>

Standards	NFPA 96, Chapter 7.3 Openings	
Standards		<b>506.3.11 Grease duct fire-resistive access opening.</b> Where cleanout openings are located in ducts within a fire-resistance-rated enclosure, access openings shall be provided in the enclosure at each cleanout point. Access openings shall be equipped with tight-fitting sliding or hinged doors that are equal in fire-resistive protection to that of the shaft or enclosure. An approved sign shall be placed on access opening panels with wording as follows: “ACCESS PANEL, DO NOT OBSTRUCT.”
Standards	NFPA 96, Chapter 7.5 7.5.1* Materials. Ducts shall be constructed of and supported by carbon steel not less than 1.37 mm (0.054 in.) (No. 16 MSG) in thickness or stainless steel not less than 1.09 mm (0.043 in.) (No. 18 MSG) in thickness.	<b>506.3.1.1 Grease duct materials.</b> Grease ducts serving Type I hoods shall be constructed of steel not less than 0.055 inch (1.4mm) (No. 16 Gage) in thickness or stainless steel not less than 0.044 inch (1.1mm) (No. 18 Gage) in thickness.  Exception: Listed and labeled factory-built commercial kitchen grease ducts shall be installed in accordance with Section 304.1.
Standards	NFPA 96, Chapter 7.5.2.1: All seams, shall have a liquidtight continuous external weld.	<b>506.3.2 Joints, seams and penetrations of grease ducts.</b> Joints, seams and penetrations of grease ducts shall be made with a continuous liquid-tight weld or brazed made on the external surface of the duct system.
Duct Connections	NFPA 96, Chapter 7.5.5.1: Acceptable duct-to-duct connection shall be as follows: (1) Telescoping joint as shown in Figure 7.5.5.1 (a) (2) Bell type joint as shown in Figure 7.5.5.1 (b) (3) Flange edge weld as shown in Figure 7.5.5.1 (c) (4) Flange filled weld as shown in Figure 7.5.5.1 (d)	<b>506.3.2.1 Duct joint types.</b> Duct joints shall be butt joints or overlapping duct joints of either the telescoping or bell type. Overlapping joints shall be installed to prevent ledges and obstructions from collecting grease or interfering with gravity drainage to the intended collection point. The difference between the inside cross-sectional dimensions of overlapping sections of duct shall not exceed 0.25 inch (6 mm). The length of overlap for overlapping duct joints shall not exceed 2 inches (51 mm).
Duct Connections - Bell Type	NFPA 96, Chapter 7.5.5.3: For telescoping and bell type connections, the inside duct section shall always be uphill of the outside duct section.	<b>506.3.2.1 Duct joint types.</b> Duct joints shall be butt joints or overlapping duct joints of either the telescoping or bell type. Overlapping joints shall be installed to prevent ledges and obstructions from collecting grease or interfering with gravity drainage to the intended collection point. The difference between the inside cross-sectional dimensions of overlapping sections of duct shall not exceed 0.25 inch (6 mm). The length of overlap for overlapping duct joints shall not exceed 2 inches (51 mm).

Duct Connections - Non-Compliant	NFPA 96, Section 7.5.5.2: Butt welded connections shall <u>not</u> be permitted.	<b>506.3.2.1 Duct joint types.</b> Duct joints shall be butt joints or overlapping duct joints of either the telescoping or bell type. Overlapping joints shall be installed to prevent ledges and obstructions from collecting grease or interfering with gravity drainage to the intended collection point. The difference between the inside cross-sectional dimensions of overlapping sections of duct shall not exceed 0.25 inch (6 mm). The length of overlap for overlapping duct joints shall not exceed 2 inches (51 mm).
Common Duct (Manifold) Systems	NFPA 96, Chapter 8.4.1*: Master kitchen exhaust ducts that serve multiple tenants shall include provision to bleed air from outdoors or from adjacent spaces into the master exhaust duct where required to maintain the necessary minimum air velocity in the master exhaust duct.	No equivalent language exists in the IMC or IFC.
Common Duct (Manifold) Systems	NFPA 96, Chapter 8.4.2	No equivalent language exists in the IMC or IFC.
Common Duct (Manifold) Systems	NFPA 96, Chapter 8.4.4: The bleed air duct shall have the same construction and clearance requirements as the main exhaust duct from the connection to the exhaust duct to at least 304.8 mm (12 in.) on both sides of the fire damper.	No equivalent language exists in the IMC or IFC.
Exterior Installations	NFPA 96, Chapter 7.6.1: The exterior portion of the ductwork shall be vertical wherever possible and shall be installed and supported on the exterior of a building.	No equivalent language exists in the IMC or IFC.
Exterior Installations	NFPA 96, Chapter 7.6.2: Bolts, screws, rivets, and other mechanical fasteners shall <u>not</u> penetrate duct walls.	<b>506.3.3 Grease duct supports.</b> Grease duct bracing and supports shall be of noncombustible material securely attached to the structure and designed to carry gravity and seismic loads within the stress limitations of the <i>International Building Code</i> . Bolts, screws, rivets and other mechanical fasteners shall not penetrate duct walls.
Exterior Installations	NFPA 96, Chapter 7.6.4: All ducts shall be protected on the exterior by paint or other suitable weather-protective coating.	<b>506.2 Corrosion protection.</b> Ducts exposed to the outside atmosphere or subject to a corrosive environment shall be protected against corrosion in an approved manner.
Signage	NFPA 96, Chapter 7.1.6: A sign shall be placed on all access panels stating the following: ACCESS PANEL - DO NOT OBSTRUCT	<b>506.3.11 Grease duct fire-resistive access opening.</b> Where cleanout openings are located in ducts within a fire-resistance-rated enclosure, access openings shall be provided in the enclosure at each cleanout point. Access openings shall be equipped with tight-fitting sliding or hinged doors that are equal in fire-resistive protection to that of the shaft or enclosure. An approved sign shall be placed on access opening panels with wording as follows: "ACCESS PANEL, DO NOT OBSTRUCT."

Openings	NFPA 96, Chapter 7.3.1: Openings shall be provided at the sides or at the top of the duct, whichever is more accessible, and at changes of direction.	<b>506.3.8 Grease duct cleanouts and other openings.</b> Grease duct systems shall not have openings therein other than those required for proper operation and maintenance of the system. Any portion of such system having sections not provided with access from the duct entry or discharge shall be provided with cleanout openings. Cleanout openings shall be equipped with a substantial method of latching, sufficient to hold the door tightly closed. Doors shall be designed so that they are operable without the use of a tool. Door assemblies, including any frames and gasketing, shall be approved for the purpose, and shall not have fasteners that penetrate the duct. Listed and labeled access door assemblies shall be installed in accordance with the terms of the listing.
Openings Utility Fans – Access	NFPA 96, Chapter 7.3.7: Exhaust fans with ductwork connected to both sides shall have access for cleaning and inspection within 0.92 m (3 ft) of each side of the fan.	No equivalent language exists in the IMC or IFC.

Openings	NFPA 96, Chapter 7.4.2.3: the edge of the opening shall be <u>not</u> less than 38.1 mm (1 1/2 in.) from outside edges of the duct or welded seams.	<p><b>506.3.9 Grease duct horizontal cleanouts.</b> Cleanouts located on horizontal sections of ducts shall be spaced not more than 20 feet (6096mm) apart.</p> <p>The cleanouts shall be located on the side of the duct with the opening not less than 1.5 inches (38mm) above the bottom of the duct, and not less than 1 inch (25mm) below the top of the duct.</p> <p>The opening minimum dimensions shall be 12 inches (305mm) on each side. Where the dimensions of the side of the duct prohibit the cleanout installation prescribed herein, the openings shall be on the top of the duct or the bottom of the duct.</p> <p>Where located on the top of the duct, the opening edges shall be a minimum of 1 inch (25mm) from the edges of the duct. Where located in the bottom of the duct, cleanout openings shall be a minimum of 1 inch (25mm) from the edges of the duct.</p> <p>Where located in the bottom of the duct, cleanout openings shall be designed to provide internal damming around the opening shall be provided with gasketing to preclude grease leakage, shall provide for drainage of grease down the duct around the dam and shall be approved for the application.</p> <p>Where the dimensions of the sides, top or bottom of the duct preclude the installation of the prescribed minimum-size cleanout opening the cleanout shall be located on the duct face that affords the largest opening dimension and shall be installed with the opening edges at the prescribed distances from the duct edges as previously set forth in this section.</p>
Horizontal Openings	<p><b>7.4.1.1</b> On horizontal ducts, at least one 508 mm by 508 mm (20in. by 20 in.) opening shall be provided for personnel entry.</p> <p><b>7.4.1.2</b> Where an opening of this size is not possible, openings large enough to permit thorough cleaning shall be provided at 3.7m (12ft) intervals.</p> <p><b>7.4.1.3</b> Supports systems for horizontal grease duct systems 609 mm (24 in.) and larger in any cross-sectional dimension shall be designed for the weight of the ductwork plus 363 kg (800 lb) at any point in the duct systems.</p>	<p><b>506.3.8.1 Personnel entry.</b> Where ductwork is large enough to allow entry of personnel, not less than one approved or listed opening having dimensions not less than 20 inches by 20 inches (508mm by 508mm) shall be provided in the horizontal sections, and in the top of vertical risers. Where such entry is provided, the duct and its supports shall be capable of supporting the additional load and the cleanouts specified in Section 506.3.8 are not required.</p>

Horizontal Duct Openings	NFPA 96, Chapter 7.4.1.2:	<b>506.3.9 Grease duct horizontal cleanouts.</b> Cleanouts located on horizontal sections of ducts shall be spaced not more than 20 feet (6096mm) apart. The cleanouts shall be located on the side of the duct with the opening not less than 1.5 inches (38mm) above the bottom of the duct, and not less than 1 inch (25mm) below the top of the duct. The opening minimum dimensions shall be 12 inches (305mm) on each side. Where the dimensions of the side of the duct prohibit the cleanout installation prescribed herein, the openings shall be on the top of the duct or the bottom of the duct. Where located on the top of the duct, the opening edges shall be a minimum of 1 inch (25mm) from the edges of the duct. Where located in the bottom of the duct, cleanout openings shall be a minimum of 1 inch (25mm) from the edges of the duct. Where located in the bottom of the duct, cleanout openings shall be designed to provide internal damming around the opening shall be provided with gasketing to preclude grease leakage, shall provide for drainage of grease down the duct around the dam and shall be approved for the application. Where the dimensions of the sides, top or bottom of the duct preclude the installation of the prescribed minimum-size cleanout opening the cleanout shall be located on the duct face that affords the largest opening dimension and shall be installed with the opening edges at the prescribed distances from the duct edges as previously set forth in this section.
Vertical Duct Openings	NFPA 96, Chapter 7.4.2.1: On vertical ductwork where personnel entry is possible, access shall be provided at the top of the vertical riser to accommodate descent.	No equivalent language exists in the IMC or IFC.
Access Panels	NFPA 96, Chapter 7.4.3.1: Access panels shall be of the same material and thickness as the duct.	<b>506.3.8 Grease duct cleanouts and other openings.</b> Grease duct systems shall not have openings therein other than those required for proper operation and maintenance of the system. Any portion of such system having sections not provided with access from the duct entry or discharge shall be provided with cleanout openings. Cleanout openings shall be equipped with a substantial method of latching, sufficient to hold the door tightly closed. Doors shall be designed so that they are operable without the use of a tool. Door assemblies, including any frames and gasketing, shall be approved for the purpose, and shall not have fasteners that penetrate the duct. Listed and labeled access door assemblies shall be installed in accordance with the terms of the listing.



Access Gasketing	NFPA 96, Chapter 7.4.3.2: Access panels shall have a gasket or sealant that is rated for 815.6°C (1500°F) and shall be greasetight.	<p><b>506.3.2.2 Duct-to-hood joints.</b> Duct-to-hood joints shall be made with continuous internal or external liquid-tight welded or brazed joints. Such joints shall be smooth, accessible for inspection, and without grease traps.</p> <p>Exceptions: This section shall not apply to:</p> <p>1.3 <u>A gasket rated for use at not less than 1,500°F (815°C)</u> is installed between the duct flange and the top of the hood.</p> <p><b>506.3.8 Grease duct cleanouts and other openings.</b> Grease duct systems shall not have openings therein other than those required for proper operation and maintenance of the system. Any portion of such system having sections not provided with access from the duct entry or discharge shall be provided with cleanout openings. Cleanout openings shall be equipped with a substantial method of latching, sufficient to hold the door tightly closed. Doors shall be designed so that they are operable without the use of a tool. Door assemblies, including any frames and gasketing, shall be approved for the purpose, and shall not have fasteners that penetrate the duct. Listed and labeled access door assemblies shall be installed in accordance with the terms of the listing.</p>
Access Fasteners	NFPA 96, Chapter 7.4.3.3: Fasteners, such as bolts, weld studs, latches, or wing nuts, used to secure the access panels shall be carbon steel or stainless steel and shall <u>not</u> penetrate duct walls.	<p><b>506.3.8 Grease duct cleanouts and other openings.</b> Grease duct systems shall not have openings therein other than those required for proper operation and maintenance of the system. Any portion of such system having sections not provided with access from the duct entry or discharge shall be provided with cleanout openings. Cleanout openings shall be equipped with a substantial method of latching, sufficient to hold the door tightly closed. Doors shall be designed so that they are operable without the use of a tool. Door assemblies, including any frames and gasketing, shall be approved for the purpose, and shall not have fasteners that penetrate the duct. Listed and labeled access door assemblies shall be installed in accordance with the terms of the listing.</p>

Listed Access Panels	NFPA 96, Chapter 7.4.3.4: Listed grease duct access door assemblies (access panels) shall be installed in accordance the manufacturers' instructions.	506.3.8 Grease duct cleanouts and other openings. – Grease duct systems shall not have openings therein other than those required for proper operation and maintenance of the system. Any portion of such system having sections not provided with access from the duct entry or discharge shall be provided with cleanout openings. Cleanout openings shall be equipped with a substantial method of latching, sufficient to hold the door tightly closed. Doors shall be designed so that they are operable without the use of a tool. Door assemblies, including any frames and gasketing, shall be approved for the purpose, and shall not have fasteners that penetrate the duct. Listed and labeled access door assemblies shall be installed in accordance with the terms of the listing.
General	NFPA 96, Chapter 7.8.1: The exhaust system shall terminate as follows: (1) *Outside the building with a fan or duct (2) Through the roof, or to the roof from outside, , or through a wall	506.3.12 Exhaust outlets serving Type I hoods. – Exhaust outlets for grease ducts serving Type I hoods shall conform to the requirements of Sections 506.3.12.1 through 506.3.12.3.
Fan Access	NFPA 96, Chapter A.7.8.2.2: Both types of fan terminations should be accessible as follows: (1) <i>Roof Top Terminations.</i> All roof exhaust fans (whether through the roof or to the roof from outside) should have ready access to all sides from a flat roof surface without a ladder, or they should be provided with safe access via built-in stairs or walkway or a portable ladder to a flat work surface on all sides of the fan ( <i>see 7.8.2</i> ). (2) <i>Wall Terminations.</i> All through-the-wall exhaust fans should have ready access from the ground from no more than a 2-m (6-ft) stepladder or should be provided with a flat work surface under the fan that allows for access to all sides of the fan, accessible from no more than a 6.0-m (20-ft) extension ladder ( <i>see 7.8.3</i> ).	506.3.12 Exhaust outlets serving Type I hoods. – Exhaust outlets for grease ducts serving Type I hoods shall conform to the requirements of Sections 506.3.12.1 through 506.3.12.3.  506.3.12.1 Termination above the roof. – Exhaust outlets that terminate above the roof shall have the discharge opening located not less than 40 inches (1016mm) above the roof surface.  506.3.12.2 Termination through an exterior wall. – Exhaust outlets shall be permitted to terminate through exterior walls where the smoke, grease, gases, vapors, and odors in the discharge from such terminations do not create a public nuisance or a fire hazard. Such terminations shall not be located where protected openings are required by the <i>International Building Code</i> . Other exterior openings shall not be located within 3 feet (914mm) of such terminations.  506.3.12.3 Termination location. – Exhaust outlets shall be located not less than 10 feet (3048mm) horizontally from parts of the same or contiguous buildings, adjacent property lines and air intake openings into any building and shall be located not less than 10 feet (3048mm) above the adjoining grade level.  Exception: Exhaust outlets shall terminate not less than 5 feet (1524mm) from an adjacent building, adjacent property line and air intake openings into a building where air from the exhaust outlet discharges away from such locations.

Fan Access	NFPA 96, Chapter 8.1.3.2: Fans installed within the building shall be located in an accessible area of adequate size to allow for service or removal.	<b>306.1 Clearances for maintenance and replacement.</b> Clearances around appliances to elements of permanent construction, including other installed equipment and appliances, shall be sufficient to allow inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire-resistance-rated assembly.
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Rooftop Clearance	Termination	<p>NFPA 96, Chapter 7.8.2.1 (Also see 8.1): Rooftop terminations shall be arranged with or provided with the following:</p> <p>(1) A minimum of 3.05 m (10 ft) of horizontal clearance from the outlet to adjacent buildings and air intakes.</p> <p>(2) A minimum of 1.5 m (5 ft) of horizontal clearance from the outlet (fan housing) to combustibles.</p> <p>(3) A vertical separation of 0.92 m (3 ft) below any exhaust outlets for air intakes within 3.05 m (10 ft) of the exhaust outlet.</p> <p>(4) The ability to drain grease out formed in the fan or duct near the termination of the system into a collection container that is noncombustible, closed, rainproof, structurally sound for the service to which it is applied, and will not sustain combustion.</p> <p>(5) A grease collection device that is applied to exhaust systems that does not inhibit the performance of any fan.</p> <p>(8) A hinged upblast fan supplied with flexible weatherproof electrical cable and service hold-open retainer to permit inspection and cleaning that is listed for commercial cooking equipment with the following conditions:</p> <p>(a) Where the fan attaches to the ductwork, the ductwork shall be a minimum of 0.46m (18 in.) away from any roof surface (b) The fan shall discharge a minimum of 1.02 m (40 in.) away from any rood surface</p>	<p>506.3.12 Exhaust outlets serving Type I hoods. – Exhaust outlets for grease ducts serving Type I hoods shall conform to the requirements of Chapters 506.3.12.1 through 506.3.12.3.</p> <p>506.3.12.1 Termination above the roof. – Exhaust outlets that terminate above the roof shall have the discharge opening located not less than 40 inches (1016mm) above the roof surface.</p> <p>506.3.12.2 Termination through an exterior wall. – Exhaust outlets shall be permitted to terminate through exterior walls where the smoke, grease, gases, vapors, and odors in the discharge from such terminations do not create a public nuisance or a fire hazard. Such terminations shall not be located where protected openings are required by the <i>International Building Code</i>. Other exterior openings shall not be located within 3 feet (914mm) of such terminations.</p> <p>506.3.12.3 Termination location. – Exhaust outlets shall be located not less than 10 feet (3048mm) horizontally from parts of the same or contiguous buildings, adjacent property lines and air intake openings into any building and shall be located not less than 10 feet (3048mm) above the adjoining grade level.</p> <p>Exception: Exhaust outlets shall terminate not less than 5 feet (1524mm) from an adjacent building, adjacent property line and air intake openings into a building where air from the exhaust outlet discharges away from such locations.</p> <p>506.5.5 Termination location. – The outlet of exhaust equipment serving Type I hoods, shall be in accordance with Section 506.3.12.3.</p> <p>Exception: The minimum horizontal distance between vertical discharge fans and parapet-type building structures shall be 2 feet (610mm) provided that such structures are not higher than the top of the fan discharge opening.</p> <p>506.5.2 Exhaust fan discharge. – Exhaust fans shall be positioned so that the discharge will not impinge on the roof, other equipment or appliances or parts of the structure. A vertical discharge fan shall be manufactured with an approved drain outlet at the lowest point of the housing to permit drainage of grease to an approved grease reservoir.</p>
Rooftop Clearance	Termination		
Rooftop Clearance	Termination		
Rooftop Clearance	Termination		
Rooftop Clearance	Termination		
Unsafe Fans		NFPA 96, Chapter 7.8 Termination of Exhaust System.	

Wall Termination Clearance Wall Grease Collection General Wall Termination Clearance	NFPA 96, Chapter 7.8.3: Wall Terminations. Wall terminations shall be arranged with or provided with the following properties: (1) Through a noncombustible wall with a minimum of 3.05 m (10 ft) of clearance from the outlet to buildings, any air intake or operable door or window at or below the plane of the exhaust termination.	506.3.12.2 Termination through an exterior wall. – Exhaust outlets shall be permitted to terminate through exterior walls where the smoke, grease, gases, vapors, and odors in the discharge from such terminations do not create a public nuisance or a fire hazard. Such terminations shall not be located where protected openings are required by the <i>International Building Code</i> . Other exterior openings shall not be located within 3 feet (914mm) of such terminations.  506.5.2 Exhaust fan discharge. – Exhaust fans shall be positioned so that the discharge will not impinge on the roof, other equipment or appliances or parts of the structure. A vertical discharge fan shall be manufactured with an approved drain outlet at the lowest point of the housing to permit drainage of grease to an approved grease reservoir.
General Requirements	NFPA 96, Chapter 8.1	506.5.1 Exhaust fans. – Exhaust fan housings serving a Type I hood shall be constructed as required for grease ducts in accordance with Section 506.3.1.1.
General Requirements - Exhaust Fan Operation	NFPA 96, Chapter 8.2.3.1: 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.	<b>IFC 904.3.3 System interlocking.</b> Automatic equipment interlocks with fuel shutoffs, ventilation controls, door closers, window shutters, conveyor openings, smoke and heat vents, and other features necessary for proper operation of the fire-extinguishing system shall be provided as required by the design and installation standard utilized for the hazard.
Upblast Fans	NFPA 96, Chapter 8.1.1.1: Approved upblast fans with motors surrounded by the airstream shall be hinged, supplied with flexible weatherproof electrical cable and service hold-open retainers, and listed for this use.	<b>506.5.1 Exhaust fans.</b> Exhaust fan housings serving a Type I hood shall be constructed as required for grease ducts in accordance with Section 506.3.1.1.  <b>Exception:</b> Fans listed and labeled in accordance with UL762.  <b>506.5.3 Exhaust fan mounting.</b> An upblast fan shall be hinged and supplied with a flexible weatherproof electrical cable to permit inspection and cleaning. The ductwork shall extend a minimum of 18 inches (457mm) above the roof surface.
Utility Fans – Access	NFPA 96, Chapter 8.1.3.6: Exhaust fans shall have a drain directed to a readily accessible and visible grease receptacle not to exceed 3.8 L (1 gal).	No equivalent language exists in the IMC or IFC.

In-Line Fans		<b>507.1 Fuel-burning appliances.</b> Liquid combustion by-products of condensing appliances shall be collected and discharged to an approved plumbing fixture or disposal area in accordance with the manufacturer's installation instructions. Condensate piping shall be of approved corrosion-resistant material and shall not be smaller than the drain connection on the appliance. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope).
In-Line Fans	NFPA 96, Chapter 8.1.2.2: In-line fans shall be connected to the exhaust duct by flanges securely bolted or by a system specifically listed for such use.	<b>506.3.2.3 Duct-to-exhaust fan connections.</b> Duct-to-exhaust fan connections shall be flanged and gasketed at the base of the fan for vertical discharge fans; shall be flanged, gasketed and bolted to the inlet of the fan for side-inlet utility fans; and shall be flanged, gasketed and bolted to the inlet and outlet of the fan for in-line fans.
In-Line Fans  Utility Fans - Non-Compliant	NFPA 96, Chapter 8.1.2.3: Flexible connectors shall <u>not</u> be used.	<b>506.3.2.4 Vibration isolation.</b> A vibration isolations connector for connecting a duct to a fan shall consist of noncombustible packing in a metal sleeve joint of approved design or shall be a coated-fabric flexible duct connector listed and labeled for the application. Vibration isolation connectors shall be installed only at the connection of a duct to a fan inlet or outlet.
Air Pollution Control Units (APCU)	NFPA 96, Chapter 9.3.1: Fume incinerators, thermal recovery units, air pollution control devices, or other devices shall be permitted to be installed in ducts or hoods or to be located in the path of travel of exhaust products where specifically approved for such use.	IMC does not cover Air Pollution Control Devices

Air Pollution Control Units (APCU)	NFPA 96, Chapter 9.3.3: Any equipment, listed or otherwise, shall be provided with an approved automatic fire-extinguishing system	<p><b>IFC 904.11 Commercial cooking systems.</b> The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. Other types of automatic fire-extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, its listing and the manufacturer's installation instructions. Automatic fire-extinguishing systems of the following types shall be installed in accordance with the referenced standard indicated, as follows:</p> <ol style="list-style-type: none"> <li>1. Carbon dioxide extinguishing systems, NFPA 12.</li> <li>2. Automatic sprinkler systems, NFPA 13.</li> <li>3. Foam-water sprinkler system or foam-water spray systems, NFPA 16.</li> <li>4. Dry-chemical extinguishing systems, NFPA 17.</li> </ol>
Downgrading	NFPA 96, Chapter 9.3.2: Downgrading other parts of the exhaust system due to the installation of these approved devices, whether listed or not, shall <u>not</u> be allowed.	<p><b>304.2 Conflicts.</b> Where conflicts between this code and the conditions of listing or the manufacturer's installation instructions occur, the provisions of this code shall apply.</p> <p><b>Exception:</b> Where a code provision is less restrictive than the conditions of the listing of the equipment or appliance or the manufacturer's installation instructions, the conditions of the listing and the manufacturer's installation instructions shall apply.</p>

Inspecting Exhaust Systems PAC Certification	NFPA 96, Chapter 11.3: Inspection of Exhaust Systems. The entire exhaust system shall be inspected by a properly trained, qualified, and certified company or person(s) acceptable to the authority having jurisdiction in accordance with Table 11.3.	<b>IFC 904.11.6.3 Cleaning.</b> Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded, and records shall state the extent, time and date of cleaning. Such records shall be maintained on the premises.
Inspecting Exhaust Systems	NFPA 96, Table 11.3.1 See Table	No equivalent language exists in the IMC or IFC.
Cleaning Exhaust Systems	NFPA 96, Chapter 11.4.1: Upon inspection, if found to be contaminated with deposits from grease-laden vapors, the entire exhaust system shall be cleaned by a properly trained, qualified, and certified company or person (s) acceptable to the authority having jurisdiction in accordance with Chapter 11.3.	507.8 Cleaning and grease gutters. – A hood shall be designed to provide for thorough cleaning of the entire hood. Grease gutters shall drain to an approved collection receptacle that is fabricated, designed and installed to allow access for cleaning.
Cleaning Exhaust Systems		
Certificate of Performance	NFPA 96, Chapter 11.4.13: After cleaning is completed, the vent cleaning contractor shall place or display within the kitchen area a label indicating the date cleaned and the name of the servicing company, and areas not cleaned.	
AHJ Notification	NFPA 96, Chapter 11.4.14: Where required, certificates of inspection and cleaning shall be submitted to the authority having jurisdiction.	
PAC Certification	NFPA 96, Chapter 11.4 Cleaning of Exhaust Systems.	
General Requirements	NFPA 96, Chapter 10.1.1: Listed fire-extinguishing equipment shall be provided.	<b>509.1 Where required.</b> Commercial cooking appliances required by Section 507.2.1 to have a Type I hood shall be provided with an approved automatic fire suppression system complying with the <i>International Building Code</i> and the <i>International Fire Code</i> .



General Requirements	NFPA 96, Chapter 10.2.3*: Fire-extinguishing systems shall comply with UL 300, <i>Standard for Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas</i> , or other equivalent standards and shall be installed in accordance with the requirements of the listing.	<b>904.11 Commercial cooking systems.</b> The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. Other types of automatic fire-extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, its listing and the manufacturer's installation instructions. Automatic fire-extinguishing systems of the following types shall be installed in accordance with the referenced standard indicated, as follows: 1. Carbon dioxide extinguishing systems, NFPA 12. 2. Automatic sprinkler systems, NFPA 13. 3. Foam-water sprinkler system or foam-water spray systems, NFPA 16. 4. Dry-chemical extinguishing systems, NFPA 17. 5. Wet-chemical extinguishing systems, NFPA 17A. <b>Exception:</b> Factory-built commercial cooking recirculating systems that are tested in accordance with UL 710B and listed, labeled and installed in accordance with Section 304.1 of the <i>International Mechanical Code</i> .
Simultaneous Operation	NFPA 96, Chapter 10.3.1: Fixed pipe extinguishing systems in a single hazard area (see Chapter 3.3 for the definition of single hazard area) shall be arranged for simultaneous automatic operation upon actuation of any one of the systems.	<b>904.3.2 Actuation.</b> Automatic fire-extinguishing systems shall be automatically actuated and provided with a manual means of actuation in accordance with Section 904.11.1.
Simultaneous Operation	NFPA 96, Chapter 10.3.2: Simultaneous operation shall not be required where the fixed pipe extinguishing system is an automatic sprinkler system.	No equivalent language exists in the IMC or IFC.
Single Hazard Area	NFPA 96, Chapter 3.3.41: Solvent. A substance (usually liquid) capable of dissolving or dispersing another substance; a chemical compound designed and used to convert solidified grease into a liquid or semi-liquid state in order to facilitate a cleaning operation.	No equivalent language exists in the IMC or IFC.
Locations That Require Protection	See NFPA 17A, Chapter 5.1.2	

System Annunciation	NFPA 96, Chapter 10.6.1: Upon activation of an automatic fire-extinguishing system, an audible alarm or visual indicator shall be provided to show that the system has activated.	<b>904.3.4 Alarms and warning signs.</b> Where alarms are required to indicate the operation of automatic fire-extinguishing systems, distinctive audible, visible alarms and warning signs shall be provided to warn of pending agent discharge. Where exposure to automatic-extinguishing agents poses a hazard to persons and a delay is required to ensure the evacuation of occupants before agent discharge, a separate warning signal shall be provided to alert occupants once agent discharge has begun. Audible signals shall be in accordance with Section 907.10.2.
System Annunciation System Annunciation	NFPA 96, Chapter 10.6.2: 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.	<b>904.3.5 Monitoring.</b> Where a building fire alarm system is installed, automatic fire-extinguishing systems shall be monitored by the building fire alarm system in accordance with NFPA 72.
Automatic Water Sprinklers	NFPA 96, Chapter 10.5.4: An automatic sprinkler system shall not require a manual means of system activation.	<b>904.11.1 Manual system operation.</b> A manual actuation device shall be located at or near a means of egress from the cooking area a minimum of 10 feet (3048 mm) and a maximum of 20 feet (6096 mm) from the kitchen exhaust system. The manual actuation device shall be installed not more than 48 inches (1200 mm) nor less than 42 inches (1067 mm) above the floor and shall clearly identify the hazard protected. The manual actuation shall require a maximum force of 40 pounds (178 N) and a maximum movement of 14 inches (356 mm) to actuate the fire suppression system. <b>Exception:</b> Automatic sprinkler systems shall not be required to be equipped with manual actuation means.
Portables - Second Line of Defense	NFPA 96, Chapter 10.2.1: Fire-extinguishing equipment shall include both automatic fire-extinguishing systems as primary protection and portable fire extinguishers as secondary backup.	<b>906.4 Cooking grease fires.</b> Fire extinguishers provided for the protection of cooking grease fires shall be of an approved type compatible with the automatic fire-extinguishing system agent and in accordance with Section 904.11.5.
Portables	NFPA 96, Chapter 10.10.1*: Portable fire extinguishers shall be installed in kitchen cooking areas in accordance with NFPA 10, <i>Standard for Portable Fire Extinguishers</i> , and shall be specifically listed for such use.	<b>906.4 Cooking grease fires.</b> Fire extinguishers provided for the protection of cooking grease fires shall be of an approved type compatible with the automatic fire-extinguishing system agent and in accordance with Section 904.11.5.

Detectors - Fusible Links Servicing - Link Replacement	NFPA 96, Chapter 11.2.4*: Fusible links (including fusible links on fire damper assemblies) and automatic sprinkler heads shall be replaced at least annually, or more frequently if necessary where required by the manufacturer.	<b>904.11.6.5 Fusible link and sprinkler head replacement.</b> Fusible links and automatic sprinkler heads shall be replaced at least annually, and other protection devices shall be serviced or replaced in accordance with the manufacturer's instructions. <b>Exception:</b> Frangible bulbs are not required to be replaced annually.
Detectors - Fusible Links	NFPA 96, Chapter 11.2.5: The year of manufacture and the date of installation of the fusible links shall be marked on the system inspection tag. The tag shall be signed or initialed by the installer.	<b>901.6.2 Records.</b> Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of three years and shall be copied to the fire code official upon request. <b>904.5.2 Fusible link maintenance.</b> Fixed temperature-sensing elements shall be maintained to ensure proper operation of the system.
Detectors - Fusible Links	NFPA 17A, Annex 7.3.3	
Non-Compliant EMT	NFPA 96, Chapter 11.2.6: Other detection devices <u>not</u> including fusible links and automatic sprinklers shall be serviced or replaced in accordance with the manufacturer's recommendations.	<b>901.6 Inspection, testing and maintenance.</b> Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Nonrequired fire protection systems and equipment shall be inspected, tested and maintained or removed.
Fuel Shutoff How A Fire-Extinguishing System Works	NFPA 96, Chapter 10.4.1: Upon activation of fire-extinguishing system all energy source shall be shut off..	<b>904.11.2 System interconnection.</b> The actuation of the fire extinguishing system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The fuel and electrical supply reset shall be manual.
Fuel Shutoff	NFPA 96, Chapter 10.4.4: Shutoff devices shall require manual reset.	<b>904.11.2 System interconnection.</b> The actuation of the fire extinguishing system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The fuel and electrical supply reset shall be manual.

Remote Manual Pull Stations	NFPA 96, Chapter 10.5.1: A readily accessible means for manual activation shall be located between 1067 mm and 1219 mm (42 in. and 48 in.) above the floor, be accessible in the event of a fire, be located in a path of egress, and clearly identify the hazard protected.	<b>904.11.1 Manual system operation.</b> A manual actuation device shall be located at or near a means of egress from the cooking area a minimum of 10 feet (3048 mm) and a maximum of 20 feet (6096 mm) from the kitchen exhaust system. The manual actuation device shall be installed not more than 48 inches (1200 mm) nor less than 42 inches (1067 mm) above the floor and shall clearly identify the hazard protected. The manual actuation shall require a maximum force of 40 pounds (178 N) and a maximum movement of 14 inches (356 mm) to actuate the fire suppression system. <b>Exception:</b> Automatic sprinkler systems shall not be required to be equipped with manual actuation means.
Installation Requirements	NFPA 96, Chapter 10.9.2.2: The installer shall provide certification that the system agreements with the listing	<b>901.2.1 Statement of compliance.</b> Before requesting final approval of the installation, where required by the fire code official, the installing contractor shall furnish a written statement to the fire code official that the subject fire protection system has been installed in accordance with approved plans and has been tested in accordance with the manufacturer's specifications and the appropriate installation standard. Any deviations from the design standards shall be noted and copies of the approvals for such deviations shall be attached to the written statement.
Review and Certification	NFPA 96, Chapter 10.9.1: System drawings shall be provided	<b>901.2 Construction documents.</b> The fire code official shall have the authority to require construction documents and calculations for all fire protection systems and to require permits be issued for the installation, rehabilitation or modification of any fire protection system. Construction documents for fire protection systems shall be submitted for review and approval prior to system installation.
Owner's Responsibilities	NFPA 17A, Chapter 7.2:	

<p>Servicing Components</p>	<p>- NFPA 17a Maintenance shall include the following:</p> <ol style="list-style-type: none"> <li>1) A check to see that the hazard has not changed</li> <li>2) An examination of all detectors, the expellant gas containers, the agent container, releasing devices, piping, hose assemblies, nozzles, signals, all auxiliary equipment, and the liquid level of all non-pressurized wet chemical containers.</li> <li>3) Verification that the agent distribution piping is not obstructed</li> </ol>	<p><b>901.6 Inspection, testing and maintenance.</b> Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Nonrequired fire protection systems and equipment shall be inspected, tested and maintained or removed.</p> <p><b>901.6.1 Standards.</b> Fire protection systems shall be inspected, tested and maintained in accordance with the referenced standards listed in Table 901.6.1.</p> <p><b>904.5 Wet-chemical systems.</b> Wet-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with NFPA 17A and their listing.</p> <p><b>904.5.1 System test.</b> Systems shall be inspected and tested for proper operation at 6-month intervals. Tests shall include a check of the detection system, alarms and releasing devices, including manual stations and other associated equipment. Extinguishing system units shall be weighed and the required amount of agent verified. Stored pressure- type units shall be checked for the required pressure. The cartridge of cartridge-operated units shall be weighed and replaced at intervals indicated by the manufacturer.</p> <p><b>904.5.2 Fusible link maintenance.</b> Fixed temperature-sensing elements shall be maintained to ensure proper operation of the system.</p>
<p>System Operation Appliance Operation</p>	<p>NFPA 96, Chapter 11.1.6: Cooking equipment shall <u>not</u> be operated while its fire-extinguishing system or exhaust system is nonoperational or otherwise impaired.</p>	<p><b>901.7 Systems out of service.</b> Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service.</p> <p>Where utilized, fire watches shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.</p> <p><b>904.11.6.4 Extinguishing system service.</b> Automatic fire-extinguishing systems shall be serviced at least every 6 months and after activation of the system. Inspection shall be by qualified individuals, and a certificate of inspection shall be forwarded to the fire code official upon completion.</p>

Servicing - Bulbs Links and Water Sprinklers	NFPA 96, Chapter 11.2.7: Where automatic bulb-type sprinklers or spray nozzles are used and annual examination shows no buildup of grease or other material on the sprinkler or spray nozzles, annual replacement shall <u>not</u> be required.	<p><b>904.11.6.5 Fusible link and sprinkler head replacement.</b> Fusible links and automatic sprinkler heads shall be replaced at least annually, and other protection devices shall be serviced or replaced in accordance with the manufacturer’s instructions.</p> <p><b>Exception:</b> Frangible bulbs are not required to be replaced annually.</p>
Servicing – Documentation	NFPA 96, Chapter 11.2.8: Certificates of inspection and maintenance shall be forwarded to the authority having jurisdiction.	<p><b>901.6.2 Records.</b> Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of three years and shall be copied to the fire code official upon request.</p> <p><b>904.11.6.4 Extinguishing system service.</b> Automatic fire-extinguishing systems shall be serviced at least every 6 months and after activation of the system. Inspection shall be by qualified individuals, and a certificate of inspection shall be forwarded to the fire code official upon completion.</p>