

**Report of the Committee on
Venting Systems for Cooking Appliances**

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Irina K. Rashfal, Intertek Testing Services, N.A., Inc., GA [RT]
Daniel P. Restelli, Underwriters Laboratories Inc., IL [RT]
Harry Schildkraut, Cini-Little Int'l, Inc., IL [SE]
Rep. Foodservice Consultants Society Int'l.
Christopher R. Schulz, Van-Packer Co., Inc., IL [M]
Emmanuel A. Sopeju, Underwriters' Laboratories of Canada, ON,
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Anthony J. Spata, McDonald's Corp., IL [U]
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James F. Valentine, Jr., James F. Valentine, Jr., Inc., NJ [SE]
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Rep. Nat'l Assn. of Food Equipment Mfrs. Assn.

Alternates

Frans S. Andrews, Commercial Vent Cleaning Co., Ltd., BC,
Canada [IM]
(Alt. to P. Ackland)
Tammy Lynn Bitting, Van-Packer Co., IL [M]
(Alt. to C. R. Schulz)
C. Douglas Burnett, Giles Enterprises, Inc., AL [M]
(Alt. to T. W. Giles)

Craig C. Campbell, Harleysville Insurance Co., PA [I]
(Alt. to S. F. Levin)
Leonard E. Griffes, NEVTEC Ltd., VT [M]
(Alt. to D. L. Griffes)
Harry P. Jones, Underwriters Laboratories Inc., IL [RT]
(Alt. to D. P. Restelli)
Fred E. Kahn, Guardian Power Cleaning of Dallas, Inc., TX [IM]
(Alt. to R. Leonard)
Richard Kukla, Robert Rippe & Assoc., MN [SE]
(Alt. to H. Schildkraut)

Nonvoting

Joseph F. Schulz, Van-Packer Products Inc., NJ [M]

Staff Liaison: **Christian Dubay**

Committee Scope: This Committee shall have primary responsibility for documents on fire safety in the design, installation, and use of exhaust systems (including hoods, grease removal devices, exhaust ducts, dampers, air-moving devices, and auxiliary equipment) for the removal of products of combustion, heat, grease, and vapors from cooking equipment, including the application of associated fire extinguishing systems.

This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the front of this book.

The Report of the Technical Committee on **Venting Systems for Cooking Appliances** is presented for adoption.

This Report was prepared by the **Technical Committee on Venting Systems for Cooking Appliances**, and proposes for adoption, amendments to NFPA 96, **Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations**, 1998 edition. NFPA 96-1998 is published in Volume 4 of the 2000 National Fire Codes and in separate pamphlet form.

This Report has been submitted to letter ballot of the **Technical Committee on Venting Systems for Cooking Appliances**, which consists of 30 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

(Log #21)

96- 1 - (Entire Document): Reject

SUBMITTER: David C. Marich, Craft Metal Products Inc.
RECOMMENDATION: 1) Commentary Sections - "Please accompany the code with commentary!"

It is always beneficial to those parties involved in the safe installation of commercial range hood systems to understand why a rule was formed. Some authorities having jurisdiction and other interpreters of the codes are faced with situations that are not always cut and dry, I believe individuals draw better conclusions and render more appropriate decisions when reasoning behind a certain code is stated.

2) Testing, Testing, Testing

SUBSTANTIATION: Craft Metal Products is a manufacturer of commercial quality kitchens in stainless steel. Our customers are commercial and noncommercial food service accounts. We provide a custom fit product that addresses the safety and comfort needs of the business owner, the employees and patrons, and the surrounding neighbors.

Our knowledge of today's codes has opened our eyes to many questionable installations. This can be attributed to the lack of education in our industry. Authorities Having Jurisdiction may not be sure how to interpret and enforce the codes. The installation company may be unaware or simply neglect today's stringent codes for various reasons. The group that pays the ultimate price is the end user customer. They blindly believe they paid for the latest technology to protect their business investment, and sadly, they are wrong.

As ethical contractors, we need to uphold the law. We must first know the law before we can uphold it though. Testing is the best way to prove knowledge. The test should be a true representative sample of this specialized field; a field that has evolved into one uniquely its own and apart from HVAC.

Hood installation contractors should not be allowed to install systems if they do not know what the rules are.

We need a test with 100 percent of the questions pertaining to range hood installations. We are specialists. Our test should represent that.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The submitter provided no recommended technical changes. The committee recommends that the submitter propose specific technical changes to areas of the standard.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #28)

96- 2 - (Entire Document): Reject

SUBMITTER: David C. Marich, Craft Metal Products Inc.
RECOMMENDATION: New section added to NFPA 96, Alternate Method for Hanging Hoods Rule:

Refer to drawing page: system installations. (Figure is shown on the following page.)

When penetrating hoods for hanging, Uni-strut or equal brackets shall be anchored independently to wood joist. The rod from which the hood is suspended shall not directly penetrate combustible and must contact only the noncombustible brackets. The rod shall be a minimum of 3/8 in. diameter and shall be "safety nutted" inside and outside the body of the hood. The rod shall be cap nutted in the interior of the hood.

SUBSTANTIATION: There are many cases where brackets are factory welded to the top of the hood and cannot be utilized due to space limitation when making final connections for hood hangs. This method allows for the direct penetration of the hood while eliminating direct anchoring or screwing into the combustible.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The proposed arrangement does not represent a listed assembly due to the penetration of the hood. Also see Committee Action on Proposal 96-23 (Log #CP5).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP1)

96- 3 - (Entire Document): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Editorially restructure entire document to comply with the NFPA Manual of Style.

SUBSTANTIATION: Editorial restructuring, to conform with the 2000 edition of the NFPA Manual of Style.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP2)

96- 4 - (1.1): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Reword 1.1.2 to read as follows:

"This standard shall apply to residential cooking equipment used for commercial cooking operations." Delete A.1.1.2 and relocate.

Reword 1.1.3 to read as follows:

"This standard shall not apply to cooking equipment located in a single dwelling unit."

New 1.1.4* to read as follows:

"This standard shall not apply to facilities where all of the following are met:

1. Only residential equipment is being used.
2. Facility is protected by automatic sprinklers in accordance with NFPA 13 or NFPA 13R.
3. Fire Extinguishers located in all kitchen areas in accordance with NFPA 10.
4. Facility is not an Assembly Occupancy.
5. Subject to the approval of the Authority Having Jurisdiction.

Add a new annex to Section 1.1.4 to read as follows: "Examples of these areas include employee break areas, church and meeting hall kitchens, therapy cooking facilities in health care and other areas where the frequency of use is limited and defined by the authority having jurisdiction."

SUBSTANTIATION: The Technical Committee wanted to further define the document scope as to proper application of the requirements of the standard.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP20)

96- 5 - (1-1): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Reword Section 1-1 to read as follows:

1.1 Scope.

1.1.1* This standard shall provides the minimum fire safety requirements (preventative and operative) related to the design, installation, operation, inspection, and maintenance of all public and private cooking operations.

1.1.2* This standard shall apply to residential cooking equipment where used for purposes other than residential family use.

1.1.3 This standard shall not apply to single family residential usage.

1.2 Purpose.

1.2.1 The purpose of this standard shall be to reduce the potential fire hazard of cooking operations, irrespective of the type of cooking equipment used and whether used in public or private facilities.

1.3 Application

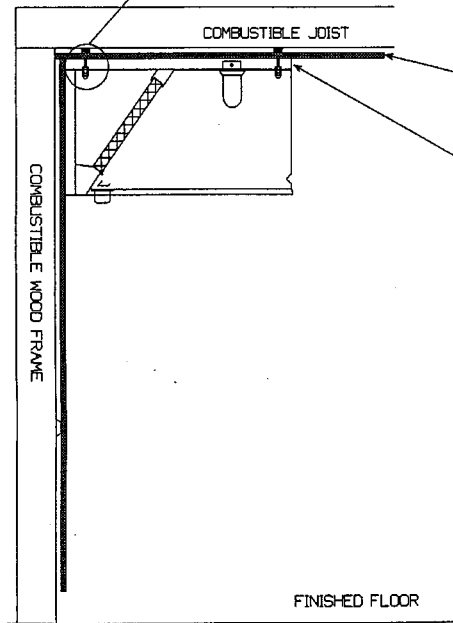
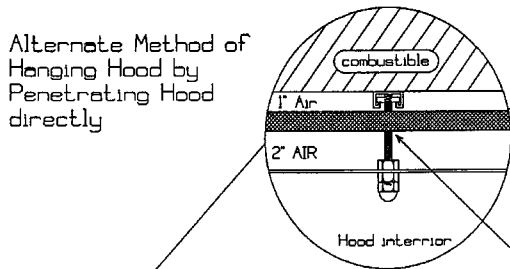
1.3.1* This standard shall be applied as a united whole

1.3.2 The authority having jurisdiction shall determine compliance with this standard and authorize equivalent deviations from it in all applications.

1.4 Retroactivity. The provisions of this Standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this Standard at the time the Standard was issued.

SIDE ELEVATION:

Alternate Method of Hanging Hood by Penetrating Hood directly



New Text

ALTERNATE METHOD OF HOOD HANGING:

When penetrating hoods for hanging, Uni-strut or equal brackets shall be anchored independently to wood joists. The rod from which the hood is suspended shall not directly penetrate combustible. The rod shall be a minimum of 3/8" in diameter and shall be "safety nutted" inside and outside the body of the hood. The rod shall be cap-nutted in the interior of the hood.

COMMENTARY:

There are many cases where brackets are factory welded to the top of the hood and cannot be utilized due to space limitations when making final connection.

Fire caulk penetration in panel.

Ceiling Panels

22 gauge galvanized or stainless insulated panels outside the hood zone meet the guidelines of NSF and are acceptable

NOTE:

Panels shall extend 18" beyond hood

2" standing filler enclosure satisfies minimum 1" air space requirement and allows for the placement of 1 1/2" vapor proof light junction box.

CRAFT METAL PRODUCTS INC.	
ONE INDUSTRIAL DRIVE SUGAR NOTCH, PA. 18706	
DRWN BY: David C. Merich	
DATE: 12-10-99	SCALE: NONE
DRAWING PAGE: System Installations	

Unless otherwise specified, the provisions of this Standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the Standard. Where specified, the provisions of this Standard shall be retroactive.

In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this Standard.

The retroactive requirements of this Standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

1.5 Equivalency. Nothing in this Standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this Standard. Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency. The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

A.1.1.1 These requirements include, but are not limited to, all manner of cooking equipment, exhaust hoods, grease removal devices, exhaust ductwork, exhaust fans, dampers, fire extinguishing equipment, and all other auxiliary or ancillary components or systems that are involved in the capture, containment, and control of grease-laden cooking effluent.

A.1.1.2 Examples include employee kitchens or break areas and church and meeting hall kitchens, regardless of the frequency of use. Because this standard cannot address specific installations, judgment should be made by the authority having jurisdiction.

A.1.3.1 This standard cannot provide safe design and operation if parts of it are not enforced or are arbitrarily deleted in any application.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #29)

96-6 - (1-1.1 Exception and Appendix (New)): Reject

SUBMITTER: Anthony G. Martino, Global Risk Consultants Corp.

RECOMMENDATION: Add an Exception and an Appendix as follows:

Exception: This standard doesn't apply to small self-contained electrically heated machines having a maximum oil reservoir of 5.3 gal (10 liter) of cooking oil and located in a building, room or area protected by automatic sprinklers or equivalent fire protection.

Appendix: These machines are typically used to make popcorn. A portable fire extinguisher with at least a 10-B:C rating should be located within 8 meters (26 feet) of the machine.

SUBSTANTIATION: The standard as written, pertains to commercial cooking operations that typically use grease hoods, grease removal devices, exhaust fans, etc., to capture and remove grease laden cooking effluent. Some authorities having jurisdiction are interpreting this standard to include small self contained units such as popcorn poppers, and are requiring that both an exhaust system and an automatic fire suppression system be installed. These small self contained units typically use 5 1/2 oz (156 g) of cooking oil for every 16 oz (954 g) of popcorn. The oil reservoir is typically a 5 gal (18.9 L) pail of cooking oil, usually coconut oil, F.P. 7400°F (204°C). In a protected environment, these units do not constitute a hazard and should be exempted from the standard.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The proposed wording is too general and could allow for small commercial cooking operations that are within the scope of NFPA 96. See Committee Action on Proposal 96-4 (Log #CP2).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP21)

96- 7 - (1-2): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber 1-2 to "Chapter 3 Definitions" and make the following changes to Section 1-2.

Appliance Flue Outlet. Move the sentence "There might or might not be ductwork attached to this opening." to the annex.

Automatic. Insert a new definition to read as follows: "Providing a function without the necessity of human intervention".

Classified. Products or materials of a specific group category that are constructed, inspected, tested, and subsequently reinspected in accordance with an established set of requirements. The classification process is performed by an organization acceptable to the authority having jurisdiction.

Closed Combustible Construction. Delete the terms "required protection per 1-3.2" and insert "is protected".

Combustible Material. Insert a new definition to read as follows: "A material capable of undergoing combustion".

Concealed Spaces. Delete the last sentence "Such spaces have sometimes been used as HVAC plenum chambers." from the definition.

Continuous Weld. Move the last sentence of the definition to the Annex.

Damper. A valve or plate for controlling draft or flow of gases including air.

Detection Devices. Delete the last sentence from the definition.

Change term "Fire Barrier Wall" to "Fire Wall. A wall separating buildings or subdividing a building to prevent the spread of fire and having a fire resistance rating and structural stability."

Fire Partition. Delete this term and its definition from Section 1-2.

Fire Resistance Rating. The time, in minutes or hours, that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials.

Fusible Link. Delete the last sentence from the definition.

Grease. Move the last sentence to the Annex.

Grease Filter. Move the last sentence to the Annex.

Change term "Grease Filter Mesh Type" to "Mesh Type Filter. A general purpose air filter not listed for or intended for grease applications." Move the last sentence to the Annex of current Section 3-1 and add a cross reference in the Annex for the definition to A.3.1.

High Limit Control. Reword the term and the definition to read as follows: High Limit Control Device. An operating device installed and serving as an integral component of a deep fat fryer, which provides secondary limitation of the grease temperature by automatically disconnecting the thermal energy input when the temperature limit is exceeded.

Limited Combustible Material. As applied to a material of construction, any material that does not meet the definition of noncombustible, as stated elsewhere in this section, and that, in the form in which it is used, has a potential heat value not exceeding 3,500 BTU lb (8141 kJ/kg) when tested in accordance with NFPA 259, Standard Test Method for Potential Heat of

Building Materials, and also meets one of the following subparagraphs (a) or (b).

(a) Materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of 1/8 in. (3.2 mm) that has a flame spread rating not greater than 50, when tested in accordance with NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials.

(b) Materials, in the form and thickness used and not described by (a) above, having neither a flame spread rating greater than 25 nor evidence of continued progressive combustion and having such composition that surfaces that would be exposed by cutting through the material in any plane have neither a flame spread rating greater than 25 nor evidence of continued progressive combustion, when tested in accordance with NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials. (NFPA 220, Standard on Types of Building Construction, Chapter 2.).

Noncombustible Material. Reword the definition to read as follows: "A material not capable of supporting combustion". Move the last sentence of the current definition to the Annex and change "shall" to "should".

Open Combustible Construction. Delete the terms "require protection per 1-3.2" and insert "is protected".

Solid Fuel Cooking Equipment. Reword the definition to read as follows: "Cooking equipment that utilizes solid fuel". Move the current last sentence of the definition to the Annex.

Termination. Change the term to "Duct Termination", the definition is to remain unchanged.

SUBSTANTIATION: Removal of enforceable language from definitions and to update existing terms to comply with the NFPA Glossary of Terms.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #30)

96- 8 - (1-2 Approved Appliances for 400°F Rated Hoods,

Approved Appliances for 600°F Rated Hoods, Approved

Appliances for 700°F Rated Hoods (New)): Reject

SUBMITTER: William T. Paduan, Greenheck Fan Corp.

RECOMMENDATION: Add new definitions to read as follows:

Approved Appliances for 400°F Rated Hoods:

(a) Ovens, to include but not be limited: convection, conveyORIZED, combi and pizza

(b) Food warmers, to include but not be limited to: steam tables, bain maries, and waterless type

(c) Ranges, to include but not be limited to: hot top, open top, stock pot and fry top

(d) Steam kettles, steamers and kettles

(c) Rotisserie

Approved Appliances for 600°F Rated Hoods:

(a) Fryers, to include but not be limited to: broaster, pressure and doughnut

(b) Griddle and grills

(c) Tilting brazing pans and tilting skillets

(d) Broilers, to include but not be limited to: infra red, upright, lava rock, ceramic, chain, gas radiant, and salamander

Approved Appliances for 700°F Rated Hoods:

(a) Chinese range, Chinese stove and wok

(b) Mesquite broiler

(c) Charcoal broiler

SUBSTANTIATION: Underwriters Laboratories test kitchen hoods under UL 710 standard. The hood tested can be granted a 400°F, 600°F or 700°F label based on the test conducted. These ratings are based on the appliances that they are to be utilized over. However, the code authority is not given any information on what type of appliances that belong under each of the different temperature rated hoods. The above charts or a slight variation of one would eliminate this problem.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: NFPA 96 currently does not address various temperature rated hoods which are currently outside the scope of NFPA 96.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

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(Log #CP4)

96- 9 - (1-2 Bleed Air Duct): Accept
SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances
RECOMMENDATION: Add a new definition as follows:
Bleed Air Duct. An intake duct in a manifold duct system, designed to input air to maintain system balance.
SUBSTANTIATION: The Technical Committee wanted to provide a definition for a term currently utilized within the standard.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #31)

96- 10 - (1-2 Class K Fires, Wet Chemical (New)): Reject
SUBMITTER: Paul O. Huston, Paul Huston & Associates
RECOMMENDATION: Add new definitions to read as follows:
Class K Fires. Fires in cooking appliances that involve combustible cooking media (vegetable/animal oils and fats).
Wet Chemical. Wet chemicals include, but are not limited to, aqueous solutions of potassium acetate, potassium carbonate, potassium citrate, or combinations of these materials.
SUBSTANTIATION: Definitions of Wet Chemical and Class K Fires are needed in NFPA 96 to help clarify to the user statements or requirements contained in the standard. The definitions are the same as the present paragraphs contained in NFPA 10, 1998. I believe adding the definition helps NFPA 96 become more user friendly. Wet chemical is becoming a widely used agent.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: NFPA 96 references NFPA 10 for portable extinguishers and NFPA 17A for wet chemicals. The technical committee wanted to ensure that the requirements for these systems remain within their respective documents.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #CP3)

96- 11 - (1-2 Confined Space): Accept
SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances
RECOMMENDATION: Add a new definition as follows:
Confined Space: A space whose volume is less than 50 cu ft/1000 Btu/hr (1.42 cu m/ 293 W) of the aggregate input rating of all appliances installed in that space. (from NFPA 211).
SUBSTANTIATION: The Technical Committee wanted to provide a definition for a term currently utilized within the standard.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #6)

96- 12 - (1-2 Factory Built Grease Duct Enclosures): Accept
SUBMITTER: Shawn Ray, Metal-Fab, Inc.
RECOMMENDATION: Revise text as follows:
A listed factory-built grease duct ~~enclosure~~ system evaluated as an enclosure system for reduced clearances to combustibles and as an alternative to a duct with its fire-rated enclosure.
SUBSTANTIATION: New text resolves two (2) problems:
1) Inconsistency of definitions when compared to "Field-Applied Grease Duct Enclosure."
2) Resolves potential misinterpretation that listed grease duct is also listed (as well as evaluated) for use as an alternative to a duct with its fire-rated enclosure.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #CP9)

96- 13 - (1-2 Fire Wall): Accept
SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances
RECOMMENDATION: Add new definition for Fire Wall to read as follows:
Fire Wall. A wall separating buildings or subdividing a building to prevent the spread of the fire and having a fire resistance rating and structural stability.
SUBSTANTIATION: Add a definition for a term used within the document.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #38)

96- 14 - (1-2 Fire-Extinguishing Equipment (New)): Accept in Principle
SUBMITTER: William Klingenmaier, Ansul Incorporated
RECOMMENDATION: Add the following definition:
Fire-Extinguishing Equipment. Fixed automatic fire extinguishing systems and portable fire extinguishers provided for the protection of grease removal devices, hoods, duct systems, and cooking equipment, and listed for such use.
SUBSTANTIATION: While 7-2.1 differentiates between primary and secondary protection, it does not define fire-extinguishing equipment. The definition should be included in the appropriate section (1-2).
COMMITTEE ACTION: Accept in Principle.
Editorial delete the the first word of the new definition "Fixed". Accept the remainder of the proposed material.
COMMITTEE STATEMENT: The committee agreed with the submitter but editorial removed the term "fixed"
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #39)

96- 15 - (1-2 Single Hazard Area): Accept
SUBMITTER: William Klingenmaier, Ansul Incorporated
RECOMMENDATION: Revise text as follows:
Single Hazard Area. Where two or more hazards can be simultaneously involved in fire by reason of their proximity. As considered in the applicable extinguishing system standard (see Section 7-2) or as determined by the authority having jurisdiction.
SUBSTANTIATION: 7-3 currently refers the reader to the definition of a "Single Hazard Area" in Definitions, and the definition refers the reader back to Section 7-2, which addresses various standards that can be referenced. One should not have to refer to another standard to obtain definitions required to understand the requirements of NFPA 96. The definition proposed is text partially taken from NFPA 17A (3-1.5). This definition is acceptable for all types of systems.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #CP22)

96- 16 - (1-3): Accept
SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances
RECOMMENDATION: Reword Section 1-3 to read as follows:
Chapter 4 General Requirements
4.1 General.
4.1.1 Cooking equipment used in processes producing smoke or grease-laden vapors shall be equipped with an exhaust system that complies with all the equipment and performance requirements of this standard.
4.1.2 All such equipment and performance shall be maintained in accordance with the requirements of this standard during all periods of operation of the cooking equipment.

4.1.3 The following equipment shall be kept in good working condition:

- (a) Cooking equipment
- (b) Hoods
- (c) Ducts (if applicable)
- (d) Fans
- (e) Fire extinguishing systems
- (f) Special effluent or energy control equipment

4.1.4 All airflows shall be maintained.

4.1.5 Maintenance and repairs shall be performed on all components at intervals necessary to maintain these conditions.

4.1.6* All solid fuel cooking equipment shall comply with the requirements of Chapter 11.

4.1.7 Multiple tenancy applications shall require the concerted cooperation of design, installation, operation, and maintenance responsibilities by tenants and by the building owner.

4.1.8 All interior surfaces of the exhaust system shall be accessible for cleaning and inspection purposes.

4.1.9* 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 unless all or part of the installation is exempted by the authority having jurisdiction.

4.2* Clearance.

4.2.1 Where enclosures are not required hoods, grease removal devices, exhaust fans and ducts 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.

4.2.2 Where hood, duct or grease removal device is listed for clearance less than those required in Section 4.2.1 the listing requirements shall be permitted.

4.2.3 Clearance Reduction.

4.2.3.1 Where a clearance reduction system consisting of 0.33 mm (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.

4.2.3.2 Where a clearance reduction systems 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.

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 re listed for the purpose of reducing clearance.

4.2.4 Clearance Integrity.

4.2.4.1 In the event of damage, the material or product shall be repaired and restored to meet its intended listing or clearance requirements and shall be acceptable to the authority having jurisdiction.

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.

4.2.4.3 The protection methods for ducts to reduce clearance shall be applied to the combustible or limited-combustible construction, not to the duct itself.

4.3 Field Applied and Factory Built Grease Duct Enclosures.

4.3.1 Field applied grease duct enclosures and factory-built grease duct enclosures shall be installed in accordance with the manufactures instructions and the listing requirements.

4.3.2 Field applied grease duct enclosures and factory-built grease duct enclosures shall demonstrate that they provide mechanical and structural integrity, resiliency, and stability when subjected to expected building environmental conditions, duct movement under general operating conditions, and duct movement due to fire conditions.

4.3.3 The specifications of material, gauge, and construction of the duct used in the testing and listing of field applied grease duct enclosures and factory-built grease duct enclosures shall be included as minimum requirements in their listing and installation documentation.

4.3.4 Clearance Options for Field Applied and Factory Built Grease Duct Enclosures.

4.3.4.1 The following clearance options for which field applied grease duct enclosures and factory-built grease duct enclosures

have been successfully evaluated shall be clearly identified in their listing and installation documentation and on their label.

a. Open combustible clearance at manufacturer's requested dimensions

b. Closed combustible clearance at manufacturer's requested dimensions, with or without specified ventilation

c. Rated shaft clearance at manufacturer's requested dimensions, with or without specified ventilation

4.4 Building and Structural Duct Contact.

4.4.1 A duct shall be permitted to contact noncombustible floors, interior walls, and other noncombustible structures or supports, but it shall not be in contact for more than 50 percent of its surface area per each lineal foot of contact length.

4.4.2 Where duct contact must exceed the requirements of Section 4.3.1, the duct shall be protected from corrosion due to this contact.

4.4.3 Where the duct is protected with a material or product listed for the purpose of reducing clearance to zero, the duct shall be permitted to exceed the contact limits of Section 4.3.1 without additional corrosion protection.

4.5 Duct Clearances to Enclosures. Clearances between the duct and interior surfaces of enclosures shall meet the requirements of Section (current 4-7.2.3).

4.6 Drawings. A drawing(s) of the exhaust system installation along with a copy of operating instructions for subassemblies and components used in the exhaust system, including electrical schematics, shall be kept on the premises.

4.7 Authority Having Jurisdiction Notification. If required by the authority having jurisdiction, notification in writing shall be given of any alteration, replacement, or relocation of any exhaust or extinguishing system or part thereof or cooking equipment.

A-4.1.6 When solid fuel is burned in cooking operations, increased quantities of carbon, creosote, and grease-laden vapors are produced that rapidly contaminate surfaces, produce airborne sparks and embers, and are subject to significant flare-ups. Also, solid fuel cooking requires fuel storage and handling and produces ash that requires disposal. For these reasons, solid fuel cooking operations should comply with Chapter 11.

A-4.1.9 The authority having jurisdiction might exempt temporary facilities, such as a tent, upon evaluation for compliance to the applicable portions of this standard.

Although it might not be practical to enforce all requirements of this standard in temporary facilities, the authority having jurisdiction should determine that all necessary provisions that impact on the personal safety of the occupants are considered.

A-4.2.4.2 The intent of this section is to maintain the systems and their function in accordance with the requirements of the edition of NFPA 96 that the system were designed and installed under.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #8)

96- 17 - (1-3.1 Exception (New)): Reject

SUBMITTER: Doug Claywell, Henny Penny Corp.

RECOMMENDATION: Add the following exception:

Exception: Cooking equipment, other than fryers, used in processes producing smoke or grease-laden vapors shall be exempt from this requirement if the measured grease discharge is less than the 5 mg/m³ as required in Paragraph 10-2.7(b) and referenced as EPA Test Method 202.

SUBSTANTIATION: Equipment that has been designed as both portable and to allow patrons to view the cooking process cannot be used as designed if the owners are required to install under an exhaust hood. Some commercial appliance emissions are below the current allowable limits of the exhaust hood. Therefore, the emission from these products is not improved by the inclusion of an exhaust hood.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Technical Committee believes that the proposed exception is too broad and allows for equipment which may require fire protection and ducting to be exempted from these requirements.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #20)

96-18 - (1-3.2.1 (New)) : Accept in Principle

SUBMITTER: David C. Marich, Craft Metal Products Inc.

RECOMMENDATION: New section added:

Insulated Panels - for construction refer to Section 1-3.2.1.
 Rule: The rear wall of the hood shall be protected with 22 gauge stainless steel insulated panel. The panel shall end at maximum of 6 in. above the finished floor. The panels shall be accompanied by reinforced 1 in. mineral wool backing on 1 in. noncombustible spacers. Spacers shall be anchored to the combustible surface. The panels shall be anchored to the 1 in. spacer.

SUBSTANTIATION: To retard the pyrophoric process, the panels are placed behind the equipment and down near the floor to protect the wood frame.

Stainless steel acts as a backplash to aid in cleaning wall surfaces of the splashed and condensed grease.

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-19 (Log #10).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #10)

96-19 - (1-3.2.1, 1-3.2.2) : Accept in Principle

SUBMITTER: Southern Regional Fire Code Dev. Committee

RECOMMENDATION: Add a new 1-3.2.2 to read:

1-3.2.2 Protection shall be provided between 18 in. below the cooking surface and the hood or duct system to the same level as required in 1-3.2.1.

SUBSTANTIATION: The clearance protection should be extended from the hood to a minimum of 18 in. below the cooking surface. Fire has spread to wall areas between the cooking surface and the hood systems; adequate safeguards need to be taken to reduce the risk of fire and fire spread.

COMMITTEE ACTION: Accept in Principle.

Reword proposed section to read as follows:

"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 1-3.2.1."

COMMITTEE STATEMENT: The committee agreed with the submitter but wanted to extend the protection of the floor to address the fire potential of extending from the floor behind the protection.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP23)

96-20 - (Chapter 2) : Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 2 to "Chapter 5 Hoods" and Reword the requirements of Chapter 2 to read as follows:

Chapter 5 Hoods

5.1 Construction.

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 0.043 in. (1.09 mm) (No. 18 MSG) in thickness, stainless steel not less than 0.037 in. (0.94 mm) (No. 20 MSG) in thickness, or other approved material of equivalent strength and fire and corrosion resistance.

5.1.2 All seams, joints, and penetrations of the hood enclosure that direct and capture grease-laden vapors and exhaust gases shall have a liquidtight continuous external weld to the hood's lower outermost perimeter.

5.1.3 Seams, joints, and penetrations of the hood shall be permitted to be internally welded, provided that the weld is formed smooth or ground smooth, so as to not trap grease, and is cleanable.

5.1.4* Internal hood joints, seams, filter support frames, and appurtenances attached inside the hood shall be sealed or otherwise made greasetight.

A.5.1.4 Welding is one acceptable method.

5.1.5 Penetrations shall be permitted to be sealed by devices that are listed for such use and whose presence does not detract from the hood's or duct's structural integrity.

5.1.6 Listed exhaust hoods with or without exhaust dampers shall be permitted to be constructed of materials required by the listing.

5.1.7 Listed exhaust hoods with or without exhaust dampers shall be permitted to be assembled in accordance with the listing requirements.

5.1.8 Eyebrow-type Hoods.

5.1.8.1 Eyebrow-type hoods over gas or electric ovens shall be permitted to have a duct constructed as required in Chapter 7 from the oven flue(s) connected to the hood canopy upstream of the exhaust plenum as shown in Figure 5.1.6.

5.1.8.2 The duct serving eyebrow-type hoods shall be connected to the hood with a continuous weld or have a duct-to-duct connection as shown in Figures (current 5-1.2.1 (b), (c), or (d)).

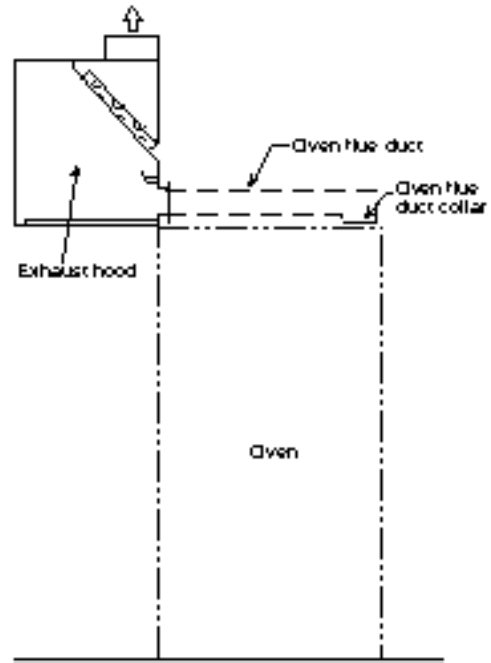


Figure 5.1.6 Typical section of eyebrow-type hood.

5.1.9 Insulation materials other than electrical insulation shall have a flame-spread rating of 25 or less when tested in accordance with UL 723, Standard for Test for Surface Burning Characteristics of Building Materials.

5.1.10 Adhesives or cements used in the installation of insulating materials shall comply with the requirements of Section 5.1.9, when tested with the specific insulating material.

5.2 Hood Size. Hoods shall be sized and configured to provide for the capture and removal of grease-laden vapors. (See 5-2.2.)

5.3 Exhaust Hood Assemblies with Integrated Supply Air Plenums.

5.3.1 The construction and size of exhaust hood assemblies with integrated supply air plenums comply with the requirements of Sections 5.1 and 5.2.

5.3.2 The construction of the outer shell or the inner exhaust shell shall comply with 5.1.

5.3.3 Where the outer shell is welded, the inner shell shall be of greasetight construction.

5.3.4* Fire Dampers. See Figure A-2-3.2.

5.3.4.1 A fire-actuated damper shall be installed in the supply air plenum at each point where a supply air duct inlet or a supply air outlet penetrates the continuously welded shell of the assembly.

5.3.4.2 The fire damper shall be listed for such use or be part of a listed exhaust hood with or without exhaust damper.

5.3.4.3 The actuation device shall have a maximum temperature rating of 286°F (141°C).

5.3.4.4 Supply air plenums that discharge air from the face rather than from the bottom or into the exhaust hood and that are isolated from the exhaust hood by the continuously welded shell extending to the lower outermost perimeter of the entire hood assembly shall not require a fire-actuated damper.

5.4 Listed Hood Assemblies. Listed hood assemblies shall be installed in accordance with the terms of their listing and the manufacturer's instructions.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #22)

96- 21 - (2-1.2 (New)): Reject

SUBMITTER: David C. Marich, Craft Metal Products Inc.

RECOMMENDATION: Add new text to read as follows:

Rule: Exhaust Hood shall contain a minimum of one removable grease tray and one removable grease receptacle not to exceed 1 US gallon, for ease of cleaning. Internal permanent/ fixed gutters or troughs that may collect grease running along the perimeter of the hood or near the filter bank shall not be permitted.

Note: Supporting material is available for review at NFPA Headquarters.

SUBSTANTIATION: None.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The submitter did not provide technical justification for the proposed change.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP12)

96- 22 - (2-1.2 Exception No. 2): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Reword the second sentence of the exception (new Section 5.1.6.2) to read as follows:

"The duct connecting the oven flue(s) to the hood canopy shall be connected with a continuous weld or have a duct to duct connection as shown in Figures (current 5-1.2.1(b), (c), (d)."

SUBSTANTIATION: The Technical Committee wanted to clarify that the requirements applied to the connection of the oven flues to the hood canopy.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP5)

96- 23 - (2-1.5 new add a new 4-5.2.2): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: New Section 2-1.4 to read as follows:

"Penetrations shall be sealed with listed devices in accordance with the requirements of Section 2-1.5."

New Section 2-1.5 to read as follows:

"Devices that require penetration of the hood, such as pipe and conduit penetration fittings, and fasteners shall be listed in accordance with UL 1978."

New Section 4-2.5.3 to read as follows:

"Devices that require penetration of the ductwork, such as pipe and conduit penetration fittings, and fasteners shall be listed in accordance with UL 1978."

New Section 4-5.2.2 to read as follows:

"Penetrations shall be sealed with listed devices in accordance with the requirements of Section 4-2.2.3."

SUBSTANTIATION: The Technical Committee wanted to address the use of attachment methods that effect the grease tight enclosure of the grease hood, to ensure that the performance is maintained.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP24)

96- 24 - (Chapter 3): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 3 to "Chapter 6 Grease Removal Devices in Hoods" and Reword the requirements of Chapter 3 to read as follows:

Chapter 6 Grease Removal Devices in Hoods

6.1 Grease Removal Devices

6.1.1 Listed grease filters, listed baffles, or other listed grease removal devices for use with commercial cooking equipment shall be provided.

6.1.2 Listed grease filters shall be tested in accordance with UL 1046, Grease Filters for Exhaust Ducts.

6.1.3 Mesh filters shall not be used.

6.2 Installation.

6.2.1 Separation Distance.

6.2.1.1 The distance between the grease removal device and the cooking surface shall be as great as possible but not less than 18 in. (457.2 mm).

6.2.1.2 Where grease removal devices are used in conjunction with charcoal or charcoal-type broilers, including gas or electrically heated char-broilers, a minimum vertical distance of 4 ft (1.22 m) shall be maintained between the lower edge of the grease removal device and the cooking surface.

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 6 in. (152.4 mm).

6.2.1.4 Grease removal devices supplied as part of listed hood assemblies shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

6.2.2 Grease Removal Device Protection.

6.2.2.1* Grease removal devices shall be protected from combustion gas outlets and from direct flame impingement occurring during normal operation of cooking appliances producing high flue gas temperatures, where the distance between the grease removal device and the appliance flue outlet (heat source) is less than 18 in. (457.2 mm).

6.2.2.2 This protection shall be permitted to be accomplished by the installation of a steel or stainless steel baffle plate between the heat source and the grease removal device.

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 18 in. (457.2 mm) from the heat source to the grease removal device.

6.2.2.4 The baffle shall be located not less than 6 in. (152.4 mm) from the grease removal devices.

6.2.3 Grease Filters.

6.2.3.1 Grease filters shall be listed and constructed of steel or listed equivalent material.

6.2.3.2 Grease filters shall be of rigid construction that will not distort or crush under normal operation, handling, and cleaning conditions.

6.2.3.3 Grease filters shall arranged so that all exhaust air shall pass through the grease filters.

6.2.3.4 Grease filters shall be easily accessible and removable for cleaning.

6.2.3.5 Grease filters shall be installed at an angle not less than 45 degrees from the horizontal.

6.2.4 Grease Drip Trays.

6.2.4.1 Grease filters shall be equipped with a grease drip tray beneath their lower edges.

6.2.4.2 Grease drip trays shall be kept to the minimum size needed to collect grease.

6.2.4.3 Grease drip trays shall be pitched to drain into an enclosed metal container having a capacity not exceeding 1 gal (3.785 L).

6.2.5 Grease Filter Orientation. Grease filters that require a specific orientation to drain grease shall be clearly so designated, or the hood shall be constructed so that filters cannot be installed in the wrong orientation.

A.6.2.2.1 Appliances which produce high flue gas temperatures include deep fat fryers or upright or high broilers and salamander broilers.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #CP15)

96-25 - (Chapter 4): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Add new material for 4-8.2.1 as follows:

- a) A minimum of 10 ft (3.05 m) of horizontal clearance from the outlet to adjacent buildings, property lines and air intake.
- b) A minimum of 5 ft of horizontal clearance from the outlet (fan housing) to any combustible structure.
- c) A vertical separation of 3 ft (0.92 m) below any exhaust outlets shall be required for air intakes within 10 ft of the exhaust outlet.
- e) 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.
- f) Where the fan attaches to the ductwork, the ductwork shall be a minimum of 18 inches away from any roof surface (see the following figure).
- g) The fan shall discharge a minimum of 40 inches away from any roof surface. [see Figure 4.8.2.1(g)].

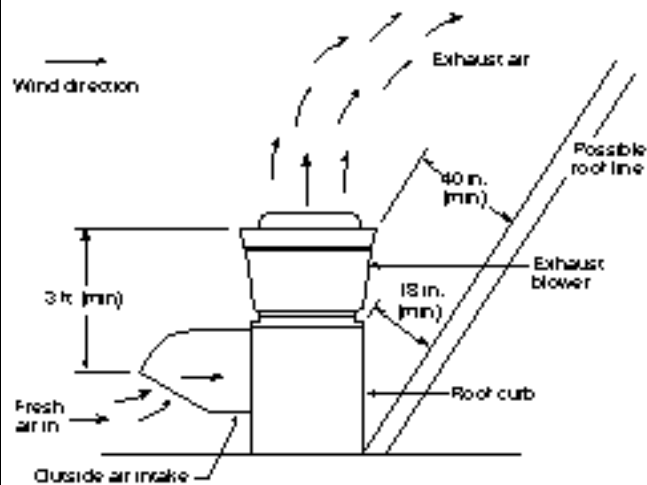


Figure 4.8.2.1(g).

SUBSTANTIATION: The Technical Committee wanted to clarify the requirements as they relate to roof top terminations.

COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #CP25)

96-26 - (Chapter 4): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 4 to "Chapter 7 Exhaust Duct Systems" and reword the requirements of Chapter 4 to read as follows:

Chapter 7 Exhaust Duct Systems

7.1 General.

- 7.1.1 Ducts shall not pass through fire walls.
- 7.1.2* All ducts shall lead directly to the exterior of the building, so as not to unduly increase any fire hazard.
- 7.1.3 Duct systems shall not be interconnected with any other building ventilation or exhaust system.
- 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.

7.1.5 Openings required for accessibility shall comply with Section 4.3.

7.1.6 A sign shall be placed on all access panels stating the following: ACCESS PANEL—DO NOT OBSTRUCT

7.1.7 Listed grease ducts shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

7.2 Clearance. Clearance between ducts and combustible materials shall be provided in accordance with the requirements of Section (currently 1-3.2).

7.3 Openings.

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.

7.3.2 Openings shall be protected by approved access constructed and installed in accordance with the requirements of Section (current 4-3.4.5).

7.3.3 Openings shall not be required in portions of the duct that are accessible from the duct entry or discharge.

7.3.4 For hoods with dampers in the exhaust or supply collar, an access panel for cleaning and inspection shall be provided in the duct or the hood collar within 457mm (18 in.) of the damper.

7.3.5 Dampers that are accessible from under the hood shall not require additional access for cleaning.

7.3.6 Exhaust fans with ductwork connected to both sides shall have access for cleaning and inspection within 3 ft (0.92 m) of each side of the fan.

7.4 Openings in Ducts. All openings shall comply with the requirements of Section 7.4.

7.4.1 Horizontal Ducts.

7.4.1.1 On horizontal ducts, at least one 20 in. by 20 in. (508 mm by 508 mm) opening shall be provided for personnel entry.

7.4.1.2 Horizontal ducting shall be secured to allow for the weight of personnel entry into the duct.

7.4.1.3 Where an opening meeting the requirements of Section 7.4.1.1 is not provided, openings large enough to permit thorough cleaning shall be provided at intervals not exceeding 12-ft (3.7-m).

7.4.1.4 On nonlisted ductwork, the edge of the opening shall be not less than 1 1/2 in. (38.1 mm) from all outside edges of the duct or welded seams.

7.4.2 Vertical Ducts.

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.

7.4.2.2 Where personnel entry is not possible, adequate access for cleaning shall be provided on each floor.

7.4.2.3 On nonlisted ductwork, the edge of the opening shall be not less than 1 1/2 in. (38.1 mm) from all outside edges of the duct or welded seams.

7.4.3 Access Panels.

7.4.3.1 Access panels shall be of the same material and thickness as the duct.

7.4.3.2 Access panels shall have a gasket or sealant that is rated for 1500°F (815.6°C) and shall be greasetight.

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 not penetrate duct walls.

7.4.3.4 Listed grease duct access door assemblies (access panels) shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

7.4.4 Protection of Openings.

7.4.4.1 Openings for installation, servicing, and inspection of listed fire protection system devices and for duct cleaning shall be provided in ducts and enclosures and shall conform to the requirements of Section (current 4-3.4 and 4-7.5).

7.4.4.2 Enclosure openings required to reach access panels in the ductwork shall be large enough for the removal of the access panel.

7.5 Other Grease Ducts. Other grease ducts shall comply with the requirements of Section 7.5..

7.5.1 Materials.

Ducts shall be constructed of and supported by carbon steel not less than 0.054 in. (1.37 mm) (No. 16 MSG) in thickness or stainless steel not less than 0.043 in. (1.09 mm) (No. 18 MSG) in thickness.

7.5.2 Installation.

7.5.2.1 All seams, joints, penetrations, and duct-to-hood collar connections shall have a liquidtight continuous external weld.

7.5.2.2 Duct-to-hood collar connections as shown in Figure 7.5.2.2 shall not require a liquidtight continuous external weld.

7.5.2.3 Penetrations shall be permitted to be sealed by other listed devices that are tested to be greasetight and are evaluated under the same conditions of fire severity as the hood or enclosure of

listed grease extractors and whose presence does not detract from the hood's or duct's structural integrity.
 7.5.2.4 Internal welding shall be permitted, provided the joint is formed or ground smooth and is readily accessible for inspection.

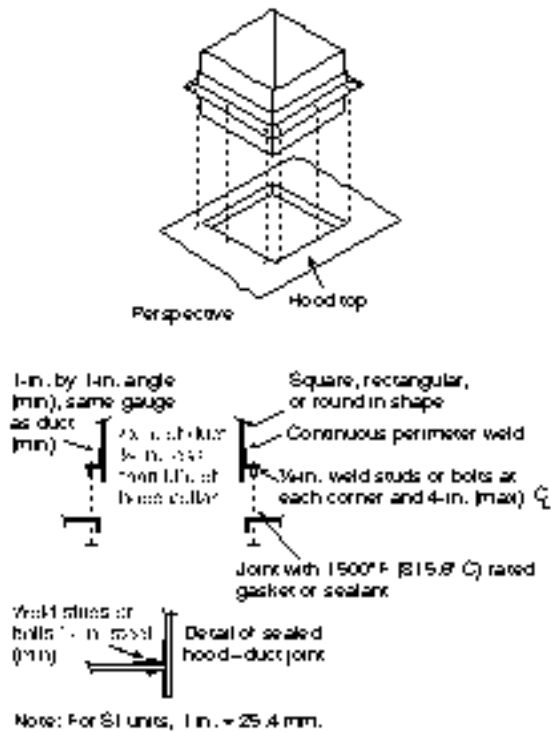


Figure 7.5.2.2 Permitted duct-to-hood collar connection.

- 7.5.3 Overlapping Duct Connections.
 7.5.3.1 Overlapping duct connections of either the telescoping or the bell type shall be used for welded field joints.
 7.5.3.2 Butt welded connections shall not be permitted.
 7.5.3.3 The inside duct section shall always be uphill of the outside duct section.
 7.5.3.4 The difference between inside dimensions of overlapping sections shall not exceed 1/4 in. (6.4 mm).
 7.5.3.5 The overlap shall not exceed 2 in. (50.8 mm). (See Figure 7.5.3.5)
 7.6 Exterior Installations.
 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.
 7.6.2 Bolts, screws, rivets, and other mechanical fasteners shall not penetrate duct walls.
 7.6.3 Clearance of any ducts shall comply with Section (current 1-3.2).
 7.6.4 All ducts shall be protected on the exterior by paint or other suitable weather-protective coating.
 7.6.5 Ducts constructed of stainless steel shall not be required to have additional paint or weather protective coatings.
 7.6.6 Ductwork subject to corrosion shall have minimal contact with the building surface.
 7.7 Interior Installations.
 7.7.1 Duct Enclosures.
 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.
 7.7.1.2 In all buildings more than one story in height, and in one-story buildings where the roof-ceiling assembly is required to have a fire resistance rating, the ducts shall be enclosed in a continuous enclosure extending from the lowest fire-rated ceiling or floor above the hood, through any concealed spaces, to or through the roof so as to maintain the integrity of the fire separations required by the applicable building code provisions.

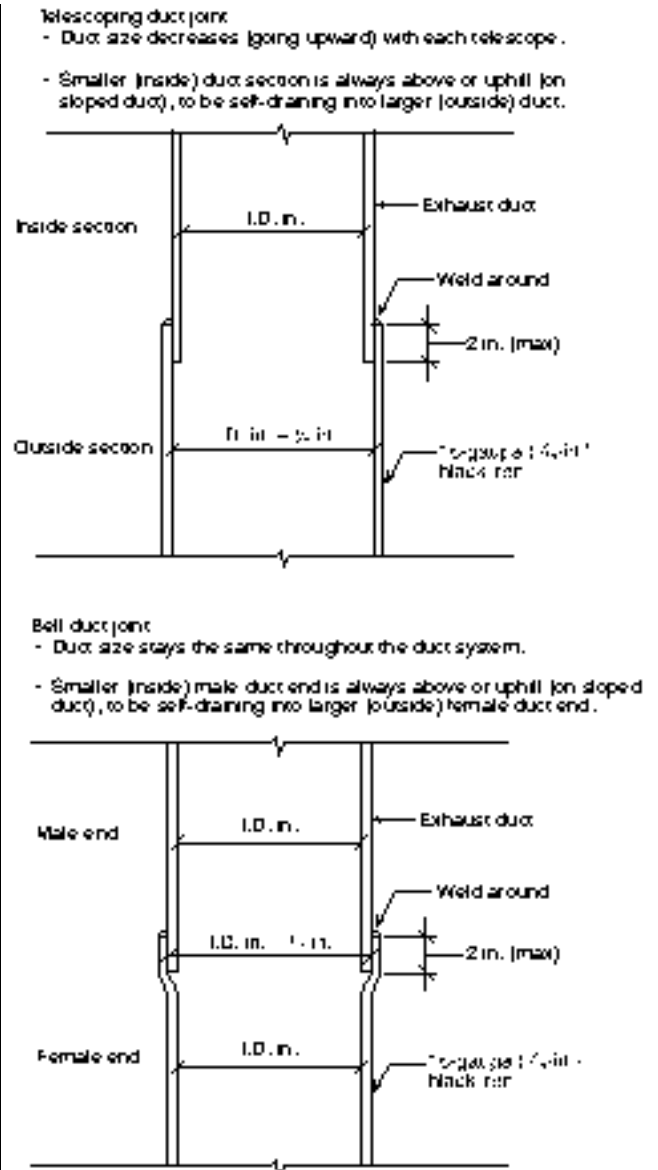


Figure 7.5.3.5 Telescoping and bell-type duct connections.

- 7.7.1.3 The enclosure shall be sealed around the duct at the point of penetration of the first fire-rated barrier after the hood in order to maintain the fire resistance rating of the enclosure.
 7.7.1.4 The enclosure shall be vented to the exterior of the building through weather-protected openings.
 7.7.1.5 The continuous enclosure provisions shall not be required where a field applied grease duct enclosure or a factory-built grease duct enclosure (see 1-3.2.3) is protected with a listed duct-through-penetration protection system equivalent to the fire resistance rating of the assembly being penetrated and the materials are installed in accordance with the conditions of the listing and the manufacturer's instructions and are acceptable to the authority having jurisdiction.
 7.7.2 Enclosure Fire Resistance Rating and Enclosure Clearance.
 7.7.2.1 Fire Resistance Rating
 7.7.2.1.1 Buildings less than four stories in height, shall have an enclosure with a fire resistance rating of not less than 1 hour.
 7.7.2.1.2 Buildings four stories or more in height, shall have enclosure with a fire resistance rating of not less than 2 hours.
 7.7.2.2* Enclosure Clearance.
 7.7.2.2.1 Clearance from the duct or the exhaust fan to the interior surface of enclosures of combustible construction shall be not less than 18 in. (457.2 mm).
 7.7.2.2.2 Clearance from the duct to the interior surface of enclosures of noncombustible or limited-combustible construction shall be not less than 6 in. (152.4 mm).

7.7.2.2.3 Provisions for reducing clearances as described in Section (current 1-3.2) shall not be applicable to enclosures.
 7.7.2.2.4 Clearance from the outer surfaces of field applied grease duct enclosures and factory-built grease duct enclosures to the interior surfaces of construction installed around them shall be permitted to be reduced where the field applied grease duct enclosure materials and factory-built grease duct enclosures are installed in accordance with the conditions of the listing and manufacturer's instructions and are acceptable to the authority having jurisdiction.
 7.7.2.2.5 Field applied grease duct enclosures and factory-built grease duct enclosures shall provide mechanical and structural integrity, resiliency, and stability when subjected to expected building environmental conditions, duct movement under general operating conditions, and duct movement due to interior and exterior fire conditions.

7.7.3 Protection of Coverings and Enclosure Materials.
 7.7.3.1 Measures shall be taken to prevent physical damage to any covering or enclosure material.
 7.7.3.2 Any damage to the covering or enclosure shall be repaired and the covering or enclosure restored to meet its intended listing and fire-resistive rating and to be acceptable to the authority having jurisdiction.

7.7.3.3 In the event of a fire within a kitchen exhaust system, the duct, the enclosure, or the covering directly applied to the duct shall be inspected by qualified personnel to determine whether the duct, the enclosure, and the covering directly applied to the duct are structurally sound, capable of maintaining their fire protection functions, suitable for continued operation, and acceptable to the authority having jurisdiction.
 7.7.3.4 Listed grease ducts shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

7.7.4 Enclosure Openings.
 7.7.4.1 Where openings in the enclosure walls are provided, they shall be protected by listed fire doors of proper rating.
 7.7.4.2 Fire doors shall be installed in accordance with NFPA 80, Standard for Fire Doors and Fire Windows.
 7.7.4.3 Openings on other listed materials or products shall be clearly identified and labeled according to the terms of the listing and the manufacturer's instructions and shall be acceptable to the authority having jurisdiction.
 7.7.4.4 The doors shall be readily accessible.

7.7.5 Ducts with Enclosure(s).
 7.7.5.1 Each duct system shall constitute an individual system serving only exhaust hoods in one fire zone on one floor.
 7.7.5.2 Multiple ducts shall not be permitted in a single enclosure unless acceptable to the authority having jurisdiction.

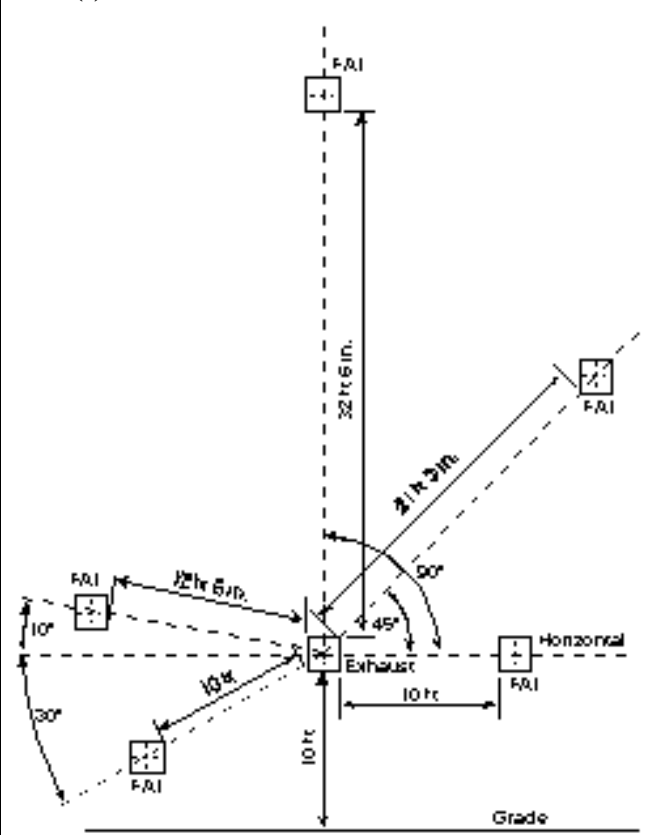
7.8* Termination of Exhaust System.
 7.8.1 The exhaust system shall terminate as follows:
 (a)* Outside the building with a fan or duct
 (b) Through the roof, or to the roof from outside, as in 4-8.2, or through a wall, as in 4-8.3

7.8.2 Rooftop Terminations.
 7.8.2.1 Rooftop terminations shall be arranged with or provided with the following:

- (a) A minimum of 10 ft (3.05 m) of clearance from the outlet to adjacent buildings, property lines, and air intakes.
- (b) Where space limitations prevent a 10-ft (3.05-m) horizontal separation from an air intake, a vertical separation shall be permitted, with the exhaust outlet being a minimum of 3 ft (0.92 m) above any air intake located within 10 ft (3.05 m) horizontally.
- (c) The exhaust flow directed up and away from the surface of the roof and a minimum of 40 in. (1.02 m) above the roof surface
- (d) The ability to drain grease out of any traps or low points 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.
- (e) A grease collection device that is applied to exhaust systems shall not inhibit the performance of any fan.
- (f) Listed grease containers shall be permitted where they meet the requirements of Section 7.8.2.1(d) and 7.8.2.1(e).
- (g) A listed grease duct complying with Section 4-4, or with ductwork complying with Section 4-5
- (h) 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, provided the ductwork extends a minimum of 18 in. (457.2 mm) above the roof surface and the fan discharges a minimum of 40 in. (1.02 m) above the roof surface (see 5-1.1)
- (i) Other approved fan, provided (1) it meets the requirements of 4-8.2.1(c) and 5-1.3 and (2) its discharge or its extended duct discharge meets the requirements of 4-8.2.1(b). (See 5-1.3.)

7.8.2.2* Fans shall be provided with safe access and a work surface for inspection and cleaning.
 7.8.3 Wall Terminations.
 7.8.3.1 Wall terminations shall be arranged with or provided with the following properties:

- (a) Through a noncombustible wall with a minimum of 10 ft (3.05 m) of clearance from the outlet to adjacent buildings, property lines, grade level, combustible construction, electrical equipment or lines, and the closest point of any air intake or operable door or window at or below the plane of the exhaust termination.
- (b) The closest point of any air intake or operable door or window above the plane of the exhaust termination shall be a minimum of 10 ft (3.05 m) distant, plus 0.25 ft (0.076 m) for each 1 degree from horizontal, the angle of degree being measured from the center of the exhaust termination to the center of the air intake or operable door or window as indicated in Figure 7.8.3.1(b).
- (c) A wall termination in a secured area shall be permitted to be at a lower height above grade if acceptable to the authority having jurisdiction.
- (d) The exhaust flow directed perpendicularly outward from the wall face or upward
- (e) All the ductwork pitched to drain the grease back into the hood(s), or with a drain provided to bring the grease back into a container within the building or into a remote grease trap
- (f) A listed grease duct complying with Section 7.4, or other ducts complying with Section 7.5
- (g) An approved fan, provided it meets the requirements of 7.8.3.1(e) and Section 8.1.1 or 8.1.3.



Fresh air intake (FAI) applies to any air intake, including an operable door or window.
 Example:
 FAI in same plane as exhaust or lower: 10 ft (min) between closest edges.
 FAI above plane of exhaust: 10 ft + 0.25 ft per degree between closest edges
 Note: For SI units, 1 ft = 0.305 m.

Figure 7.8.3.1(b) Exhaust termination distance from fresh air intake (FAI) or operable door or window.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #CP7)

96- 27 - (4-3.2 Exception): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Delete the exception to 4.3.2. In addition, in 4-3.2, first sentence, delete the last word "collar".

SUBSTANTIATION: The Technical Committee wanted to clarify that dampers completely accessible from below require no additional access. However, dampers that are not completely accessible from below require additional access for cleaning.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #40)

96- 28 - (4-3.2.1 (New)): Accept in Principle

SUBMITTER: William Kligenmaier, Anslu Incorporated

RECOMMENDATION: Add the following text:

4-3.2.1 For common exhaust duct systems, access panels shall be provided for installation and servicing of the fire-extinguishing system. Access panel openings shall be provided at the sides or at the top of the common exhaust duct at each branch duct connection, or at the sides or at the top of each branch duct connection to the common exhaust duct.

Exception: Openings shall not be required in portions of the common exhaust duct or branch duct that are accessible from the branch duct connection to the exhaust hood.

SUBSTANTIATION: NFPA 17A requires common exhaust duct fire protection. However, access to the common exhaust duct for fire-extinguishing system installation and maintenance is generally very difficult to impossible. Often, access openings have to be cut into the ductwork in the field.

Exception Substantiation: Some common exhaust ducts are installed directly above the exhaust hood with exhaust duct connections immediately at the top of the hood, or within a short distance from the hood, with one or more short exhaust branch risers. In either case, access to the fire-extinguishing system may be possible through the exhaust hood/duct connection.

COMMITTEE ACTION: Accept in Principle.

Editorially delete the term "Exception" and reword the exception text as a requirement to conform with the Manual of Style.

Delete the second sentence of the proposed material. The first sentence and the exception are to remain.

COMMITTEE STATEMENT: The committee agreed with the submitter but wanted to clarify that access is to be provided the additional text was not required as it is already covered in other portions of Chapter 4.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #CP13)

96- 29 - (4-3.4.1): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Reword 4.3.4.1 to read as follows:

"Horizontal ducting support systems shall be designed for the weight of the ductwork plus 1000 pounds at any point in the duct systems."

SUBSTANTIATION: The Technical Committee wanted to address the added load due to personnel entry into the duct system. The added load of 1000 pounds allows for the average weight of a 200 pound technician with tools and a safety factor of 5 to allow for multiple technicians within the ductwork.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 28
 NEGATIVE: 1
 NOT RETURNED: 1 Schulz

EXPLANATION OF NEGATIVE:

STAHL: The requirement of the weight of the duct work plus 1000 pounds at any point in the system is OVERKILL!! for small systems.

Many mom and pop restaurants do not have a structure that will support that kind of loads. It also does not take into consideration of many small systems, (duct sizes) that technicians cannot fit into the duct. This would be very prohibitive and costly in small systems. It does not add fire safety to a small system.

(Log #23)

96- 30 - (4-5.2.2 (New)): Accept in Principle

SUBMITTER: David C. Marich, Craft Metal Products Inc.

RECOMMENDATION: Amendments to 4-5.2.2 - methods of joining duct sections

Rule: A minimum of 1/2 in. standing weld flange connection shall be used for the connection of both transitional and straight grease duct fittings.

The benefits are:

- SAFETY - Safer duct connections in the field
- No pockets are formed, the duct stays rigid and holds its shape (See drawing detail on the following page)
- Continuous run of the same size duct
- Greater chance for square connections
- Cost - reduces design, fabrication, and installation costs

SUBSTANTIATION: Please review the beliefs we have at Craft Metal Products concerning the latest (1998 edition) NFPA 96 codes pertaining to the section listed.

Pockets/Grease collector: Welding as suggested in Section 4-5.2.2 around the perimeter of the duct that is overlapped by 2 in. will result in buckling or warping of that same duct thus producing a defined pocket where grease will collect. Grease laden air traveling toward this pocket will be forced into this area.

Square area: Depending on the number of connections, the overall dimensions of the first joint may be too large. This affects volume of air and velocities at the entrance.

Manufacturing square Connections: Given the properties of the material, it is not usual that local manufacturing shops, prevalent in the industry to provide custom duct solutions, to fabricate a perfectly square welded 16 gauge steel exhaust duct. Most come close but there is usually a bit of fitting, pulling and rigging that must take place to make connections, especially out in the field. The telescopic and bell type methods of connection in the current codes pose installation and safety handling concerns.

Manufacturing in general: The suggestion to change dimensions by 1/4 in. overall at each connection is an unfair layout challenge. This increases manufacturing and installation cost.

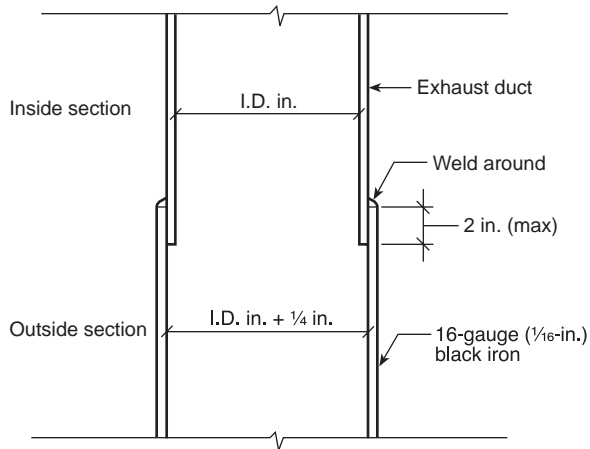
COMMITTEE ACTION: Accept in Principle.

Revise 4-5.2.2 to read as follows:

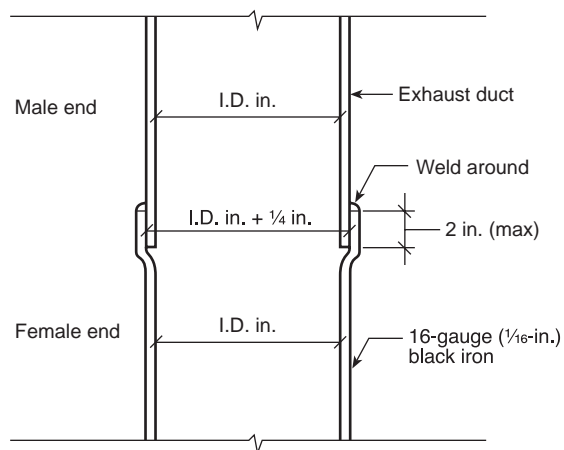
Acceptable duct to duct connections shall be as follows:

1. Current Figure 4-5.2.2 top
2. Current Figure 4-5.2.2 bottom (Figures shown on page 170)

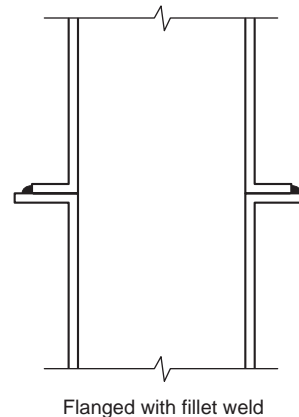
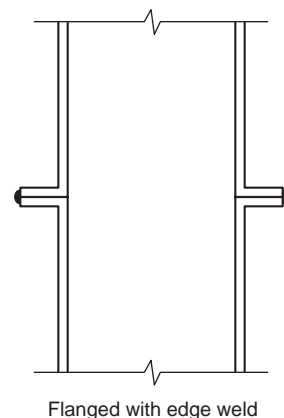
- Telescoping duct joint
- Duct size decreases (going upward) with each telescope.
 - Smaller (inside) duct section is always above or uphill (on sloped duct), to be self-draining into larger (outside) duct.



- Bell duct joint
- Duct size stays the same throughout the duct system.
 - Smaller (inside) male duct end is always above or uphill (on sloped duct), to be self-draining into larger (outside) female duct end.



Modify Figure 4-5.2.2 (above) to indicate that the +1/4 is a maximum.
Provide duct to duct diagrams indicating a full circumference standing weld flange, with filled corners.



3. Flange Edge Weld
4. Flange Fillet Weld

Add a new Section 4-5.3.3 to read as follows:

"Butt connections shall not be permitted for duct to duct connections."

COMMITTEE STATEMENT: The Committee agreed with the submitters intent and added the new figures to clarify acceptable flanged duct to duct connections.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP6)

96-31 - (4-7.6): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Add a new Section 4.7.6 to read as follows:

"The fire door shall be readily accessible, aligned and of sufficient size to allow access to the rated access panels on the ductwork."

Re-number existing 4.7.6 accordingly.

SUBSTANTIATION: The Technical Committee wanted to ensure that the fire doors allow for direct access to the access panel on the ductwork.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #18)

96-32 - (4-8 (New)): Accept in Principle

SUBMITTER: David C. Marich, Craft Metal Products Inc.

RECOMMENDATION: Rule: Ductwork that exits a building through a combustible wall intended to terminate above the roof line shall be installed as follows:

- Space reduction methods shall be followed to limit space requirements. (example 1 in. air, 1 in. panel, 1 in. air - to reduce to 3 in. clearance)

- On the exterior combustible wall, panels shall extend a minimum of 18 in. around the duct in all directions.

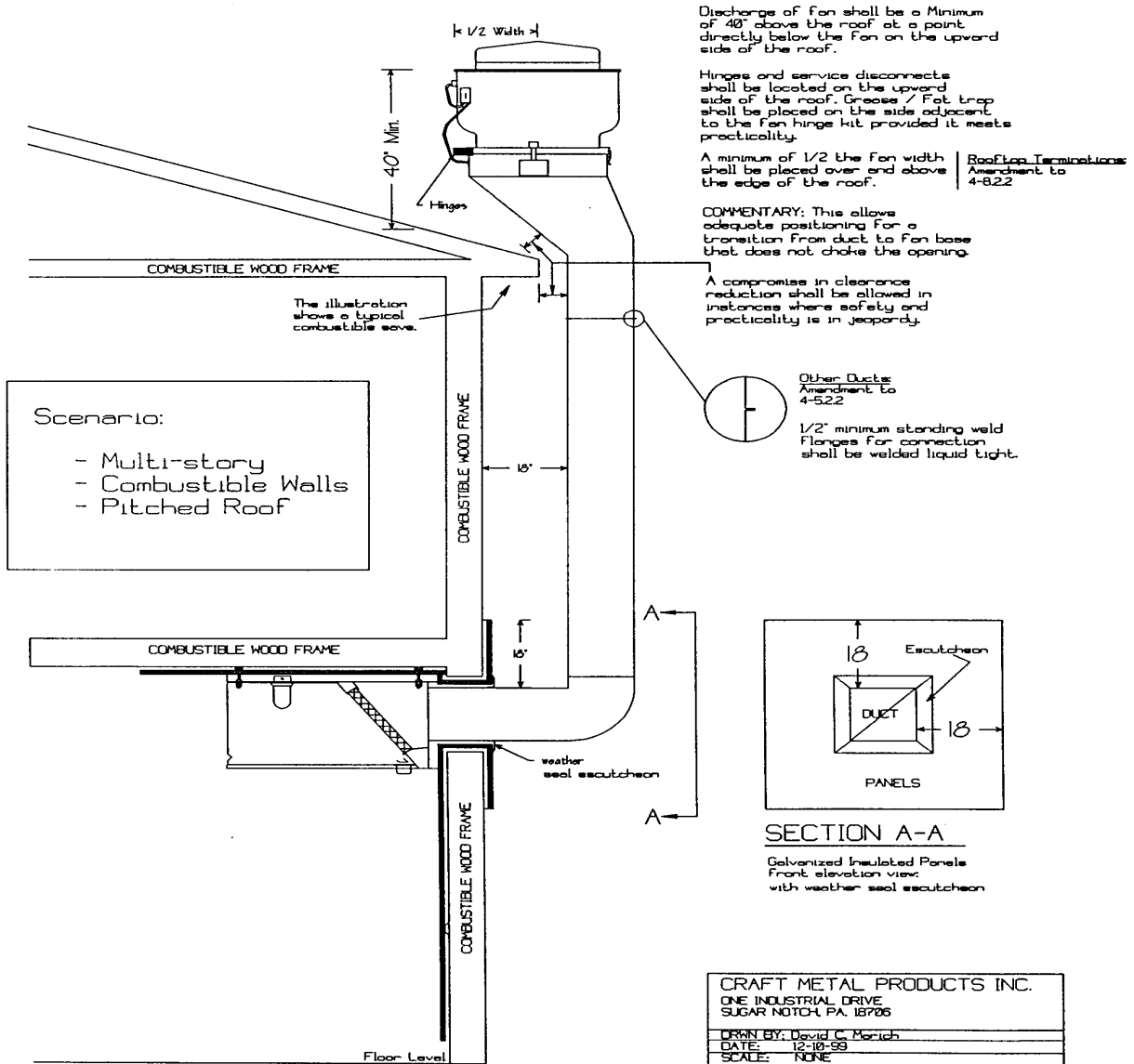
- Where possible, vertical lengths of duct shall be a minimum 18 in. from the combustible wall.

Exception:

- For practicality sake, the duct may reside closer than 18 in. from the eave.

EXAMPLE OF PRACTICAL ARRANGEMENT:

Multiple Story Buildings - Rooftop Terminations



SUBSTANTIATION: None.

COMMITTEE ACTION: Accept in Principle.

Add a new Section 4.8.4 to read as follows:

4.8.4* Roof Top Terminations Through Combustible or Limited Combustible Walls. (See Figure A.4.8.4.)

4.8.4.1 Ductwork that exits a building through a combustible or limited combustible wall to terminate above the roof line shall have wall protection provided in accordance with Section 1-3.2.

4.8.4.2 Where the ductwork exits the building the opening shall be sealed and shall include a weather protected vented opening.

4.8.4.3 Where the ductwork exits through a rated wall the penetration shall be protected in accordance with Section 4.1.1 (new).

Include a new annex for Section 4.8.4 to illustrate the above installation.

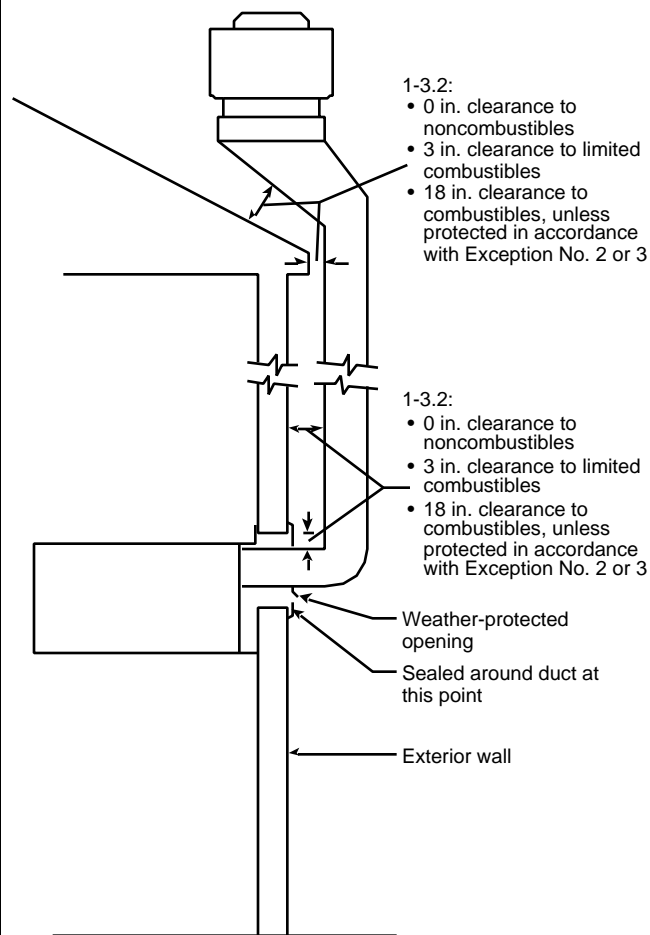


Figure A-4.8.4 Roof Top Terminations Through Combustible or Limited Combustible Walls.

COMMITTEE STATEMENT: The committee agreed with the submitter and wanted to provide a stand alone section to address this installation method.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #37)

96-33 - (4-8.2.1): Reject

SUBMITTER: William T. Paduan, Greenheck Fan Corp.

RECOMMENDATION: Change of dimensions:

4-8.2 Rooftop Terminations.

4-8.2.1 Rooftop terminations shall be arranged with or provided with the following:

(a) A minimum of 10 ft (3.05 m) of clearance from the outlet to adjacent buildings, property lines, and air intakes. Where space limitations absolutely prevent a 10 ft (3.05 m) horizontal

separation from an air intake, a vertical separation shall be permitted, with the exhaust outlet being a minimum of 3 ft (0.92 m) above any air intake located within 10 ft (3.05 m) horizontally.

(b) The exhaust flow directed up and away from the surface of the roof and a minimum of 40 in. (1.02 m) above the roof surface.

(c) The ability to drain grease out of any traps or low points 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. A grease collection device that is applied to exhaust systems shall not inhibit the performance of any fan.

Exception: Grease containers that are evaluated for equivalency with the preceding requirements and listed as such.

(d) A listed grease duct complying with Section 4-4, or with ductwork complying with Section 4-5.

(e) A hinged upblast fan supplied with flexible weatherproof electrical cable and service hold-open retainer to permit proper inspection and cleaning that is listed for commercial cooking equipment, provided the ductwork extends a minimum of ~~18 in. (457.2 mm)~~ 24 in. (609.6 mm) above the roof surface and the fan discharges a minimum of 40 in. (1.02 m) above the roof surface (see 5-1.1).

(f) Other approved fan, provided (1) it meets the requirements of 4-8.2.1(c) and 5-1.3 and (2) its discharge or its extended duct discharge meets the requirements of 4-8.2.1(b). (See 5-1.3.)

SUBSTANTIATION: Similar language appears in the International Mechanical Code (506.3.14.1 Termination Above the Roof).

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-25 (Log #CP15) for Committee Action on these requirements.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #24)

96-34 - (4-8.2.1 (New)): Accept in Principle

SUBMITTER: David C. Marich, Craft Metal Products Inc.

RECOMMENDATION: Clarification amendment to 4-8.2.1(b) - Measuring 40 in. to the discharge on pitched roofs:

Rule: The discharge of the fan shall be a minimum of 40 in. above the roof measured at a point directly below the fan on the upward side of the roof. (see illustration)

The benefits are:

- Accessible for technical servicing and cleaning.
- Aesthetically more appealing

SUBSTANTIATION: We would like to have clarification on where the 40 in. measurement is derived. Some common views concerning pitched roofs are that the fan is to be positioned vertically above the roof, to a point first measured 10 feet horizontally then up 40 in. above the roof. To understand this phenomena see illustration.

There has also been some concern as to the effects of natural down drafts coming from the peak of the roof. Craft Metal Products does not believe that downdrafts will affect the performance of forced air upblast style exhaust fans.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-25 (Log #CP15) for Committee Action on these requirements.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #4)
 96-36 - (4-8.2.1(a) Exception No. 1 and Exception No. 2 (New)):
 Reject

SUBMITTER: Paul Chang, City of Yellowknife, Canada
RECOMMENDATION: Add the following exceptions to 4-8.2.1(a):

1. Exhaust outlets may terminate not less than 5 ft (3.05 m) from the building, adjacent buildings, adjacent property line, air intakes, and building openings where air from the exhaust outlet discharges away from such locations.

2. Where approved by the Authority Having Jurisdiction, this section may not apply to engineered air-recovery systems that recirculate the exhaust to the room in which the hood is located.
SUBSTANTIATION: Allows for other methods of achieving the intent and for using specifically designed equipment that recovers heat from kitchen exhaust.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-25 (Log #CP15) for Committee Action on these requirements.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #CP8)

96-37 - (4-8.2.1(c)): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Revise exception to subparagraph (c) to read:

"Listed grease collection systems."

SUBSTANTIATION: The Technical Committee wanted to clarify that listed grease collection systems are permitted.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #25)

96-38 - (4-8.2.2): Reject

SUBMITTER: David C. Marich, Craft Metal Products Inc.

RECOMMENDATION: Amendment to 4-8.2.2 - Safe access and work area.

Rule: In those cases where the duct must run vertically up along the outside of a building and over onto a pitched roof surface, safe access shall be construed as follows:

A minimum of 1/2 the width of the fan shall be placed over and above the edge of the roof. The gutter or any other appurtenance is not to be confused for the roof itself.

The fan appurtenances (i.e. hinges, electrical service disconnects, and grease receptacles) shall be readily accessible from a sturdy position on the roof. The system shall be securely fastened to lend support to those trades servicing the system.

SUBSTANTIATION: Positioning the fan at half (1/2) the width of the fan unit allows sufficient room for a manufactured transition from the duct to fan base that will not choke the opening or otherwise hinder the design performance and practicality of the situation.

Although it is preferred to have access to all sides of the fan for servicing, it may not always be feasible. At a minimum though, the fan appurtenances (i.e. hinges, electrical service disconnects, and grease receptacles) shall be readily accessible from a sturdy position on the roof. The system shall be securely anchored to the building to lend support to those servicing trades.

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: Present edition of NFPA 96 provides the needed requirements for safe access. The proposed requirements exceed that which the committee deems as appropriate.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #CP26)

96-39 - (Chapter 5): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 5 to "Chapter 8 Air Movement" and reword the requirements of Chapter 5 to read as follows:

Chapter 8 Air Movement

8.1 Exhaust Fans for Commercial Cooking Equipment.

8.1.1* Upblast Exhaust Fans.

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.

8.1.1.2 Installation shall conform to the requirements of Section 7.8.

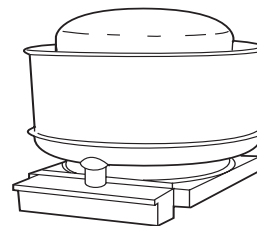


Figure 8-1.1 Typical upblast fan.

8.1.2* In-Line Exhaust Fans.

8.1.2.1 In-line fans shall be of the type with the motor located outside the airstream and with belts and pulleys protected from the airstream by a gresatight housing.

8.1.2.2 They shall be connected to the exhaust duct by flanges securely bolted as shown in Figures 8.1.2.2(a), (b), (c), or (d) or by a system specifically listed for such use.

8.1.2.3* Flexible connectors shall not be used.

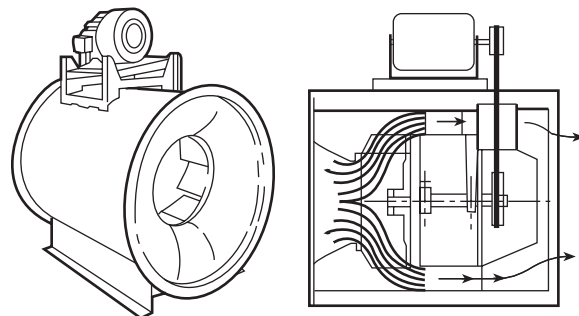
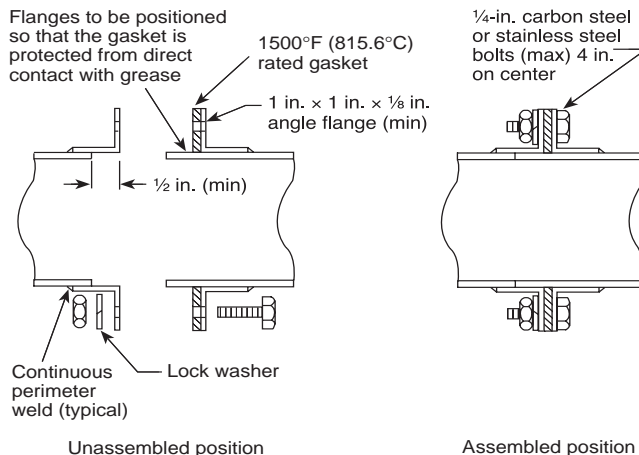
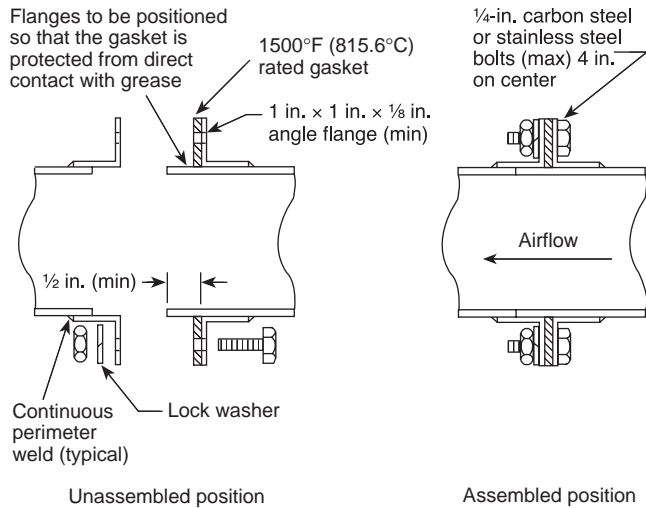


Figure 8-1.2.1(a) Typical in-line fan.



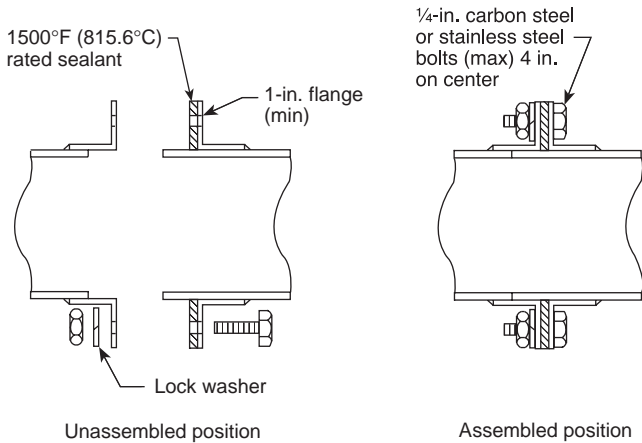
Note: For SI units, 1 in. = 25.4 mm.

Figure 8.1.2.2(a) Typical section of duct-to-fan connection — butt joint method.



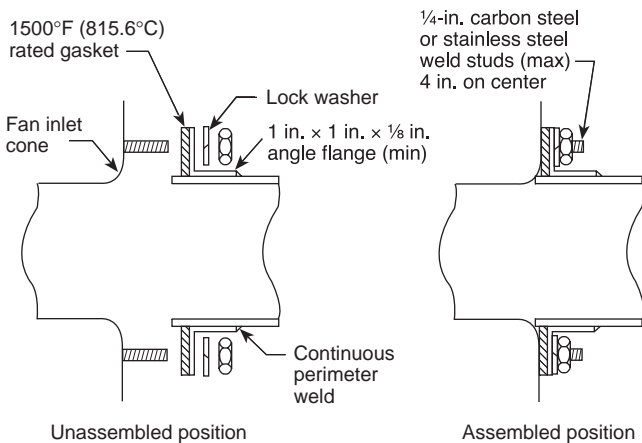
Note: For SI units, 1 in. = 25.4 mm.

Figure 8.1.2.2(b) Typical section of duct-to-fan connection — overlapping method.



Note: For SI units, 1 in. = 25.4 mm.

Figure 8.1.2.2(c) Typical section of duct-to-fan connection — sealant method.



Note: For SI units, 1 in. = 25.4 mm.

Figure 8.1.2.2(d) Typical section of duct-to-fan connection — direct to fan inlet cone method.

8.1.2.4* If the design or positioning of the fan allows grease to be trapped, a drain directed to a readily accessible and visible grease receptacle, not exceeding 1 gal (3.8 L), shall be provided.

8.1.2.5 In-line exhaust fans shall be located in an easily accessible area of adequate size to allow for service or removal.

8.1.2.6 Where the duct system connected to the fan is in an enclosure, the space or room in which the exhaust fan is located shall have the same fire resistance rating as the enclosure.

8.1.3* Utility Set Exhaust Fans.

8.1.3.1 Utility set exhaust fans, if installed at the rooftop termination point, shall meet the requirements of (current 4-8.2.1(a) through (c) and 4-8.2.2).

8.1.3.2 Fans installed within the building, it shall be located in an accessible area of adequate size to allow for service or removal.

8.1.3.3 Where the duct system is connected to the fan is in an enclosure, the space or room in which the exhaust fan is located shall have the same fire resistance rating as the enclosure.

8.1.3.4 The fan shall be connected to the exhaust duct by flanges securely bolted as shown in Figures 8.1.2.2(a), (b), (c), or (d) or by a system specifically listed for such use.

8.1.3.5 Flexible connectors shall not be used.

8.1.3.6 Exhaust fans shall have a drain directed to a readily accessible and visible grease receptacle not to exceed 1 gal (3.8 L).

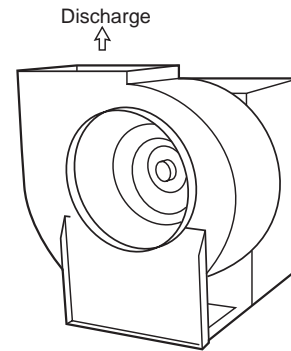


Figure 8.1.3 Typical utility set fan.

8.1.4 Exhaust Fan Housings. Exhaust fan housings shall be constructed of carbon steel not less than 0.054 in. (1.37 mm) (No. 16 MSG) in thickness or stainless steel not less than 0.043 in. (1.09 mm) (No. 18 MSG) in thickness or, if listed, constructed in accordance with the terms of the listing.

8.1.5 Openings for Cleaning, Servicing and Inspection.

8.1.5.1 Openings for cleaning, servicing, and inspection shall conform to the requirements of Section (current 4-3.3).

8.1.5.2 Clearances shall conform to the requirements of 1-3.2 or 4-7.2.3 if installed within an enclosure.

8.1.6 Wiring and Electrical Equipment. All wiring and electrical equipment shall comply with NFPA 70, National Electrical Code® (see also Chapter 9).

8.2 Airflow.

8.2.1 Air Velocity.

8.2.1.1 The air velocity through any duct shall be not less than 1500 ft (457.2 m) per minute.

8.2.1.2 Transition duct sections that do not exceed 1m (3 ft) in length and do not contain grease traps shall be permitted to be connected to hoods and exhaust fans that do not meet this velocity.

8.2.2 Air Volume.

8.2.2.1 Exhaust air volumes for hoods shall be of sufficient level to provide for capture and removal of grease-laden cooking vapors.

8.2.2.2 Test data, performance acceptable to the authority having jurisdiction, or both, shall be provided, displayed, or both, upon request.

8.2.2.3 Lower exhaust air volumes shall be permitted during no-load cooking conditions, provided they are sufficient to capture and remove flue gases and residual vapors from cooking equipment.

8.2.3 Exhaust Fan Operation.

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.

8.2.3.2 It shall not be required to restart the hood exhaust fan when the extinguishing system is activated if the exhaust fan and all cooking equipment served by the fan had previously been shut down.

8.3* Replacement Air.

8.3.1 Replacement air quantity shall be adequate to prevent negative pressures in the commercial cooking area(s) from exceeding 0.02 in. water column (4.98 kPa).

8.3.2 When its fire-extinguishing system discharges, makeup air supplied internally to a hood shall be shut off.

8.4 Common Duct (Manifold) Systems.

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.

8.4.2 Bleed air ducts shall connect to the top or side of the master exhaust duct.

8.4.3 The bleed air duct shall have a fire damper at least 12 in. (304.8 mm) from the exhaust duct connection.

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 12 in. (304.8 mm) on both sides of the fire damper.

8.4.5 Each bleed air duct shall have a means of adjusting (e.g., using volume dampers) the bleed air quantity.

8.4.6 Means to adjust the bleed air quantity shall be installed in between the fire damper and the source of bleed air, as indicated in Figure 8.4.

8.4.7 A bleed air duct shall not be used for the exhaust of grease-laden vapors and shall be so labeled.

8.4.8 Unused tenant exhaust connections to the master exhaust duct that are not used as bleed air connections shall be disconnected and sealed at the main duct.

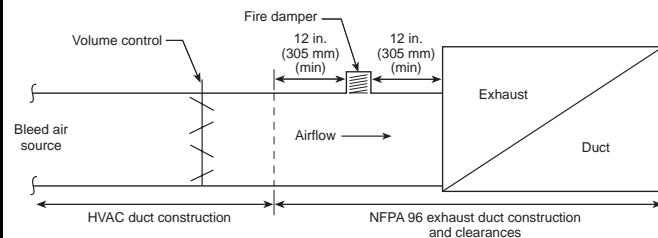


Figure 8.4 System for introducing bleed air into a master exhaust duct.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #26)

96-40 - (5-1.1): Reject

SUBMITTER: David C. Marich, Craft Metal Products Inc.

RECOMMENDATION: Amendment to 5-1.1 approved upblast fans.

Rule: Upblast fans shall be equipped with snap latches or equal as the sole means of fastening the fan to its curb. Screw type fasteners shall not be allowed.

The benefits are:

- Easy Entry
- No additional tools
- No lost or forgotten screws

SUBSTANTIATION: A snap latch system of securely fastening the fan to its curb eliminates the use of scw fasteners that have a tendency to strip after continuous use. It eliminates the need for tools when access is necessary; this helps reduce the offenses of lost screw fasteners or the neglected return of those screws.

Assisting the service trade can only help the industry and protect our customer's best interest, even though the customer might not be aware of what their best interest is.

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee felt that the current methods outlined in NFPA 96 are acceptable. The proposed method is overly restrictive.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #27)

96-41 - (5-1.1 (New)): Reject

SUBMITTER: David C. Marich, Craft Metal Products Inc.

RECOMMENDATION: Amendment to 5-1.1, Approved Upblast Fans:

Rule: Propeller style fans shall not be permitted.

SUBSTANTIATION: Under no circumstances will a propeller style wall fan be allowed for the removal of grease ladened air. This type of fan has the motor placed directly in the air stream and is commonly referred to as an attic fan or a barn fan. While this type of fan is commonly used for general ventilation, it shall not be utilized under the hood.

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee felt that the current methods outlined in NFPA 96 are acceptable. The proposed fans are currently not listed for grease applications and are not permitted by NFPA 96. Additional requirements are not needed (See 5-1.2.1).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP11)

96-42 - (5-1.2.1): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Reinsert the correct drawings from the 1994 edition of NFPA 96.

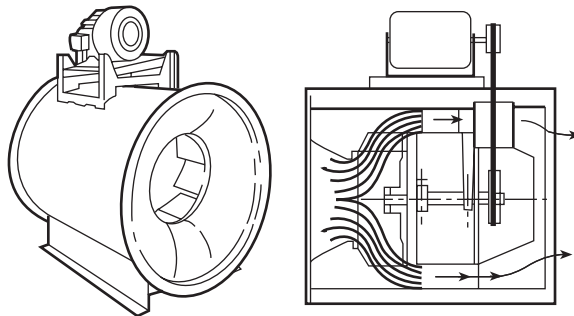
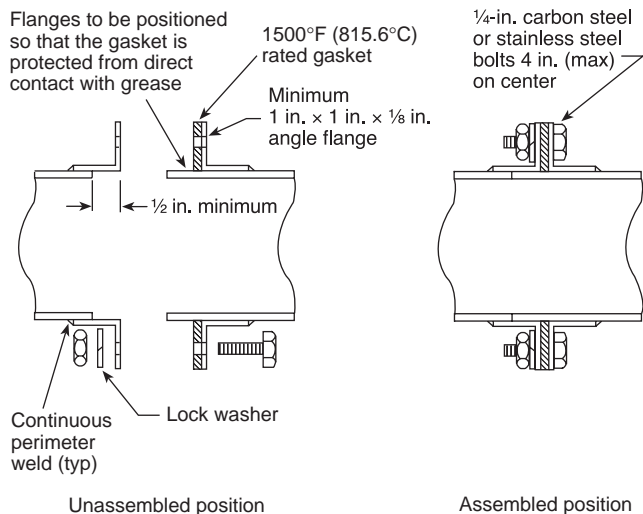


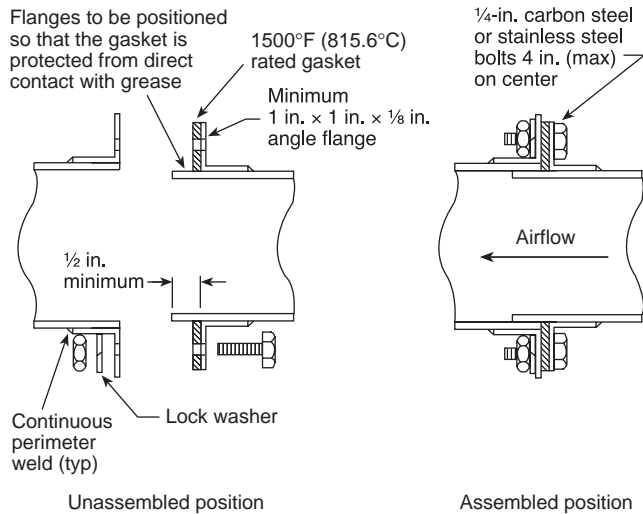
Figure 5-1.2(a) In-line fan.

This type of fan normally is used where space is not available for a utility set fan. It typically is located in a horizontal duct run in the false ceiling (Interstitial) space.



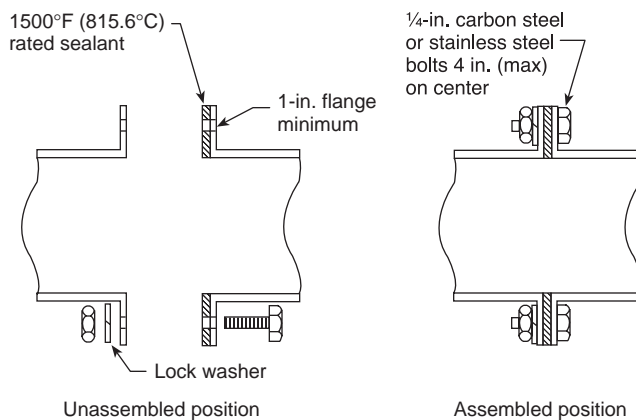
For SI units, 1 in. = 25.4 mm.

Figure 5-1.2(b) Typical section of duct-to-fan connection — butt joint method.



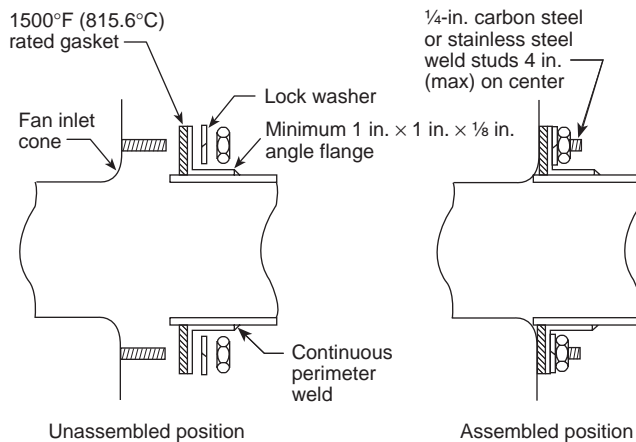
For SI units, 1 in. = 25.4 mm.

Figure 5-1.2(c) Typical section of duct-to-fan connection — overlapping method.



For SI units, 1 in. = 25.4 mm.

Figure 5-1.2(d) Typical section of duct-to-fan connection — sealant method.



For SI units, 1 in. = 25.4 mm.

Figure 5-1.2(e) Typical section of duct-to-fan connection — direct to fan inlet cone method.

SUBSTANTIATION: These drawings were inadvertently changed in between editions and needed to be corrected.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #56)

96- 43 - (5-2.1): Accept in Principle
SUBMITTER: William T. Paduan, Greenheck Fan Corp.
RECOMMENDATION: Revise as follows:
 5-2 Airflow.
 5-2.1 The air velocity through any duct shall be not less than 1500 ft (457.2 m) 1200 ft (365.8 m) per minute.
 Exception: Transition duct sections shall be permitted to be connected to hoods and exhaust fans that do not meet this velocity, provided that they do not exceed 3 ft (0.92 m) in length and do not contain traps for grease.
SUBSTANTIATION: The minimum duct velocity stated above was based on industrial ventilation guidelines for minimum transport velocities for particulate or dust from industrial processes. Recent testing has shown that grease vapor and particulate matter in cooking effluent indicates a dominant particle size less than ten microns in diameter. Particulates in this size range are not influenced at low transport velocities. Small particulate can be deposited on the duct wall through the

turbulent diffusion of higher duct velocities. Therefore, reducing the duct velocity will reduce grease deposits on the same duct walls.

Currently tests are being conducted for the ASHRAE TC 5.10 Technical Committee by the University of Minnesota to substantiate the statement above.

COMMITTEE ACTION: Accept in Principle.

Reword the velocity requirement to read as follows: "500 ft/min"

COMMITTEE STATEMENT: The committee agreed with the submitters intent and is awaiting the final ASHRAE report which will indicate the appropriate velocity of 500 ft/min.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #11)

96-44 - (5-2.2): Reject

SUBMITTER: R. T. Leicht, Delaware State Fire Marshal's Office

RECOMMENDATION: Rewrite section to read as follows:

5-2.2 Exhaust air volume shall be at least 300 CFM per linear foot of cooking equipment under the hood or in accordance with 5-2.2.1 and 5-2.2.2; whichever is greater.

Exception: Lower exhaust air volumes shall be permitted during no-load cooking conditions, provided they are sufficient to capture and remove flue gases and residual vapors from cooking equipment.

5-2.2.1 Exhaust air volumes for single island canopy and double island canopy hoods shall be at least 150 CFM multiplied by the square foot cross sectional area of the hood.

Exception: Where solid fuel equipment is used, exhaust air volumes shall be at least 300 CFM multiplied by the square foot cross sectional area of the hood.

5-2.2.2 Exhaust air volumes for hoods other than single island canopy and double island canopy types shall be at least 300 CFM per linear foot of cooking equipment and at least 100 CFM multiplied by the square foot cross sectional area of the hood; whichever is greater.

Exception: Where solid fuel equipment is used, exhaust air volumes shall be at least 200 CFM multiplied by the square foot cross sectional area of the hood.

SUBSTANTIATION: Present language for exhaust air volumes of "sufficient levels for capture and removal of vapors" is vague and unmeasurable. Enforcement authorities need specific information in a single document, such as NFPA 96, so as to approve or reject a proposed installation.

Proposal provides specific criteria and is equivalent to that which can be found in other mechanical code standards and references.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee felt that current ongoing research has not yet developed requirements or guidance that adequately addresses this issue. The Technical Committee will continue to follow this research.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 28

NEGATIVE: 1

NOT RETURNED: 1 Schulz

EXPLANATION OF NEGATIVE:

LEICHT: The original intent of the submitter was to provide the enforcer some means of enforcing specific requirements. The present language is vague and not specific. The proposed values mirrored the exact values that are currently being used in the industry. If the industry standard is under review, as indicated by the Committee Statement, then there is no reason why the present values can't be added into this document and as research proves that different values are warranted, a future proposal, or even a Tentative Interim Amendment, can be generated.

During the debate within the committee, the statement was made that specific values are not needed in this document since the Fire Official doesn't scrutinize this portion of an installation, the mechanical code inspector does. I take offense to this statement for a number of reasons. Regulation differs from jurisdiction to jurisdiction. In some communities, there is no mechanical code inspector and the Fire Official enforces his entire fire code, which usually includes NFPA 96. In other communities, the Fire Official will do all inspections except the actual building construction, which is done by the Building Official. It should also be noted that the term "Authority Having Jurisdiction" is not restricted to a fire official. For instance, an insurance agent maybe an AHJ but is

certainly not bound to adopt and/or enforce a Mechanical Code. Traditionally, the insurance industry adopts the NFPA standards.

Finally, NFPA has established that their long-term goal is to provide codes for the entire "built environment" without the need to depend on standards outside of the NFPA process. As such, it would seem necessary that we provide specific criteria within our standard without reliance on obscure and imprecise language that forces the user to explore other publications.

(Log #17)

96-45 - (5-2.3): Reject

SUBMITTER: Farrell Taphorn, Acme Fire and Safety Co. Ltd.

RECOMMENDATION: Delete Paragraph 5-2.3.

SUBSTANTIATION: As all systems are listed for duct protection with fans running or fans off, and as larger buildings shut all exhaust fans down when in alarm condition, why not delete this section?

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee felt that the current wording needs to remain to ensure that the grease exhaust fans remain on after system discharge to aid in the removal of smoke and residual heat, and to assist in the extinguishment of the fire.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP27)

96-46 - (Chapter 6): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 6 to "Chapter 9 Auxiliary Equipment" and reword the requirements of Chapter 6 to read as follows:

Chapter 9 Auxiliary Equipment

9.1 Dampers.

9.1.1 Dampers shall not be installed in exhaust ducts or exhaust duct systems.

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.

9.2 Electrical Equipment.

9.2.1 Wiring systems of any type shall not be installed in ducts.

9.2.2 Only where specifically listed for such use shall motors, lights, and other electrical devices be permitted to be installed in ducts or hoods or located in the path of travel of exhaust products.

9.2.3 Lighting Units.

9.2.3.1 Lighting units in hoods shall be listed for use over commercial cooking appliances and installed in accordance with the terms of their listing.

9.2.3.2 Lighting units on hoods shall not be located in concealed spaces.

9.2.3.3 Lighting units shall be permitted in concealed spaces where part of a listed exhaust hood.

9.2.3.4 Listed lighting units specifically listed for such use and installed in accordance with the terms of the listing shall be permitted to be installed in concealed spaces.

9.2.4* All electrical equipment shall be installed in accordance with NFPA 70, National Electrical Code.

9.3 Other Equipment.

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 located in the path of travel of exhaust products where specifically approved for such use.

9.3.2 Downgrading other parts of the exhaust system due to the installation of these approved devices, whether listed or not, shall not be allowed.

9.3.3 Any equipment, listed or otherwise, that provides secondary filtration or air pollution control and that is installed in the path of travel of exhaust products shall be provided with an approved automatic fire-extinguishing system for the protection of the component sections of the equipment and shall include protection of the ductwork downstream of the equipment, whether or not the equipment is provided with a damper.

9.3.4 If the equipment provides a source of ignition, it shall be provided with detection to operate the fire-extinguishing system protecting the equipment.

9.3.5 Where a cooking exhaust system employs an air pollution control device that recirculates air into the building, the requirements of Chapter 13 shall apply.

A.9.2.4 All wiring should be designed, specified and installed with due regard to the effects of heat, vapor, and grease on the equipment.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #13)

96- 47 - (6-1 Exception): Reject

SUBMITTER: R. T. Leicht, Delaware State Fire Marshal's Office
RECOMMENDATION: Replace the exception with the following:

Where the authority having jurisdiction requires a listed exhaust system component that incorporates a damper.

SUBSTANTIATION: The continued operation of the exhaust system after a fire is controlled by the extinguishing system is essential. It entrains the cooler air from the local vicinity and thus reduces the chances of re-ignition on the cooking surfaces.

The fact that there are exhaust hoods listed with exhaust dampers is not sufficient rationale to permit dampers in the exhaust. Exhaust hoods listed with exhaust dampers is intended for a specific application. (See category YXZR of the UL Fire Protection Equipment Directory.)

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee disagreed with the submitter and indicated that the current exception adequately addresses the acceptable use of dampers.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 28

NEGATIVE: 1

NOT RETURNED: 1 Schulz

EXPLANATION OF NEGATIVE:

LEICHT: Just because there are exhaust hoods listed that incorporate dampers is not a reason to permit them without some justification. The primary purpose of requiring the exhaust to continue running after extinguishing system actuation is to continue to entrain cooler air thus reducing the change of reignition of the cooking surfaces.

In 8 weeks, there were 3 instances where a damper in an installation that would have allowed a listed exhaust hood without a damper, inadvertently closed. As a result, heat built up and caused the fire extinguishing system to actuate although there was no fire. Not only was the owner faced with the cost of the recharge of the extinguishing system, reset of the hood and the massive clean-up but also the loss of business... all as a result of something that didn't have to be.

(Log #14)

96- 48 - (6-1 Exception): Reject

SUBMITTER: R. T. Leicht, Delaware State Fire Marshal's Office

RECOMMENDATION: Replace existing exception with the following:

Listed exhaust hoods that incorporate an automatically or manually operated cleaning or washing system.

SUBSTANTIATION: The continued operation of the exhaust system after a fire is controlled by the extinguishing system is essential. It entrains the cooler air from the local vicinity and thus reduces the chances of re-ignition on the cooking surfaces.

The fact that there are exhaust hoods listed with exhaust dampers is not sufficient rationale to permit dampers in the exhaust. Exhaust hoods listed with exhaust dampers is intended for a specific application. (See category YXZR of the UL Fire Protection Equipment Directory.)

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee disagreed with the submitter and indicated that the current exception adequately addresses the acceptable use of dampers.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

96- 49 - (Chapter 7): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Rename Chapter 7 to "Chapter 10 Fire-Extinguishing Equipment" and reword the requirements of Chapter 7 to read as follows:

Chapter 10 Fire-Extinguishing Equipment

10.1 General Requirements.

10.1.1 Fire-extinguishing equipment for the protection of grease removal devices, hood exhaust plenums, and exhaust duct systems shall be provided.

10.1.2* Cooking equipment that produces grease-laden vapors shall be protected by fire-extinguishing equipment.

10.2 Types of Equipment.

10.2.1 Fire-extinguishing equipment shall include both automatic fire-extinguishing systems as primary protection and portable fire extinguishers as secondary backup.

10.2.2 A placard identifying the use of the extinguisher as a secondary backup means to the automatic fire extinguishing system shall be conspicuously placed near each portable fire extinguisher in the cooking area.

10.2.3* Automatic fire-extinguishing systems shall comply with standard UL 300, Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas, or other equivalent standards and shall be installed in accordance with the requirements of the listing.

10.2.4 Automatic fire-extinguishing equipment provided as part of listed recirculating systems shall comply with standard UL 197, Standard for Safety — Commercial Electric Cooking Appliances.

10.2.5 Automatic fire-extinguishing systems shall be installed in accordance with the terms of their listing, the manufacturer's instructions, and the following standards where applicable.

(a) NFPA 12, Standard on Carbon Dioxide Extinguishing Systems

(b) NFPA 13, Standard for the Installation of Sprinkler Systems

(c) NFPA 17, Standard for Dry Chemical Extinguishing Systems

(d) NFPA 17A, Standard for Wet Chemical Extinguishing Systems

10.2.6 Fixed Baffle Hoods with Water Wash.

10.2.6.1 Grease removal devices, hood exhaust plenums, and exhaust ducts requiring protection in accordance with Section 10.1.1 shall be permitted to be protected by a listed fixed baffle hood containing a constant or fire-actuated water-wash system that is listed to extinguish a fire in the grease removal devices, hood exhaust plenums, and exhaust ducts.

10.2.6.2 Each such area not provided with a listed water-wash extinguishing system shall be provided with an fire extinguishing system listed for the purpose.

10.2.6.3 The water for listed fixed baffle hood assemblies shall be permitted to be supplied from the domestic water supply when the minimum water pressure and flow are provided in accordance with the terms of the listing.

10.2.6.4 The water supply shall be monitored by an annunciated low-water pressure switch.

10.2.6.5 The water wash in the fixed baffle hood shall be activated by the cooking equipment extinguishing system.

10.3 Simultaneous Operation.

10.3.1 Fixed pipe extinguishing systems in a single hazard area (see Section 1-2 for the definition of single hazard area) shall be arranged for simultaneous automatic operation upon actuation of any one of the systems.

10.3.2 Simultaneous operation shall not be required where the fixed pipe extinguishing system is an automatic sprinkler system.

10.3.3 Simultaneous operation shall not be required where dry or wet chemical system shall be permitted to be used to protect common exhaust ductwork by one of the methods specified in NFPA 17, Standard for Dry Chemical Extinguishing Systems, or NFPA 17A, Standard for Wet Chemical Extinguishing Systems.

10.4 Fuel Shutoff.

10.4.1 Upon activation of any fire-extinguishing system for a cooking operation, all sources of fuel and electric power that produce heat to all equipment requiring protection by that system shall automatically shut off.

10.4.2 Steam supplied from an external source shall not be required to automatically shut off.

10.4.3 Any gas appliance not requiring protection, but located under the same ventilating equipment, shall also automatically shut off upon activation of any extinguishing system.

10.4.4 Shutoff devices shall require manual reset.

10.5 Manual Activation.

10.5.1 A accessible means for manual activation shall be located between 42 in. and 60 in. (1067 mm and 1524 mm) above the floor, located in a path of exit or egress, and clearly identify the hazard protected.

10.5.2 The automatic and manual means of system activation external to the control head or releasing device shall be separate and independent of each other so that failure of one will not impair the operation of the other.

10.5.3 The manual means of system activation shall be permitted to be common with the automatic means if the manual activation device is located between the control head or releasing device and the first fusible link.

10.5.4 An automatic sprinkler system shall not require a manual means of system activation.

10.5.5 The means for manual actuator(s) shall be mechanical or rely on electrical power for actuation in accordance with Section 10.5.6.

10.5.6 Electrical power shall be permitted to be used for manual activation if a standby power supply is provided or if supervision is provided as per 10.7.

10.6 System Annunciation.

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.

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.

10.7 System Supervision.

10.7.1 Where electrical power is required to operate the automatic fire-extinguishing system, it shall be monitored by a supervisory alarm, with a standby power supply provided.

10.7.2 System supervision shall not be required where automatic fire-extinguishing systems include automatic mechanical detection and actuation as a backup detection system.

10.7.3 System supervision shall not be required where fire-extinguishing systems are interconnected or interlocked with the cooking equipment power sources so that if the fire-extinguishing system becomes inoperable due to power failure, all sources of fuel or electric power that produce heat to all cooking equipment serviced by that hood shall automatically shut off.

10.8 Special Design and Application.

10.8.1 Hoods containing automatic fire-extinguishing systems are protected areas; therefore, these hoods are not considered obstructions to overhead sprinkler systems and shall not require floor coverage underneath.

10.8.2 A single listed detection device shall be permitted for more than one appliance when installed in accordance with the terms of the listing.

10.9 Review and Certification.

10.9.1 Where required, complete drawing of the system installation, including the hood(s), exhaust duct(s), and appliances, along with the interface of the fire-extinguishing system detectors, piping, nozzles, fuel shutoff devices, agent storage container(s), and manual actuation device(s), shall be submitted to the authority having jurisdiction.

10.9.2* Installation Requirements.

10.9.2.1 Installation of systems shall be performed only by persons properly trained and qualified to install the specific system being provided.

10.9.2.2 The installer shall provide certification to the authority having jurisdiction that the installation is in agreement with the terms of the listing and the manufacturer's instructions and/or approved design.

10.10 Portable Fire Extinguishers.

10.10.1* Portable fire extinguishers shall be installed in kitchen cooking areas in accordance with NFPA 10, Standard for Portable Fire Extinguishers.

10.10.2 Extinguishers shall use agents that saponify upon contact with hot grease such as sodium bicarbonate and potassium bicarbonate dry chemical and potassium carbonate solutions.

10.10.3 Class B gas-type portables shall not be permitted in kitchen cooking areas.

10.10.4 Manufacturer's recommendations shall be followed.

10.10.5 Portable fire extinguishers listed specifically for use in the kitchen cooking areas shall also be permitted.

10.10.6 Other fire extinguishers in the kitchen area shall be installed in accordance with NFPA 10, Standard for Portable Fire Extinguishers.

A.10.1.2 Examples of cooking equipment that produces grease laden vapors include, but are not limited to appliances such as deep fat fryers, ranges, griddles, broilers, woks, tilting skillets, and braising pans.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #41)

96-50 - (7-1.2): Accept in Principle

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Revise text as follows:

Cooking equipment that produces grease laden vapors (such as, but not limited to, deep fat fryers, ranges, griddles, broilers, woks, tilting skillets, and braising pans) that might be a source of ignition of grease in the hood, grease removal device, or duct shall be protected by fire-extinguishing equipment.

SUBSTANTIATION: The added text was removed from the 1994 edition without adequate committee discussion. All cooking equipment that produces grease-laden vapors does not necessarily need protection, unless required by the authority having jurisdiction (i.e., enclosed ovens, steam-jacketed kettles, some rotisseries, smokers, etc.). There are no listed means for protecting or detecting fires in enclosed ovens, for example. Without penetrating the oven (which may void its warranty), there is no way to plumb the fire protection. And because the oven is enclosed, detection installed in the exhaust hood will probably not be effective. While this type of equipment may produce grease-laden vapors, as long as it cannot be an ignition source to anything else, it should not be required to be protected.

COMMITTEE ACTION: Accept in Principle.

In the submitter text do not delete "that produces grease laden vapors." Accept the remainder of the proposed material.

COMMITTEE STATEMENT: The committee agreed with the submitter but wanted to continue to have the presence of grease laden vapors as a requirement.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #55)

96-51 - (7-2.2): Reject

SUBMITTER: James DeBellonia, INFOLINK Insurance Risk Assessments

RECOMMENDATION: Revise text as follows:

Automatic fire-extinguishing systems installed after 11/21/94 shall comply with standard UL 300 (Fire Testing of Fire Extinguishing Systems for the Protection of Restaurant Cooking Areas) or, other equivalent standard(s). Fixed extinguishing systems shall be installed in accordance with their listing.

SUBSTANTIATION: Present wording of 7-2.2 is confusing and/or misleading. UL 300 is not an installation standard and does not require retroactive implementation.

Fixed extinguishing systems manufactured prior to 11/21/94, with UL Mark, continue to qualify as a listed product as long as the system is compliant with original requirements. 7-2.2, as written, could be taken to imply otherwise.

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee indicated that there is no requirement for retroactivity of UL 300.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #42)

96-52 - (7-2.2 7-2.2 Exception No. 1 (New) and No. 2 Exception No. 1 and No. 2 (New)): Accept

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Add the following Exception:

Exception No. 1: Grease removal devices, hood exhaust plenums, exhaust ducts, and cooking equipment that are not addressed in UL 300 or other equivalent test standards, shall be protected with an automatic fire-extinguishing system(s) in accordance with the applicable NFPA standard(s) and all local

building and fire codes, and approved by the authority having jurisdiction.

Exception No. 2: Automatic fire-extinguishing equipment provided as part of listed recirculating systems...

SUBSTANTIATION: Substantiation Exception No. 1: There are common exhaust ducts, exhaust hood configurations, and several cooking appliances that are required to be protected in accordance with this standard and others, that are not addressed in UL Standard 300 or other equivalent test standards. There have been numerous occasions when the authority having jurisdiction has ordered the removal of certain types of cooking equipment because UL 300 evaluated protection did not exist for the cooking equipment in question. Adding this text would allow such protection, as approved by the authority having jurisdiction.

Substantiation Exception No. 2: With the addition of the previous exception proposal, the current 7-2.2 exception will require renumbering.

COMMITTEE ACTION: Accept.

Reword the Exceptions as requirements in accordance the Manual of Style

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #43)

96- 53 - (7-2.3.1): Accept

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Revise text as follows:

The water for listed fixed baffle hood assemblies shall be permitted to be supplied from the domestic water supply when the minimum water pressure and flow are provided in accordance with the terms of the listing. ~~The water supply shall be monitored by an annunciated low water pressure switch. The water supply shall be controlled by a supervised water supply control valve.~~

SUBSTANTIATION: Trapped water between a valve that has been inadvertently shut-off and the water-wash system, will not activate an annunciated low-water pressure switch until the water-wash system has been activated. [See Proposal 7-2.5 for requirements for supervised water supply control valves (New).]

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #44)

96- 54 - (7-2.3.2): Accept in Principle

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Revise text as follows:

The water wash in the fixed baffle hood shall be activated by the cooking equipment ~~fire-~~ extinguishing system when the water wash system alone is approved to be used for fire protection in the grease removal device(s), hood exhaust plenum(s), and/or exhaust duct(s), and the automatic fire-extinguishing system is used for cooking equipment fire protection only.

SUBSTANTIATION: First of all, I do not believe there is a system that will extinguish cooking equipment, so the word "fire" has been added.

If a non-listed fire actuated water wash system is installed in a hood, the automatic fire-extinguishing system installed for cooking equipment protection will also be required to protect the hood exhaust plenum and exhaust duct. In this case the automatic fire-extinguishing system will not need to activate the water wash system.

COMMITTEE ACTION: Accept in Principle.

Reword Section 7.2.3.2 to read as follows:

"The water wash in a fixed baffle hood, specifically listed to extinguish a fire, shall be activated by the cooking equipment extinguishing system."

Add a new Section 7.2.3.3 to read as follows:

"Where the fire extinguishing system provides protection for the cooking equipment, hood and duct activation of the water wash shall not be required."

COMMITTEE STATEMENT: The committee agreed with the submitter but wanted to further clarify the case where the fire extinguishing system provided complete protection.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #45)

96- 55 - (7-2.3.2.1 (New)): Accept

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Add the following text:

7-2.3.2.1 A water wash system, approved to be used for protection of the grease removal device(s), hood exhaust plenum(s), and/or exhaust duct(s), shall include instruction and appropriate electrical interface for simultaneous activation of the water wash system from an automatic fire-extinguishing system, when the automatic fire-extinguishing system is used for cooking equipment protection only.

SUBSTANTIATION: Because the automatic fire-extinguishing system is required to activate a water wash system in a fixed baffle hood, there needs to be instruction from the water wash system manufacturer, as well as some way to automatically activate it electrically. Those trained for installation of the cooking equipment fire protection system very likely will not be trained on water wash systems and will need guidance from the respective water wash system manufacturer.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #46)

96- 56 - (7-2.4 (New)): Accept

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Add the following text:

7-2.4 The water required for listed automatic fire-extinguishing systems shall be permitted to be supplied from the domestic water supply when the minimum water pressure and flow are provided in accordance with the terms of the listing. The water supply shall be controlled by a supervised water supply control valve.

SUBSTANTIATION: Currently, there are listed water mist systems and listed water assisted pre-engineered systems that require some type of supervised water supply control valve. Water wash systems need to incorporate the same type of valve. A low water pressure switch is not satisfactory [see Substantiation for 7-2.3.1 and Paragraph 7-2.5 (New)].

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #47)

96- 57 - (7-2.5 (New)): Accept in Principle

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Add the following text:

7-2.5 Water Valve Supervision. Valves controlling the water supply to listed fixed baffle hood assemblies and/or automatic fire-extinguishing systems shall be supervised open by one of the following methods:

- (a) Central station, proprietary, or remote station alarm service;
- (b) Local alarm service that will cause the sounding of an audible signal at a constantly attended point;
- (c) Locking valves open; or
- (d) Sealing of valves and approved weekly recorded inspection where valves are located within fenced enclosures under the control of the owner.

SUBSTANTIATION: Currently, there are listed water mist systems and listed water assisted pre-engineered systems that require some type of supervised water supply control valve. Water wash systems need to incorporate the same type of valve. A low water pressure switch is not satisfactory (see Substantiation for 7-2.3.1). Text for Proposal 7-2.5 is taken from NFPA 15, Water Spray Fixed Systems for Fire Protection (3-3.1.2).

COMMITTEE ACTION: Accept in Principle.

Delete item (d) from the proposed list. Accept the remainder of the proposed material.

COMMITTEE STATEMENT: The committee agreed with the submitter but believed that the copied text from other standards addressing outside installations was not appropriate for these applications.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #48)

96- 58 - (7-3): Reject

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Revise text as follows:

Simultaneous Operation. Fixed pipe extinguishing systems in a single hazard area (see Section 1-2 for the definition of single hazard area) shall be arranged for simultaneous automatic operation upon actuation of any one of the systems, or by a single system designed to protect all hazards that can be simultaneously involved in fire.

SUBSTANTIATION: This text is partially taken from NFPA 17A (3-1.5). The original statement addresses multiple systems that may be installed in a single hazard area. The added statement addresses another scenario, one that involves a single extinguishing system protecting all hazards within a "single hazard area." (i.e., as opposed to connecting several fire extinguishing systems together for simultaneous operation, possibly from multiple manufacturers, a single extinguishing system configuration is recommended.)

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee asks the submitter to clarify the proposed changes as they are confusing as to the final requirements.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #36)

96- 59 - (7-5.1): Reject

SUBMITTER: William T. Paduan, Greenheck Fan Corp.

RECOMMENDATION: Rewrite with additions:

7-5 Manual Activation.

7-5.1 A readily accessible means for manual activation shall be located between 42 in. and 60 in. (1067 mm and 1524 mm) above the floor, located in a path of exit or egress, and clearly identify the hazard protected. The automatic and manual means of system activation external to the control head or releasing device shall be separate and independent of each other so that failure of one will not impair the operation of the other. A readily accessible manual actuation device shall be located between 42 in. and 60 in. (1067 mm and 1524 mm) above the floor, at or near a means of egress from the cooking area, a minimum of 10 ft (3048 mm) and a maximum of 20 ft (6096 mm) from the kitchen exhaust system.

Exception No. 1: The manual means of system activation shall be permitted to be common with the automatic means if the manual activation device is located between the control head or releasing device and the first fusible link.

Exception No. 2: An automatic sprinkler system.

SUBSTANTIATION: The additional text helps to define where the manual activation device can be installed. Without giving minimum or maximum distances, the activation device could be placed either too close or too far away to be readily accessible in an emergency situation.

Similar language appears in the International Mechanical Code (Section 509.4 System Actuation).

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee felt that the requirement for 10 ft would be overly restrictive for small cooking facilities.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #49)

96- 60 - (7-5.1): Accept

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Revise text as follows:

A readily accessible means for manual activation shall be located between 42 in. and ~~60 in.~~ 48 in. (1067 mm and ~~1524 mm~~ 1219 mm) above the floor, located in a path of exit or egress, and clearly identify the hazard protected...

SUBSTANTIATION: The 1998 edition of NFPA 17A (3-2.1.6) states, "a readily accessible means for manual activation shall be located in a path of exit or egress no more than 4 ft (1.2 m) above the floor and shall clearly identify the hazard protected." By changing 7-5.1 from a maximum distance of 60 inches to 48 inches, both NFPA documents will be somewhat consistent. NFPA 17A needs to add a minimum, which can occur with a future NFPA 17A proposal. Lowering the manual activation location will satisfy American Disabilities Act (ADA) requirements.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #50)

96- 61 - (7-7.1 Exception No. 1, No. 2, and No. 3 (New)): Accept

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Revise and add text as follows:

System Supervision.

Exception No. 1: Where an automatic fire-extinguishing system(s) includes automatic mechanical detection and actuation, as a backup detection system.

Exception No. 2: Where a fire-extinguishing system(s) ~~are~~ is interconnected or interlocked with the cooking equipment power source(s), so that if the fire-extinguishing system becomes inoperable due to power failure, all sources of fuel and electric power that produce heat to all cooking equipment serviced by that hood shall automatically shut off.

Exception No. 3: Where an automatic fire-extinguishing system, including automatic mechanical detection and actuation, is electrically connected to a listed fire-actuated water wash system for simultaneous operation of both systems.

SUBSTANTIATION: Exceptions No. 1 and No. 2 need to be rewritten to include single fire-extinguishing systems with the same requirements. Currently, the exceptions address multiple systems with later changes to single system reference.

Exception No. 3 is necessary when simultaneously activating a water wash system from the cooking equipment fire-extinguishing system through electrical connection. This connection may not have circuit supervision capabilities. If there is a loose connection between the cooking equipment fire extinguishing system and the listed water wash system, and the fire should propagate into the exhaust plenum or duct, the supervised fire actuated water wash system should detect the fire and activate.

COMMITTEE ACTION: Accept.

Editorially reword the exceptions as a requirement to comply with the NFPA Manual of Style.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #32)

96- 62 - (7-10.1): Accept in Principle

SUBMITTER: Paul O. Huston, Paul Huston & Associates

RECOMMENDATION: Revise text to read as follows:

7-10.1 Portable fire extinguishers shall be installed in kitchen cooking areas in accordance with NFPA 10, Standard for Portable Fire Extinguishers. Such extinguishers shall use agents that saponify upon contact with hot grease such as sodium bicarbonate and potassium bicarbonate dry chemical and wet chemicals. Wet chemicals are conductive agents. Wet chemical Class K extinguishers which are also Rated Class C are in violation of NFPA 10, (see paragraph 1-4.2(c), and shall not be permitted in kitchen cooking areas. Class B gas-type portables such as CO₂ and halon shall not be permitted in kitchen cooking areas.

SUBSTANTIATION: Wet chemical agents are strong conductors of electricity. They are 1254 times more conductive than nominal

tap water. Rating wet chemical Class K extinguishers C:K implies they can be used safely on live electrical equipment. Tests show that wet chemical can energize normally nonenergized appliance components such as handles and housings making them hazardous to touch.

During the NFPA 10, 1998 standards cycle, the majority of the committee and the floor delegates at the May 1998 Convention refused to delete the words "Agent must be a nonconductor of electricity" from the Class C description in paragraph 1-4.2(c) in NFPA 10. The classic UL 711 test does not test for electrical conductivity when it allows the discharging agent to be in the form of a spray. For the past 76 or more years, Class C agents have been nonconductors of electricity.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-64 (Log #51).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 28

NEGATIVE: 1

NOT RETURNED: 1 Schulz

EXPLANATION OF NEGATIVE:

KLINGENMAIER: The committee action on Log #32 was to Accept in Principle. Although I am in agreement with the committee action to reference NFPA 10 for portable extinguisher requirements, I am in total disagreement with Log #32, which would not permit Class K extinguishers with a Class C rating to be used in kitchen cooking areas.

The Class C rating for a hand portable extinguisher ensures that the operation of the unit will not result in electrical conductivity to the operator. Although the agent is a liquid, it is discharged in the form of an atomized spray which, in itself, minimizes conductivity. The extinguisher is also designed to ensure that any potential conductivity will not reach the operator. It is important to note that a Class C rating is a rating for an extinguisher NOT the agent!

(Log #33)

96- 63 - (7-10.1): Accept in Principle

SUBMITTER: Paul O. Huston, Paul Huston & Associates

RECOMMENDATION: 7-10.1 Change next to last sentence to read as follows:

7-10.1 "...Class B gas-type portables such as CO₂ and halon shall not be permitted ~~in kitchen cooking areas, to fulfill the requirements of this standard.~~"

SUBSTANTIATION: Some restaurants and kitchens use CO₂ fire extinguishers on small fires because no contamination of the food results. CO₂ hand portable extinguishers are limited with respect to the size of fire they can extinguish; also they do not meet the NFPA 10 extra high hazard requirements. Accepting the proposal would allow their use but would not allow them to satisfy minimum fire protection requirements.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-64 (Log #51).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #51)

96- 64 - (7-10.1): Accept in Principle

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Revise text as follows:

Portable fire extinguishers shall be installed in kitchen cooking areas in accordance with NFPA 10, Standard for Portable fire Extinguishers, and shall be specifically listed for such use. ~~Such extinguishers shall use agents that saponify upon contact with hot grease such as sodium bicarbonate and potassium bicarbonate dry chemical and potassium carbonate solutions.~~ Class B gas-type portables such as CO₂, halon, and halon alternatives, shall not be permitted in kitchen cooking areas. Manufacturer's recommendations shall be followed.

SUBSTANTIATION: The current requirement does not allow for new technology or alternate chemical formulations and should not restrict either. NFPA should not dictate the formulation or the extinguishing agent. As long as the extinguisher and agent is tested and listed for use in kitchen cooking areas, and in compliance

with NFPA 10, it should be acceptable regardless of the agent chemical formulation.

This new text combines current 7-10.1 and 7-10.1.1.

COMMITTEE ACTION: Accept in Principle.

Modify Section 7-10.1 to read as follows:

"Portable fire extinguishers shall be installed in kitchen cooking areas in accordance with NFPA 10, and shall be specifically listed for such use."

COMMITTEE STATEMENT: The committee agreed with the submitter and wanted to defer requirements on portable fire extinguishers to NFPA 10.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #34)

96- 65 - (7-10.1.1): Accept

SUBMITTER: Paul O. Huston, Paul Huston & Associates

RECOMMENDATION: Delete: ~~7-10.1.1 Portable fire extinguishers listed specifically for use in the kitchen cooking areas shall also be permitted.~~

SUBSTANTIATION: By deleting existing paragraph 7-10.1.1, NFPA 96 can maintain the minimum requirements in NFPA 10, Section 1-4 titled: Classification, Ratings, and Performance of Fire Extinguishers. Leaving it in allows manufacturers who do not comply with NFPA 10 to claim they meet the requirements of NFPA 96. The NFPA 10 committee approval provides a responsible review of product innovations and extinguisher safety standards. Without that review, serious public safety problems can develop. The present problem is an example: ULI claims that conductive Class K wet chemical agents can be also rated Class C because spray nozzle configurations defeat the UL standard test capability to determine if the agent is conductive. A majority of the NFPA 10 committee affirms that listing and labeling conductive agents as Class C violates the NFPA 10 standard and can create serious public safety problems.

COMMITTEE ACTION: Accept.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-64 (Log #51).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #52)

96- 66 - (7-10.1.1): Accept

SUBMITTER: William Klingenmaier, Ansul Incorporated

RECOMMENDATION: Delete the following text:

~~Portable fire extinguishers listed specifically for use in kitchen cooking areas shall also be permitted.~~

SUBSTANTIATION: This statement is included in the proposed changes to 7-10.1, and is no longer needed as a separate requirement.

COMMITTEE ACTION: Accept.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-64 (Log #51).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #53)

96- 67 - (7-10.1.1): Reject

SUBMITTER: J. R. Nerat, Badger Fire Protection

RECOMMENDATION: Revise text as follows:

7-10.1.1 Portable fire extinguishers specifically class "K" listed and labeled for use within kitchen cooking areas are recommended.

Exception No. 1: Portable fire extinguishers containing electrically conductive extinguishing agents that bear the class "C" use code symbol upon their nameplate are not permitted.

SUBSTANTIATION: The revised text identifies and adds the new class "K" listed kitchen fire extinguishers contained within the portable fire extinguisher standard NFPA 10, that are specifically intended to supplement the appliance fire suppression systems required by NFPA 96.

Because of the very unique properties of cooking media fires and that the role of portable fire extinguishers in kitchens are not intended to be the first line of defense, but instead a supplemental backup to the actuation of an appliance fire suppression system, the new "K" fire extinguisher classification evolved. Prior to the introduction of this new class "K" combustible cooking media fire classification by NFPA 10, only portable fire extinguishers having class A, B, or C fire ratings were available for reference.

The exception is necessary to address the current conflict that exists between the NFPA 10 requirement for class "C" listed extinguishers to only contain electrically nonconductive extinguishing agents and the ANSI/UL-711 class "C" extinguisher test criteria which presently only checks for electrical conductivity across a 10-inch gap of the extinguisher discharge. This issue has recently raised some serious operator application safety concerns. Having the "C" symbol on an extinguisher nameplate implies these units are intended and acceptable for use upon highly energized electrical situations outside their intended secondary class "K" kitchen role, where an activated cooking suppression system would have automatically de-energized the primary power source associated with an electrical appliance.

Initially some NFPA 10 committee members were not aware that wet chemical agents were electrically conductive and that kitchen listed models would mix fire classifications generally associated with "first line of fire defense" applications (such as the A:B:C classes) with the new class "K" listed extinguishers, which were specifically intended to backup and supplement a kitchen appliance fire suppression system. (Reference: 1998 NFPA 10, Paragraph 2-3.2.1 and 1998 NFPA 96, Paragraph 7-2.1.1 which require special placard instructions for class "K" extinguishers.)

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The submitter is requesting to add recommendations to the body of the standard. Additionally, See Committee Action on Proposal 96-64 (Log #51).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP10)

96- 68 - (Chapter x (New)): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Add a new section to the end of Chapter 8 to read as follows:

"Where required certificates of inspection and cleaning shall be submitted to the authority having jurisdiction."

SUBSTANTIATION: The Technical Committee wanted to ensure that the certificates be submitted to the ahj where required by the ahj.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP29)

96- 69 - (Chapter 8): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 8 to "Chapter 11 Procedures for the Use and Maintenance of Equipment" and reword the requirements of Chapter 8 to read as follows:

Chapter 11 Procedures for the Use and Maintenance of Equipment

11.1 Operating Procedures.

11.1.1 Exhaust systems shall be operated whenever cooking equipment is turned on.

11.1.2 Filter-equipped exhaust systems shall not be operated with filters removed.

11.1.3 Openings provided for replacing air exhausted through ventilating equipment shall not be restricted by covers, dampers, or any other means that would reduce the operating efficiency of the exhaust system.

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.

11.1.5 Listed exhaust hoods shall be operated in accordance with the terms of their listings and the manufacturer's instructions.

11.1.6 Cooking equipment shall not be operated while its fire-extinguishing system or exhaust system is nonoperational or otherwise impaired.

11.2 Inspection of Fire Extinguishing Systems.

11.2.1*An inspection and servicing of the fire-extinguishing system and listed exhaust hoods containing a constant or fire-actuated water system shall be made at least every 6 months by properly trained and qualified persons.

11.2.2 All actuation components, including remote manual pull stations, mechanical or electrical devices, detectors, actuators, and fire-actuated dampers, shall be checked for proper operation during the inspection in accordance with the manufacturer's listed procedures.

11.2.3 In addition to these requirements, the specific inspection requirements of the applicable NFPA standard shall also be followed.

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, to ensure proper operation of the system.

11.2.5 Other detection devices not including fusible links and automatic sprinklers, shall be serviced or replaced in accordance with the manufacturer's recommendations.

11.2.6 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 not be required.

11.2.7 Where required, certificates of inspection and maintenance shall be forwarded to the authority having jurisdiction.

11.3 Inspection of Exhaust Systems.

11.3.1 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 11.3.1.

Table 11.3.1 Exhaust System Inspection Schedule

Type or Volume of Cooking Systems	Frequency
Systems serving solid fuel cooking operations	Monthly
Systems serving high-volume cooking operations such as 24-hour cooking, charbroiling or wok cooking	Quarterly
Systems serving moderate-volume cooking operations	Semiannually
Systems serving low-volume cooking operations, such as churches, day camps, seasonal businesses, or senior centers	Annually

11.4 Cleaning of Exhaust Systems.

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 Section 8-3.

11.4.2* Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to bare metal prior to surfaces becoming heavily contaminated with grease or oily sludge. (Change current A-8-3.1 to A.11.4.2)

11.4.3 At the start of the cleaning process, electrical switches that could be activated accidentally shall be locked out.

11.4.4 Components of the fire suppression system shall not be rendered inoperable during the cleaning process.

11.4.5 Fire extinguishing systems shall be permitted to be rendered inoperable during the cleaning process where serviced by properly trained and qualified persons in accordance with Section 11.2.

11.4.6 Flammable solvents or other flammable cleaning aids shall not be used.

11.4.7 Cleaning chemicals shall not be applied on fusible links or other detection devices of the automatic extinguishing system.

11.4.8 After the exhaust system is cleaned to bare metal, it shall not be coated with powder or other substance.

11.4.9 All access panels (doors) and cover plates shall be replaced.

11.4.10 Dampers and diffusers shall be positioned for proper airflow.

11.4.11 When cleaning procedures are completed, all electrical switches and system components shall be returned to an operable state.

11.4.12 When a vent cleaning service is used, a certificate showing date of inspection or cleaning shall be maintained on the premises.

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.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #16)

96- 70 - (8-2 and 10-6.5): Reject

SUBMITTER: Farrell Taphorn, Acme Fire and Safety Co. Ltd.

RECOMMENDATION: "Qualified" changed to "Manufacturer Certified."

"Should" changed to "Shall."

SUBSTANTIATION: Our AHJs have their hands tied by this, and it is so open to interpretation that every ex-fireman with a business license thinks that they are qualified to service and rework systems.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee believes that the proposed language is overly restrictive. The technical committee has established that the AHJ is to determine an acceptable level of certification or qualification.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #7)

96- 71 - (Table 8-3.1): Reject

SUBMITTER: Grant Mogford, Flue Steam, Inc.

RECOMMENDATION: Revise Table 8-3.1 as follows:

Table 8-3.1 Exhaust System Inspection Schedule

Type or Volume of Cooking	Frequency
Systems serving solid fuel cooking operations	Monthly
Systems serving high-volume or high grease cooking operations such as 24-hour cooking, charbroiling, <u>deep fryer</u> or wok cooking	<u>Quarterly</u> Monthly
Systems serving moderate-volume or moderate grease cooking operations such as steamers and salamanders	<u>Semiannually</u> Bimonthly
Systems serving low-volume or low grease generating cooking operations such as ovens and stoves	<u>Quarterly</u>
Systems serving <u>low volume limited</u> cooking operations, such as churches, day camps, seasonal businesses, or senior centers	Annually

SUBSTANTIATION: It is in the best interest of fire prevention to make an inspection prior to a condition that is unsafe, the time schedules in NFPA 96, 1998 edition, calls for inspection at a point when the grease buildup is beyond the point of being safe.

Additionally, if examples are given like charbroiling and wok cooking it should continue and name other cooking operations also. This being only an inspection schedule will not cause any added expense to commercial kitchen operators unless their system is in need of service more often than previously indicated by NFPA 96, 1998 edition.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee believes that the current table addresses the hazards that are present and that the proposed material would be excessive.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP30)

96- 72 - (Chapter 9): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 9 to "Chapter 12 Minimum Safety Requirements for Cooking Equipment" and reword the requirements of Chapter 9 to read as follows:

Chapter 12 Minimum Safety Requirements for Cooking Equipment

12.1 Cooking Equipment.

12.1.1 Cooking equipment shall be approved based on one of the following criteria:

(a) Listings by a testing laboratory

(b) Test data acceptable to the authority having jurisdiction

12.1.2 Installation.

12.1.2.1 All listed appliances shall be installed in accordance with the terms of their listings and the manufacturer's instructions.

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 otherwise allowed by the design of the fire-extinguishing system.

12.1.2.3 The fire extinguishing system shall not require reevaluation where the cooking appliances are moved to perform maintenance and cleaning provided the appliances are returned to their original positioning prior to cooking operations, and any disconnected fire-extinguishing system nozzles attached to the appliances are reconnected in accordance with the manufacturer's listed design manual.

12.1.2.4 All deep fat fryers shall be installed with at least a 16-in. (406.4-mm) space between the fryer and surface flames from adjacent cooking equipment.

12.1.2.5 Where a steel or tempered glass baffle plate is installed at a minimum 8 in. (203 mm) in height between the fryer and surface flames of the adjacent appliance the requirement for a 16 in space shall not apply.

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 475°F (246°C) at 1 in. (25.4 mm) below the surface.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #9)

96- 73 - (9-1.2.2): Accept in Principle

SUBMITTER: Northeastern Regional Fire Code Dev. Committee

RECOMMENDATION: Revise to read:

9-1.2.2* 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 otherwise allowed by the design of the fire-extinguishing system.

Exception: Cooking appliances moved to perform maintenance and cleaning provided the appliances are returned to their original positioning approved design location prior to cooking operations, and any disconnected fire-extinguishing system nozzles attached to the appliances are reconnected in accordance with the manufacturer's listed design manual. An approved method shall be provided that will ensure that the appliance is returned to its approved design location.

Revise the appendix to read:

A-9-1.2.2 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 caster 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.

SUBSTANTIATION: Cooking appliances that are movable pose a greater risk when placed in their prearranged position before cooking takes place. During inspections it has been noted that many appliances have been out of position by as much as a foot; this greatly reduces the effectiveness of the extinguishing systems and places the occupants and facility in danger. An approved means of marking or physical barrier needs to be installed to ensure that movable appliances are placed in their approved locations.

COMMITTEE ACTION: Accept in Principle.

The Technical Committee accepts the proposed material but editorially changed the term "its" to "an" in the last sentence of the proposed change to the Exception to Section 9-1.2.2.

COMMITTEE STATEMENT: The committee editorially wanted to ensure that an appliance that was listed or approved for multiple locations could be installed in any approved location.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #15)

96- 74 - (9-1.2.3): Accept

SUBMITTER: R. T. Leicht, Delaware State Fire Marshal's Office

RECOMMENDATION: Add the following sentence to end of the existing exception:

If the fryer and the surface flames are at different horizontal planes, the minimum height of 8 in. shall be measured from the higher of the two.

SUBSTANTIATION: In the 1998 edition, the exception was intended to cause potentially combustible vapors to have travel at least 16 inches to a possible source of ignition.

In order to do that, the baffle has to be at least 8 inches above the higher of the two. For instance, if a surface flame is 42 inches above the floor and the fryer is 45 inches above the floor and the baffle is 8 inches above the surface flame, then the oil vapor travels down 8 inches after having traveled up only 5 inches. This is a total of only 13 inches. However, if the baffle is 8 inches above the oil level, then the oil vapor travels up 8 inches and then travels an additional 11 inches down to the surface flame; a total of 19 inches...in excess of 16 inches.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #3)

96- 75 - (9-1.2.3 Exception): Accept in Principle

SUBMITTER: Ivan J. Humberson, City of Gaithersburg, MD

RECOMMENDATION: In the Exception, change the number 8 to 16.

SUBSTANTIATION: Prior to the inception of this Exception, a Formal Interpretation was in effect for this requirement. The Formal Interpretation stated that a 16 inch high baffle between the appliances could be installed in lieu of providing a 16 inch space. With the change to an 8 inch high baffle, a grease splash need only travel 8 inches to clear the obstruction & gravity will do the rest. With a 16 inch baffle, as has been the accepted method for many years, the original intent is better met.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-74 (Log #15).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29
NOT RETURNED: 1 Schulz

(Log #12)

96- 76 - (9-2): Reject

SUBMITTER: R. T. Leicht, Delaware State Fire Marshal's Office

RECOMMENDATION: Add the following text to the end of the existing language:

The separate high limit control shall require manual reset.

SUBSTANTIATION: It is unsafe for a deep fat fryer to overheat, and then be allowed to automatically allow a source of heat to be reintroduced to the equipment without first requiring some means of human intervention.

This follows the same logic that is applied to the fuel/power shutoff that requires a manual reset once the fire extinguishing system discharges.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The committee feels that the added safety device is overly restrictive and is not needed.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 28

NEGATIVE: 1

NOT RETURNED: 1 Schulz

EXPLANATION OF NEGATIVE:

LEICHT: Contrary to the Committee Statement, this is not an added safety device. The standard already requires the high limit control. The proposal is only intended to have the required device to cause a human intervention once it "trips". This proposal doesn't require an additional safeguard, it merely says that when the unwanted condition is detected, the safety won't self-reset without someone knowing about the unwanted condition. As such, I am surprised the entire committee did not support this.

This arrangement is exactly the way other NFPA documents read that requires high temperature limit switches.

(Log #CP31)

96- 77 - (Chapter 10): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 10 to "Chapter 13 Recirculating Systems" and reword the requirements of Chapter 10 to read as follows:

Chapter 13 Recirculating Systems

13.1 General Requirements. Recirculating systems containing or for use with appliances used in processes producing smoke or grease-laden vapors shall be equipped with components complying with the following:

(a) The clearance requirements of Section (current 1-3.2)

(b) A hood complying with the requirements of Chapter 5

(c) Grease removal devices complying with Chapter 6

(d) The air movement requirements of Chapter 8, (current

Exceptions to 5-2.1 and 5-2.2)

(e) Auxiliary equipment (such as particulate and odor removal devices) complying with Chapter 9

(f) Fire-extinguishing equipment complying with the requirements of Chapter 10, Section 10.1.1 and 10.5.1 shall not apply.

(g) The use and maintenance requirements of Chapter 11

(h) The minimum safety requirements of Chapter 11

(i) All the requirements of this chapter

13.2 Design Restrictions. All recirculating systems shall comply with the requirements of Section 13.2.

13.2.1 Only gas- or electrically fueled cooking appliances shall be used.

13.2.2 Gas-fueled appliances shall not have the combustion flue outlet(s) directly connected to the recirculating system.

13.2.3 Gas-fueled appliances shall have a minimum 18-in. (457.2-mm) clearance from the flue outlet to the filter inlet in accordance with 3-2.2 and shall meet the installation requirements of NFPA 54, National Fuel Gas Code, or NFPA 58, Liquefied Petroleum Gas Code.

13.2.4 Recirculating systems shall be listed with a testing laboratory.

13.2.5 There shall be no substitution or exchange of cooking appliances, filter components, blower components, or fire-extinguishing system components that would violate the listing of the appliance.

13.2.6 A recirculating system shall not use cooking equipment that exceeds that system's labeled maximum limits for that type of equipment, stated in maximum energy input, maximum cooking temperature, and maximum square area of cooking surface or cubic area of cooking cavity.

13.2.7 The listing label shall show the type(s) of cooking equipment tested and the preceding maximum limits specified in Section 13.2.6.

13.2.8 A fire-actuated damper shall be installed at the exhaust outlet of the system.

13.2.9 The fire damper shall be constructed of at least the same gauge as the shell.

13.2.10 The actuation device for the fire damper shall have a maximum temperature rating of 375°F (190°C).

13.2.11 The power supply of any electrostatic precipitator (ESP) shall be of the "cold spark," ferro-resonant type in which the voltage falls off as the current draw of a short increases.

13.2.12 Listing evaluation shall include the following:

(a) Capture and containment of vapors at published and labeled airflows

(b) Grease discharge at the exhaust outlet of the system not to exceed an average of 5 mg/m³ of exhausted air sampled from that equipment at maximum amount of product that is capable of being processed over a continuous 8-hour test per EPA Test Method 202, Determination of Condensable Particulate Emissions for Stationary Sources, with the system operating at its minimum listed airflow.

(c) Listing and labeling of clearance to combustibles from all sides, top, and bottom

(d) Electrical connection in the field in accordance with NFPA 70, National Electrical Code

(e) Interlocks on all removable components that lie in the path of airflow within the unit to ensure that they are in place during operation of the cooking appliance

13.3 Interlocks.

13.3.1 The recirculating system shall be provided with interlocks of all critical components and operations as indicated in 10-3.1 through 10-3.4 such that, if any of these interlocks are interrupted, the cooking appliance shall not be able to operate.

13.3.2 All closure panels encompassing airflow sections shall have interlocks to ensure the panels are in place and fully sealed.

13.3.3 Each filter component (grease and odor) shall have an interlock to prove the component is in place.

13.3.4 ESP Interlocks.

13.3.4.1 Each ESP shall have a sensor to prove its performance is as designed, with no interruption of the power to exceed 2 minutes.

13.3.4.2 The sensor shall be a manual reset device or circuit.

13.3.5 Airflow Switch or Transducer.

13.3.5.1 An airflow switch or transducer shall be provided after the last filter component to ensure that a minimum airflow is maintained.

13.3.5.2 The airflow switch or transducer shall open the interlock circuit when the airflow falls 25 percent below the system's normal operating flow or 10 percent below its listed minimum rating, whichever is lower.

13.3.5.3 The airflow switch or transducer shall be a manual reset device or circuit.

13.4 Location and Application Restrictions.

13.4.1 The location of recirculating systems shall be approved by the authority having jurisdiction.

13.4.2 Items to be reviewed in the fire risk assessment shall include, but not be limited to, life safety, combustibility of surroundings, proximity to air vents, and total fuel load.

13.5 Additional Fire Safety Requirements.

13.5.1 In addition to the appliance nozzle(s), a recirculating system shall be listed with the appropriate fire protection for grease filters, grease filtration, odor filtration units, and ductwork where applicable.

13.5.2 In addition to any other fire-extinguishing system actuation device, there shall be a fire-extinguishing system actuation device installed downstream of any ESP.

13.5.3 The requirements of Section 10.6 shall also apply to recirculating system locations.

13.6 Use and Maintenance.

13.6.1 Automatic or manual covers on cooking appliances, especially fryers, shall not interfere with the application of the fire suppression system.

13.6.2 All filters shall be cleaned or replaced in accordance with the manufacturer's instructions.

13.6.3 All ESPs shall be cleaned a minimum of once per week following manufacturer's cleaning instructions.

13.6.4 The entire hood plenum and the blower section shall be cleaned a minimum of once every 3 months.

13.6.5 Inspection and testing of the total operation and all safety interlocks in accordance with the manufacturer's instructions shall be performed by qualified service personnel a minimum of once every 6 months or more frequently if required.

13.6.6 Fire extinguishing equipment shall be inspected in accordance with Section 11.2.

13.6.7 A signed and dated log of maintenance as performed in accordance with Section 13.6.4 and Section 13.6.5 shall be available on the premises for use by the authority having jurisdiction.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP14)

96-78 - (Chapter 10): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Add a new section to 10-2.1 to read as follows:

"Listed gas-fueled equipment designed for use with specific recirculating systems shall have the flue outlets connected in the intended manner."

Add new Section 10-5.4 and 10-5.5 to read as follows:

10-5.4 A means of manual activation of the fire extinguishing system shall be provided in an area where it is safely accessible in the event of a fire in the appliance.

10-5.5 The manual activation device for the fire extinguishing system shall be clearly identified.

SUBSTANTIATION: The Technical Committee wanted to further clarify the requirements as they applied to Recirculating Systems.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #57)

96-79 - (10-2.3): Accept

SUBMITTER: R. T. Leicht, Delaware State Fire Marshal's Office

RECOMMENDATION: Near the end of the first sentence, change the word "cubic area" to the word "cubic volume."

SUBSTANTIATION: Current language is incorrect and a violation of definition. Areas are measured in square dimensions. Cubic dimensions are reserved for volume.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #CP32)

96-80 - (Chapter 11): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Renumber Chapter 11 to "Chapter 14 Solid Fuel Cooking Operations" and reword the requirements of Chapter 11 to read as follows:

Chapter 14 Solid Fuel Cooking Operations

14.1 Venting Application. Venting requirements of solid fuel cooking operations shall be determined in accordance with Section 14.1.1 through 14.1.7.

14.1.1 Where solid fuel cooking equipment is required by the manufacturer to have a natural draft, the vent shall comply with Section 14.4.

14.1.2 Where the solid fuel cooking equipment has a self-contained top, is the only appliance to be vented in an isolated space (except for a single water heater with its own separate vent), has a separate makeup air system, and is provided with supply and return air (not supplied or returned from other spaces), the system shall comply with Sections 14.4 and 14.6.

14.1.3 Where the solid fuel cooking equipment is located in a space with other vented equipment, all vented equipment shall have an exhaust system interlocked with a makeup air system for the space as per Section 14.6.

14.1.4 Natural draft ventilation systems and power-exhausted ventilation systems shall comply with Sections 14.3, 14.4, and 14.6.

14.1.5 Where a solid fuel cooking appliance allows effluent to escape from the appliance opening, this opening shall be covered by a hood and an exhaust system that meets the requirements of Sections 14.3, 14.4, and 14.6.

14.1.6 Solid fuel cooking operations shall have spark arresters to minimize the passage of airborne sparks and embers into plenums and ducts.

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.

14.2 Location of Appliances.

14.2.1 Every appliance shall be located with respect to building construction and other equipment so as to permit access to the appliance.

14.2.2*Solid fuel cooking appliances shall not be installed in confined spaces.

14.2.3 Solid fuel cooking appliances listed for installation in confined spaces such as alcoves shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

14.2.4 Solid fuel cooking appliances shall not be installed in any location where gasoline or any other flammable vapors or gases are present.

14.3 Hoods for Solid Fuel Cooking.

14.3.1 Hoods shall be sized and located in a manner capable of capturing and containing all of the effluent discharging from the appliances.

14.3.2 The hood and its exhaust system shall comply with the requirements of Chapters 5 through 10.

14.3.3 All solid fuel cooking equipment served by hood and duct systems shall be separate from all other exhaust systems.

14.3.4 Cooking equipment not requiring automatic fire-extinguishing equipment (as per the provisions of Chapter 7) shall be permitted to be installed under a common hood with solid fuel cooking equipment that is served by a duct system separate from all other exhaust systems.

14.4 Exhaust Systems for Solid Fuel Cooking.

14.4.1 Where a hood is not required, a duct complying with Chapter 7 shall be provided.

14.4.2 Where a hood is used, the duct system shall conform with the requirements of Chapter 7.

14.4.3 Wall terminations of solid fuel exhaust systems shall be prohibited.

14.5 Grease Removal Devices for Solid Fuel Cooking.

14.5.1 Grease removal devices shall be constructed of steel or stainless steel or be approved for solid fuel cooking.

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.

14.5.3 Filters shall be a minimum of 4 ft (1.2 m) above the appliance cooking surface.

14.6 Air Movement for Solid Fuel Cooking.

14.6.1 Exhaust system requirements shall comply with Chapter 8 for hooded operation or shall be installed in accordance with the manufacturer's recommendation for unhooded applications.

14.6.2 A replacement or makeup air system shall be provided to ensure a positive supply of replacement air at all times during cooking operations.

14.6.3 Makeup air systems serving solid fuel cooking operations shall be interlocked with the exhaust air system and powered, if necessary, to prevent the space from attaining a negative pressure while the solid fuel appliance is in operation.

14.7 Fire-Extinguishing Equipment for Solid Fuel Cooking.

14.7.1 Solid fuel cooking appliances that produce grease laden vapors shall be protected by listed fire extinguishing equipment.

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 NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances, Chapters 3 and 4, shall not require fixed automatic fire-extinguishing equipment.

14.7.3 Listed fire-extinguishing equipment shall be provided for the protection of grease removal devices, hoods, and duct systems.

14.7.4 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 NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances, Chapters 3 and 4, shall not require automatic fire-extinguishing equipment for the protection of grease removal devices, hoods and duct systems.

14.7.5 Listed fire-extinguishment equipment for solid fuel burning cooking appliances, where required, shall comply with Chapter 10, "Fire-Extinguishing Equipment," and shall be comprised of water-based agents.

14.7.6 Fire-extinguishing equipment shall be rated and designed to extinguish solid fuel cooking fires, in accordance with the manufacturer's recommendations.

14.7.7 The fire-extinguishing equipment shall be of sufficient size to totally extinguish fire in the entire hazard area and prevent reignition of the fuel.

14.7.8 All solid fuel appliances (whether or not under a hood) with fireboxes of 5-ft³ (0.14-m³) volume or less shall at least have a 2-A-rated water-type or wet chemical fire extinguisher in accordance with NFPA 10, Standard for Portable Fire Extinguishers, in the immediate vicinity of the appliance.

14.7.9 Two portable fire extinguishers of at least 1 1/2 gal (5.7 L) each and containing potassium citrate, potassium acetate, or potassium carbonate solutions shall be permitted to be used instead of the one 2-A-rated portable fire extinguisher.

14.7.10 Hose Protection.

14.7.10.1 Solid fuel appliances with fireboxes exceeding 5 ft³ (0.14 m³) shall be provided with a fixed water pipe system with a hose in the kitchen capable of reaching the fire box.

14.7.10.2 The system shall have a minimum operating pressure of 40 psi (275.8 kPa) and shall provide a minimum of 5 gpm.

14.7.11 Fire suppression for fuel storage areas shall comply with Section 14.9 of this standard.

14.7.12 In addition to the requirements of 14.7.5 or 14.7.6, where any solid fuel cooking appliance is also provided with auxiliary electric, gas, oil, or other fuel for ignition or supplemental heat and the appliance is also served by any portion of a fire-extinguishing system complying with Chapter 10, such auxiliary fuel shall be shut off upon actuation of the fire-extinguishing system.

14.8 Procedures for Inspection, Cleaning, and Maintenance for Solid Fuel Cooking.

Solid fuel cooking appliances shall be inspected, cleaned, and maintained in accordance with procedures outlined in Chapter 11, and with 14.8.1 through 14.8.4.

14.8.1 The combustion chamber shall be scraped clean to its original surface once each week and inspected for deterioration or defects.

14.8.2 Any significant deterioration or defect that might weaken the chamber or reduce its insulation capability shall be immediately repaired.

14.8.3 The flue or chimney shall be inspected weekly for the following conditions:

(a) Residue that might begin to restrict the vent or create an additional fuel source. The flue or chimney shall be cleaned before these conditions exist.

(b) Corrosion or physical damage that might reduce the flue's capability to contain the effluent. The flue or chimney shall be repaired or replaced if any unsafe condition is evident.

14.8.4 Spark arrester screens located at the entrance of the flue or in the hood assembly shall be cleaned prior to becoming heavily contaminated and restricted.

14.8.5 Filters and filtration devices installed in a hood shall be cleaned per 11-8.3.

14.9 Minimum Safety Requirements: Fuel Storage, Handling, and Ash Removal for Solid Fuel Cooking.

14.9.1 Installation Clearances.

14.9.1.1 Solid fuel cooking appliances shall be installed on floors of noncombustible construction that extend 3 ft (0.92 m) in all directions from the appliance.

14.9.1.2 Floors with noncombustible surfaces shall be permitted to be used where they have been approved for such use by the authority having jurisdiction.

14.9.1.3 Floor assemblies that have been listed for solid fuel applications shall be permitted to be used.

14.9.1.4 Solid fuel cooking appliances that have been listed for zero clearance to combustibles on the bottom and sides and have an approved hearth extending 3 ft (0.92 m) in all directions from the service door(s) shall be permitted to be used on combustible floors.

14.9.1.5 Combustible and limited-combustible surfaces or construction within 3 ft (0.92 m) of the sides or 6 ft (1.8 m) above a solid fuel cooking appliance shall be protected in a manner acceptable to the authority having jurisdiction.

14.9.1.6 Solid fuel cooking appliances that are specifically listed for less clearance to combustibles shall be permitted to be installed in accordance with the requirements of the listing and the manufacturer's instructions.

14.9.2 Solid Fuel Storage.

14.9.2.1 Fuel storage shall not exceed a one-day supply where stored in the same room as the solid fuel appliance or in the same room as the fuel-loading or clean-out doors.

14.9.2.2 Fuel shall not be stored above any heat-producing appliance or vent or closer than 3 ft (0.92 m) to any portion of a solid fuel appliance constructed of metal or to any other cooking appliance that could ignite the fuel.

14.9.2.3 Fuel shall be permitted to be stored closer than the requirements of Section 14.9.2.4, where a solid fuel appliance or other cooking appliance is listed or approved for less clearance to combustibles.

14.9.2.5 Fuel shall not be stored in the path of the ash removal.

14.9.2.6 Where stored in the same building as the solid fuel appliance, fuel shall be stored only in an area with walls, floor, and ceiling of noncombustible construction extending at least 3 ft (0.92 m) past the outside dimensions of the storage pile.

14.9.2.7 Where combustible or limited-combustible materials protected in accordance with (current 1-3.2.1, Exception No. 2 or 3) fuel shall be permitted in the protected areas.

14.9.2.8 Fuel shall be separated from all flammable liquids, all ignition sources, all chemicals, and all food supplies and packaging goods.

14.9.2.9 All fuel storage areas shall be provided with a sprinkler system meeting the requirements of NFPA 13, Standard for the Installation of Sprinkler Systems, and acceptable to the authority having jurisdiction.

14.9.2.10 Where acceptable to the authority having jurisdiction fuel storage areas shall be permitted to be protected with a fixed pipe system with a capable of reaching all parts of the area, meeting the requirements of 14.7.1 through 14.7.8.

14.9.2.11 The portable fire extinguisher specified in 14.7.5 shall be permitted to be used for a solid fuel pile, provided that the fuel pile does not exceed 5 ft³ (0.14 m³).

14.9.3 Solid Fuel Handling and Ash Removal.

14.9.3.1 Solid fuel shall be ignited with a match or an approved built-in gas flame or other approved ignition source.

14.9.3.2 Combustible or flammable liquids shall not be used to assist ignition.

14.9.3.3 Matches and other portable ignition sources shall not be stored in the vicinity of the solid fuel appliance.

14.9.3.4 Solid fuel shall be added to the fire as required in a safe manner and in quantities and ways not creating a higher flame than is required.

14.9.3.5 Long-handled tongs, hooks, and other required devices shall be provided and used in order to safely add fuel, adjust the fuel position, and control the fire without having to reach into the firebox.

14.9.3.6 Ash Protection.

14.9.3.6.1 Ash, cinders, and other fire debris shall be removed from the firebox at adequately regular intervals to prevent interference with the draft to the fire and to minimize the length of time the access door is open.

14.9.3.6.2 All ash shall be removed from the chamber a minimum of once a day.

14.9.3.6.3 The ash shall be sprayed adequately with water before removal in order to extinguish any hot ash or cinders and to control the dust when the ash is moved.

14.9.3.7 Hose Protection.

14.9.3.7.1 For these purposes, and to cool a fire that has become too hot and to stop all fire before leaving the premises, a water supply with a flexible hose shall be provided at the solid fuel appliance.

14.9.3.7.2 For appliances with fireboxes not exceeding 5 ft³ (0.14 m³), the water source shall be permitted to be a 10-gal (37.9-L) container with a gravity arrangement or a hand pump for pressure.

14.9.3.7.3 For appliances with fireboxes over 5 ft³ (0.14 m³), the water source shall be a fixed pipe water system with a hose of adequate length to reach the combustion and cooking chambers of the appliance.

14.9.3.7.4 For either application, the nozzle shall be fitted with a manual shutoff device and shall be of the type to provide a fine-to-medium spray of adequate length to reach all areas of the combustion and cooking chambers.

14.9.3.8 Ash Removal Container or Cart.

14.9.3.8.1 A heavy metal container or cart (minimum 16 gauge) with a cover shall be provided for the removal of ash.

14.9.3.8.2 The ash removal container or cart shall not exceed a maximum of 20-gal (75.7 L) capacity, shall be assigned for this one purpose, shall be able to be handled easily by any employee assigned the task, and shall pass easily through any passageway to the outside of the building.

14.9.3.8.3 The container or cart shall always be covered when it is being moved through the premises.

14.9.3.8.4 When any hole occurs in a container from corrosion or damage, it shall be repaired or replaced immediately.

14.9.3.9 Ash Removal Process.

14.9.3.9.1 Tools shall be provided so that ash removal can be accomplished without having to reach into the chamber.

14.9.3.9.2 The ash shall be spread out gently in small lots on the chamber floor or on a shovel to be sprayed before it is removed to the metal container or cart.

14.9.3.9.3 If the floor of the chamber is of a metal that is subject to rapid corrosion from water, then a noncombustible, corrosion-resistant pan shall be placed just outside the clean-out door for this purpose.

14.9.3.9.4 The ash shall be carried to a separate heavy metal container (or dumpster) used exclusively for the purpose.

14.9.4 Other Safety Requirements.

14.9.4.1 Metal-fabricated solid fuel cooking appliances shall be listed for the application where produced in practical quantities or shall be approved by the authority having jurisdiction.

14.9.4.2 Where listed, they shall be installed in accordance with the terms of their listing and with the applicable requirements of this standard.

14.9.4.3 Site Built Solid Fuel Cooking Appliances.

14.9.4.3.1 Site-built solid fuel cooking appliances shall be submitted for approval to the authority having jurisdiction before being considered for installation.

14.9.4.3.2 All units submitted to the authority having jurisdiction shall be installed, operated, and maintained in accordance with the approved terms of the manufacturer's instructions and any additional requirements set forth by the authority having jurisdiction.

14.9.4.4 Except for the spark arrester required in 14.1.6, there shall be no additional devices of any type in any portion of the appliance, flue pipe, and chimney of a natural draft solid fuel operation.

14.9.4.5 No solid fuel cooking device of any type shall be permitted for deep fat frying involving more than one quart of liquid shortening, nor shall any solid fuel cooking device be permitted within 3 ft (0.92 m) of any deep fat frying unit.

A.14.2.2 The space or room shall be of ample size to permit adequate circulation of heated air.

SUBSTANTIATION: Removal of unenforceable language from the body of the standard and to ensure that each section only contains one requirement.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz

(Log #2)

96- 81 - (11-4): Accept in Principle

SUBMITTER: Western Regional Fire Code Dev. Committee

RECOMMENDATION: Revise to read:

11-4 Exhaust Systems for Solid Fuel Cooking. Where a hood is not required, a duct complying with Chapter 4 shall be provided.

Exception: Ducts three or more stories in height for wood burning equipment shall be constructed as for a high heat appliance per NFPA-211.

11-4.1 If a hood is used, the duct system shall conform with Chapter 4.

Exception: Ducts three or more stories in height for wood burning equipment shall be constructed as for a high heat appliance per NFPA-211.

SUBSTANTIATION: Portland, OR has experienced a high number of fires in the ducts of wood burning cooking appliances. It is possible to have kitchens consume as high as fourteen cords per month. The demand for wood in the northwest makes it impossible to obtain a continuous dry wood supply. Typical ducts are not adequate to handle a creosote flue fire and I have witnessed near failure of two hour shafts where the steel duct was actually distorted, bubbled, and the welds broken and not gas tight (ten story hotel). The weekly inspection and minimum monthly cleaning frequencies are good but when prevention inspections can not occur even annually is impractical to assume the industry will police themselves.

COMMITTEE ACTION: Accept in Principle.

Reword Section 11-4 to read as follows:

"Exhaust Systems for Solid Fuel Cooking. Where a hood is not required, in buildings where the duct system is 3 stories or less in height, a duct complying with Chapter 4 shall be provided."

Reword Section 11-4.1 to read as follows:
 "If a hood is used in buildings where the duct system is 3 stories or less in height the duct system shall comply with Chapter 4."
 Insert a new section 11-4.2 to read as follows:
 "Exhaust Systems for Solid Fuel Cooking - 4 Stories in Height or Greater. A listed or approved grease duct system shall be provided."
 Re-number the current paragraphs accordingly
COMMITTEE STATEMENT: The committee agreed with the submitter, but wanted to ensure that the applications of these requirements was based upon the length of the duct system and not the height of the building. The committee also wanted to ensure that the duct/chimney system would be cleanable.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #35)

96- 82 - (11-7.5): Reject
SUBMITTER: Paul O. Huston, Paul Huston & Associates
RECOMMENDATION: Revise text to read as follows:
 11-7.5 All solid fuel appliances (whether or not under a hood) with fire boxes of 5 ft³ (0.14 m³) volume or less shall at least have a 2 1/2 gal 2A Rated water type or 2 1/2 gal Class K wet chemical type portable fire extinguisher in accordance with NFPA 10, Standard for Portable Fire Extinguishers, in the immediate vicinity of the appliance. Two portable water or wet chemical Class K type portable fire extinguishers of at least 1 1/2 gal (5.7 L) shall be permitted to satisfy the requirements of one 2 1/2 gal extinguisher.
SUBSTANTIATION: The existing paragraph 11-7.5 does not require adequate fire protection for solid fuel fires. The effectiveness of protection comes predominantly from the volume of and cooling effects of water. I don't believe 2 1/2 gal wet chemical fire extinguishers should be rated 2A because the effective delivery range is very short; about 8-10 ft. They can be very effective on range top and confined solid fuel fires. There are wet chemical 6 liter extinguishers that are rated 2A: B: C: K and 2A: C: K. Such 6 liter extinguishers are not the equivalent of 2 1/2 gal water or wet chemical extinguishers; therefore, paragraph 11-7.5 should also define the minimum volume to ensure proper minimum fire protection.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The committee believes that the current requirements address the use of portable fire extinguishers for solid fuel cooking equipment.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #54)

96- 83 - (11-7.5): Reject
SUBMITTER: J. R. Nerat, Badger Fire Protection
RECOMMENDATION: Revise text as follows:
 11-7.5 All solid fuel appliances (whether or not under a hood) with fireboxes of 5-ft³ (0.14-m³) volume or less shall be protected with a listed hand portable fire extinguisher containing a minimum quantity of 2.5 gal (9.43 L) of a water based extinguishing agent. Two extinguishers each having a minimum capacity of 1.5 gal (5.7 L) will also satisfy this requirement.
SUBSTANTIATION: While the numerical class "A" fire extinguisher ratings have been recognized within the portable fire extinguisher standard (NFPA 10) for many years, the test criteria for them within ANSI/UL-711 is not very relevant to the various forms of solid fuel cooking situations commonly associated with commercial kitchen applications. There are many differences in the way solid fuels burn and can be judged successfully controlled or extinguished.
 Testing directly involving solid fuel quantities of 5 ft³ has shown that the actual cooling of these situations is more directly related to the total volume of a water based agent being applied, than the numerical class "A" fire rating an extinguisher obtains.
 The approval testing agencies do not require the fire testing of hand portable water extinguishers, but simply can award various numerical class "A" fire ratings based upon the total agent volume. Extinguishers having smaller water based agent volumes can,

however, elect to test for higher numerical ratings. (Submitted reference: ANSI/UL-711, Paragraph 4.3.)
 Establishing a minimum extinguisher agent volume more accurately addresses and ensures the necessary agent cooling properties required for the amount of solid fuel identified within this standard are provided.
 This proposed revised text eliminates the numerical 2A extinguisher fire rating reference, clarifies the requirement for a water based extinguishing agent, and establishes the minimum quantity of extinguishing agent necessary to provide adequate cooling for solid fuel capacities up to 5 ft³.
 Additional information on the solid fuel fire testing conducted by Badger Fire Protection is available and can be forwarded to the committee upon request.
 Note: Supporting material is available for review at NFPA Headquarters.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The committee believes that the current requirements address the use of portable fire extinguishers for solid fuel cooking equipment.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #CP33)

96- 84 - (Chapter 12): Accept
SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances
RECOMMENDATION: Update references to read as follows:
 12-1.2 Other Publications.
 12-1.2.1 ASTM Publications.
 American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.
 ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials, 1977.
 ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials, 1995.
 ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C, 1993.
 12-1.2.2 EPA Publication.
 Environmental Protection Agency (EPA), Crystal Station, 2800 Crystal Drive, Arlington, VA 22202.
 EPA Test Method 202, Determination of Condensable Particulate Emissions for Stationary Sources.
 12-1.2.3 UL Publications.
 Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.
 UL 197, Standard for Safety — Commercial Electric Cooking Appliances.
 UL 300, Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas, 1996.
 UL 723, Standard for Test for Surface Burning Characteristics of Building Materials, 1996.
 UL 1046, Grease Filters for Exhaust Ducts, 1979.
SUBSTANTIATION: Editorial.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 29
 NOT RETURNED: 1 Schulz

(Log #CP16)

96- 85 - (A-4-5.1 (New)): Accept
SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances
RECOMMENDATION: Add new appendix section A-4-5.1.1 to read as follows:
 "Examples of acceptable materials for ducts include:
 1. Steel
 2. Galvanized Steel
 3. Stainless Steel".
SUBSTANTIATION: The Technical Committee wanted to establish examples of acceptable materials to be used for hoods and ducts.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30
VOTE ON COMMITTEE ACTION:
 AFFIRMATIVE: 28

NEGATIVE: 1

NOT RETURNED: 1 Schulz

EXPLANATION OF NEGATIVE:

STAHL: Examples of acceptable materials to be used for hoods and ducts.

For health reasons, many health departments will not allow galvanized hoods. In the substantiation hoods were included. I have no problem with galvanized ducts.

(Log #1)

96- 86 - (A-7-2.1.1 (New)): Accept in Principle

SUBMITTER: Joseph N. Knapp, McDonald's Corporation

RECOMMENDATION: Add the following to the Appendix as suggested wording for the placard referenced in the text.

A-7-2.1.1 The following is recommended language for the placard.

In the event of a cooking fire:

1. Manually activate the hood/appliance suppression system immediately.

2. Call the fire department.

3. Evacuate the premises.

4. Standby with the proper portable extinguishers in case of reflash until the fire department arrives.

SUBSTANTIATION: There would clearly be many varieties of language provided on such placards if they become required by this standard. Some of these undoubtedly would not be as clear as others, and could even be misleading. Since this Standard is considering proposing the requirement of the placard, I think it should also propose some very clear language for the placard in the interest of real fire safety. The issues of concern in the Standard are items 1 and 4 above, and yet items 2 and 3 are also clearly obvious steps that need be taken, and should be included for better fire safety.

COMMITTEE ACTION: Accept in Principle.

Reword proposed material A-7-2.1.1 to read as follows as additional text for Section 7-2.1.1:

"The language and wording for the placard shall be approved by the Authority Having Jurisdiction."

COMMITTEE STATEMENT: The committee agreed with the submitter but felt that the material would be better served as a requirement.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 30

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 29

NOT RETURNED: 1 Schulz