

# CHAPTER 23.110 LOCAL AMENDMENTS TO THE INTERNATIONAL FUEL GAS CODE

The amendments to the International Fuel Gas Code (IFGC) are listed hereafter by section. The edition adopted is as listed in AMC 23.05.010. The structure of amendments is as explained in AMC 23.05.015.

## **23.110.101.2 Scope.**

Delete the exception.

## **23.110.103—23.110.114.**

Delete sections 103 through 114. Refer to the Anchorage Administrative Code.

## **23.110.103 Authority to render gas service.**

Amend Chapter 1 by adding section 103 as follows:

### **103 Authority to render gas service.**

**103.1 Unlawful acts.** It shall be unlawful for any person, firm, or corporation, excepting an authorized agent or employee of a person, firm, or corporation engaged in the business of furnishing or supplying gas and whose service pipes supply or connect with the particular premises, to turn on or reconnect gas service in or on any premises where and when gas service is, at the time, not being rendered.

**103.2 Authority to disconnect.** The administrative authority or the serving gas supplier is hereby authorized to disconnect any gas piping or appliance, or both, found not to conform to the requirements of this code or found defective and in such condition as to endanger life or property. Where such disconnection is made, a notice shall be attached to such gas piping, appliance, or both stating the same has been disconnected, together with the reasons, therefore.

## **23.110.202 General definitions.**

Add the following definition:

**CONNECTOR, FUEL GAS PIPING.** A fitting that is used at all points where fuel gas piping enters or leaves the ground. The connector shall be capable of absorbing a displacement due to frost heave action. An example for low pressure systems would be a Dormont flex. An example for medium 4 pressure would be CSST. An example for diameters greater than two inches would be a braided metal flex connector. (See amendment to section 404 Piping System Installation.) Rubber flexible connectors are not Approved.

## **23.110.302.7 Roof penetrations.**

Add the following section:

**302.7 Roof penetrations.** For roof construction, including those regulated by the IRC:

1. All roof penetrations, excluding attic ventilation, shall be located a minimum of six feet from valley centerline and four feet from the exterior wall line measured on a horizontal plane.

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2. Type B gas vents may penetrate the eave ice barrier if installed within a wood framed, R-21 insulated curb, minimum 24 inches tall as measured on the ridge side of the roof. The ice barrier shall extend up the curb a minimum of 12 inches on all sides. See AMC20 23.85.R903.1 for detail.

## **23.110.303.3 Prohibited locations.**

Delete exceptions 3 and 4. Unvented room heaters are not allowed.

## **23.110.303.4.1 Protection from vehicle impact damage.**

Add the following section:

**303.4.1 Appliances subject to vehicle impact.** Appliances, including their associated piping and ductwork, subject to vehicle impact shall be protected by one or more of the following methods:

1. Install the appliance on a platform a minimum of 24 inches high. The appliance shall not extend beyond the face of the platform. Piping and ductwork shall not be surface mounted to the platform in a location subject to vehicle impact.
2. Protect the appliance with a barrier. The barrier shall be a minimum of 30 inches high and be constructed of a minimum 2-inch diameter schedule steel pipe. The barrier must have a minimum 6-inch setback from the platform or appliance. The maximum unprotected distance shall not exceed 5-feet. The barrier shall be installed per one of the following methods:
  - a. Buried a minimum of 24 inches deep in compacted soil and imbedded in concrete slab.
  - b. Set in a minimum 12-inch by 12-inch square by 12-inch deep block of concrete (slab not included).
  - c. Secured to the wood framed garage floor with flange and stainless steel bolts and imbedded in concrete slab.
  - d. Secured to the concrete slab using a floor flange with a minimum of four  $\frac{3}{8}$  inch diameter by  $3\frac{1}{2}$  inch long galvanized or stainless anchor bolts.
3. Mount appliance and associated piping and ductwork to wall and/or suspend from the ceiling in a location clear of any potential vehicle interference.

In all cases the minimum clear width and depth of the garage shall be maintained in accordance with Title 21.

## **23.110.303.8 Liquefied petroleum gas facilities.**

Add the following section:

**303.8 Liquefied petroleum gas facilities.** Liquefied petroleum gas facilities shall not be located in any pit, basement, crawlspace, under show windows, or interior stairways, in engine, boiler, heater, or electric meter rooms. LPG facilities include tanks, containers, container valves, regulating equipment, meters, and/or appurtenances for the storage and supply of LPG for any building structure or premises.

**303.8.1 Liquefied petroleum gas piping.** Liquefied petroleum gas piping shall not serve any appliance located in a pit or basement where heavier than air gas might collect to form a flammable mixture.

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## 23.110.304.6 Outdoor combustion air.

Delete Figure 304.6.1(1).

Delete Figure 304.6.1(2).

Delete Alternate Opening Location in Figure 304.6.2.

## 23.110.304.8.1 Cold climate alternate requirements for combustion and ventilation air.

Amend section 304.8 by adding the following subsection:

### **Section 304.8.1 Cold climate alternate requirements for combustion and ventilation air.**

**304.8.1.1 Purpose.** The purpose of this section is to provide alternate methods of designing combustion air and ventilation air systems for fuel burning appliances in cold climate regions.

Only persons registered to practice engineering in the applicable jurisdiction will be permitted to use these alternate design methods.

**304.8.1.2 Scope.** The requirements of this section apply to all fuel gas burning appliances.

**Exception:** Direct vent appliances, listed cooking appliances, appliances having separated combustion system, enclosed furnaces, refrigerators and domestic clothes dryers.

**304.8.1.3 Definitions.** Certain words and terms used in this section shall have meanings as listed. The below-listed definitions shall apply to this section only, even though they may differ with broader definitions found elsewhere in the code.

**Free area** is the net actual open area of a louver, screen, duct, or intake grille.

**Ventilation air** is air required for cooling of the appliance enclosure to maintain temperatures required for proper equipment operation.

### **304.8.1.4 General.**

**304.8.1.4.1 Air supply.** Fuel-burning equipment shall be provided with a sufficient supply of combustion and ventilation air.

**304.8.1.4.1.1 Enclosures containing fuel burning appliances.** Enclosures shall be provided with minimum unobstructed combustion air openings as specified in section 304.8.1.9 and arranged as specified in sections 304.8.1.5 and 18 304.8.1.6, and ventilation air systems shall be as specified in section 304.8.1.10.

**304.8.1.4.1.2 Existing buildings.** When fuel-burning appliances are installed in an existing building containing other fuel-burning equipment, the enclosure shall be provided with sufficient combustion and ventilation air for all fuel-burning equipment contained therein as specified in sections 25 304.8.1.9 and 304.8.1.10.

### **304.8.1.5 Combustion air openings.**

**304.8.1.5.1 Location.** The combustion air opening(s) may be located anywhere in the enclosure provided there is an unobstructed area extended to the fire box that does not increase the total combustion air system static pressure requirements.

**304.8.1.5.2 Dampers prohibited.** Combustion air openings shall not be installed so as to open into construction where fire dampers are required. Volume dampers shall not be installed in combustion air openings.

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**Exception:** Dampers electrically interlocked with the firing cycle of the appliance, so as to prevent operation of the appliance when the dampers are not proven open.

**304.8.1.5.3 Screening.** Combustion air openings shall be covered with corrosion-resistant screen of ½ inch mesh.

**Exception:** Combustion air openings serving a nonresidential portion of a building may be covered with a screen having openings larger than ½ inch but in no case larger than one inch.

## **304.8.1.6 Sources of combustion and ventilation air.**

**304.8.1.6.1 Air from outside.** Combustion and ventilation air obtained from outside the building shall be supplied as follows:

1. Through permanent openings of the required area directly to the outside of the building through the floor, roof, or walls of the appliance enclosure; or
2. Through continuous ducts of the required cross-sectional area extending from the appliance enclosure to the outside of the building.

**304.8.1.6.2 Interior spaces.** Large indoor areas may be used for combustion and/or ventilation air if sufficient infiltration or other outside air supply is available by nature of the building construction, system design, or building use.

**304.8.1.6.3 Prohibited sources.** Openings and ducts shall not connect appliance enclosures with space where the operation of a fan may adversely affect the flow of combustion air.

Combustion and ventilation air shall not be obtained from a hazardous location or from any area in which objectionable quantities of flammable vapor, lint or dust are given off. Combustion and ventilation air shall not be taken from a machinery room.

## **304.8.1.7 Combustion and ventilation air ducts.**

**304.8.1.7.1 General.** Combustion and ventilation air ducts shall:

1. Be of galvanized steel complying with IMC Chapter 6 or equivalent corrosion-resistant material approved for this use.
2. Have a minimum cross-sectional dimension of 3 inches.
3. Serve a single appliance enclosure.

**304.8.1.7.2 Dampers.** Combustion air ducts shall not be installed so as to pass through construction where fire dampers are required, unless properly enclosed in a rated shaft. Volume dampers shall not be installed in combustion air ducts.

**Exception:** Motor operated dampers interlocked with appliance controls to open damper prior to firing appliance are permitted, if damper blade actuated end switches are provided to prevent appliance operation should dampers fail to open.

**304.8.1.8 Special conditions created by mechanical exhausting or fireplaces.** Operation of exhaust fans, kitchen ventilation systems, clothes dryers or fireplaces shall be considered in determining combustion and ventilation air requirements to avoid unsatisfactory operation of installed fuel burning appliances.

## **304.8.1.9 Area of combustion air openings.**

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**304.8.1.9.1 General.** The free area of openings, ducts or plenums, screens and louvers supplying combustion air to enclosures containing fuel-burning appliances shall be as required: The opening(s) shall communicate directly or by means of ducts with outdoors or to such spaces (crawl space) freely communicating with outdoors and shall be sized in accordance with Table No. 304.8.1.1.

## **304.8.1.10 Ventilation air.**

**304.8.1.10.1 General.** In addition to the combustion air required, sufficient ventilation shall be supplied for proper operation of equipment. Ventilation system shall be designed to maintain positive or atmospheric pressures within the enclosure. If exhaust fans are provided, a mechanical make-up air fan shall be installed to make-up exhausted air. Natural or gravity make-up air is not allowed.

**1. Table No. 304.8.1.1 - Combustion Air System Design Criteria 15**

| Fuels                             | System Static Pressure Limits <sup>1</sup> |                     | Combustion Air Requirements |                        |
|-----------------------------------|--------------------------------------------|---------------------|-----------------------------|------------------------|
|                                   | Atmospheric                                |                     | Forced Draft                | All Types              |
|                                   | Draft Hoods                                | Baro-metric Dampers |                             |                        |
| GAS<br>(Natural, Propane, Butane) | 0.02" WG                                   | 0.02" WG            | 0.05" WG                    | 24 CFM<br>100,000 BTUH |

**Note 1:** Static pressure values represent maximum static pressure losses across all components of the combustion air system including screens, louvers, ducts and fittings.

**Note 2:** For enclosures containing both atmospheric and forced draft appliances, the most restrictive design requirements shall apply.

PER ASHRAE 1993 FUNDAMENTALS HANDBOOK CHAPTER 15 TABLE 11 (Pg 15.10) 1 cu. ft. natural gas requires 9.6 cu. ft. air.

Convert to cubic feet of air per 1,000 Btu input assuming 1,000 Btu per cubic foot of gas:

|      |                                  |   |                            |   |                                                  |
|------|----------------------------------|---|----------------------------|---|--------------------------------------------------|
| GAS: | 9.6 cu. ft. air 1<br>cu. ft. gas | X | 1 cu. ft. gas<br>1,000 Btu | = | 9.6 cu. ft. air/1,000 Btu<br>(14.4 @ 50% excess) |
|------|----------------------------------|---|----------------------------|---|--------------------------------------------------|

\* Air at 2,000 feet above sea level. Installations above this shall de-rate appliance output 4% per 1,000 feet.

EXAMPLE: Natural gas rated at 1,000 Btuh per cubic foot.

Combustion air flow rate:

16 CFM per 100,000 Btuh input for stoichiometric combustion.

24 CFM per 100,000 Btuh input for 50% excess air.

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## **23.110.304.10 Louvers and grilles.**

Replace "not smaller than ¼ inch" with "of ½ inch for residential and ½ inch up to one inch for commercial applications".

## **23.110.304.11 Combustion air ducts.**

Delete the exception to Item 1.

Replace Item 5 with the following:

Combustion air shall not be obtained from an attic.,

Add an exception to item #6 as follows:

**Exception:** This requirement does not preclude installation of a cold trap (upturned elbow). The installation shall maintain the free area of the combustion air duct.

Replace in item the words "from the adjoining finished ground level" with "above the anticipated snow depth".

## **23.110.304.13 LPG systems.**

Add Section as follows:

**304.13 LPG systems.** Appliances using LPG shall have two (2) combustion air openings. The lower opening shall be at floor level or below and shall be sloped down toward the exterior. These systems shall be continuously ducted to outside the building. Use of under-floor areas for supply of combustion air to LPG burning appliances is prohibited.

## **23.110.305.3 Elevation of ignition source.**

Amend section 305.3 by adding the following to the end of the paragraph:

Rooms and spaces that are not part of the living space of a dwelling unit shall include but are not limited to utility, storage, mud, laundry, toilet and bathing rooms.

Group F, M and S occupancies with open spaces less than 5,000 square feet that include overhead doors providing access to vehicles and equipment containing combustible fuel shall comply with this section. Communicating spaces separated by a door are not considered part of this space.

## **23.110.305.11 Installation in aircraft hangars.**

Replace Section 305.11 with the following:

**305.11 Installation in aircraft hangars.** Overhead appliances installed in aircraft storage areas shall be located at least 10-feet vertically above the upper surface of the wings or engine enclosures of the tallest aircraft which may be housed in the hangar.

**Exception:** Where a 10-foot vertical separation cannot be maintained in an NFPA 409 Class III hangar, a sealed combustion appliance may be used. The appliance shall be located as high and as far away from the wings and engine enclosure as possible. This exception shall not apply to NFPA 409 Class I and II hangars.

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## **23.110.306.4 Appliances under floors.**

Amend by adding the following as the first sentence:

Installation of appliances in under-floor crawlspaces is prohibited unless prior written approval is obtained from the administrative authority.

Add an exception to the amendment as follows:

3. Direct vent appliances may be installed as long as no water or sign of water is present and the installation is in accordance with IFGC13 305.7.

## **23.110.306.5 Equipment and appliances on roofs or elevated structures.**

Add the following sentence to the end of the first paragraph:

An exterior means of access may only be used for heights 20 feet or less above grade.

At the end of design criteria #2, add the following sentence:

The bottom rung of the ladder shall be located within 14 inches of the floor or grade.

## **23.110.306.6 Guards.**

Replace the exception with the following:

**Exception:** Guards are not required where allowed by IBC 1015.6 or 1015.7.

## **23.110.306.7 Mezzanines and platforms.**

Add a new section as follows:

**306.7 Mezzanines and platforms.** Every mezzanine or platform more than 10-feet 6-inches above the ground or floor level shall be made accessible by a stairway or ladder fastened to the structure. The ladder shall be constructed in compliance with the provisions of Section 306.5.

## **23.110.307.2 Fuel burning appliances.**

Replace "collected" with "piped through a factory-built condensate neutralizer sized and approved for the use".

Add a sentence at the end of the first sentence as follows:

Neutralized wastewater PH levels shall be elevated to a minimum PH of 7.

## **23.110.307.6 Condensate Pumps.**

Add the following exception:

**Exception:** Residential installations.

## **23.110.310.4 Electrical bonding.**

Add the following section:

**310.4 Electrical bonding.** Bonding to the electrical service grounding electrode system shall be in accordance with NEC 250.104(B).

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## **23.110.403.9.1 Pipe joints.**

Amend by adding the following at the end of the paragraph:

All joints in underground ferrous piping shall be welded when any of the following conditions apply:

1. The nominal pipe diameter is 2½ inches or larger.
2. The pipe is installed under a driveway.
3. The gas pressure is 2 psig or greater.

## **23.110.403.9.2 Copper tubing joints.**

Amend by adding the following at the end of the paragraph:

All joints in underground copper shall be brazed with wrought copper fittings. No underground joints shall be permitted unless the underground length of run exceeds 60 feet. All pipe to tubing transitions shall be made above ground.

## **23.110.403.9.5 Metallic fittings.**

Amend Item 2 by deleting the words "or cast iron."

Delete Item 5.

Add a new Item 10 as follows:

10. Right and left nipple couplings. Where unions are necessary, right and left nipples and couplings shall be used. Ground joint unions may be used at exposed fixture, appliance, or equipment connections and in exposed exterior locations immediately on the discharge side of a building shutoff valve.

## **23.110.404.9 Above-ground outdoor piping.**

Amend by replacing 3½ inches with 5½ inches (in 2 locations).

## **23.110.404.12 Minimum burial depth.**

Delete the wording "except as provided for in Section 404.12.1".

Add the following to the end of the paragraph:

Plastic and copper gas piping shall have at least 18 inches of earth cover, or other equivalent protection. Provide a minimum radial separation of 12 inches between direct burial piping systems and utility, electrical cables and conductors, communication cables and ground rods. Delete subsection 404.12.1.

## **23.110.404.21 Ground penetrations.**

Add Section 404.21 as follows:

**404.21 Ground penetrations.** At all points where fuel gas piping enters or leaves the ground, there shall be installed, above ground, an approved or listed fuel gas piping connector, capable of absorbing a 6-inch displacement, in any direction, due to frost heave action. If the fuel gas

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riser is itself flexible, room for absorbing a 6-inch displacement must installed in lieu of using a connector for such means.

## **23.110.404.22 Fuel gas piping connectors.**

Add Section 404.22 as follows:

**404.22 Fuel gas piping connections.** Fuel gas piping connectors listed for outdoor use may be used between the meter and house main. No flex connector may pass through any wall, partition, panel or other barrier. Solid fittings shall be used on each end.

## **23.110.404.23 Frost heave protection for copper tubing.**

Add Section 404.23 as follows:

**404.23 Frost heave protection for copper tubing.** Copper tubing ground penetrations shall be protected from frost heave by incorporation of a suitable above ground 6-inch radius loop or a listed fuel gas piping connector of equal size.

## **23.110.404.24 Frost heave protection for above grade piping.**

Add Section 404.24 as follows:

**404.24 Frost heave protection for above grade piping.** Above grade exterior piping routed between separate structures or between a structure and an exterior appliance installed on grade shall have an approved or listed fuel gas piping connector, capable of absorbing a 6-inch displacement in any direction at each structure and each exterior appliance.

## **23.110.406.4.1 Test pressure.**

Replace "1½" with "10".

Replace the minimum test pressure of 3 psig with 10 psig.

Add the following to the end of the paragraph:

Required pressure tests of 10 psig shall be performed with gauges of 0.2 psi increments or less. Welded pipe shall be tested with not less than 60 psig test pressures.

## **23.110.406.8 Temporary gas provisions.**

Add Section 406.8 as follows:

**406.8 Temporary gas provisions.** Temporary gas installations shall comply with sections 406.8.1 and 406.8.2.

### **406.8.1 Permit required.**

- A. Temporary gas approval is given to allow "comfort heating" appliances to be used to provide temporary heat to a building or building site prior to the completion of the building's primary heating system.

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- B. The most commonly used appliance is a portable natural gas space heater. Other comfort heat appliances allowed for temporary heat purposes are warm air furnaces, boilers, and unit heaters. It is NOT the policy of the Building Safety Division or Enstar Natural Gas Company to allow "decorative fireplaces" or "ranges" to be utilized as temporary heat for buildings. These appliances are not designed or "listed" for such purpose.
- C. All appliances used to provide temporary heat for buildings shall be installed in accordance with the manufacturers' instructions and terms of their listing, with particular attention being paid to the clearances to combustibles from the top, bottom, front, back, and sides of these appliances.
- D. Unit heaters used for temporary heat shall be installed per manufacturer's instructions and listed clearances to combustibles from the top, bottom, front, back, and sides of these appliances. The vent connector shall be graded at  $\frac{1}{4}$  inch per foot slope upward to the outside and it shall be changed to "B" vent at the wall penetration. The "B" vent must maintain its listed clearance to combustibles, extend a minimum of 5 feet vertically, and be secured.
- E. Furnaces used for temporary heat shall comply with the same requirements as for unit heaters as stated above. In addition, the return air for the furnace shall be ducted a minimum of 10 feet from the furnace.
- F. Portable space heaters shall be provided with 100 percent outside air to the back end of the heater. In most cases, the gas regulator attached to these heaters shall be piped to the outside. The regulator vent shall not discharge into the space being heated.
- G. Gas hose used for temporary heaters shall be a type approved by the Building Safety Division and all manufacturers' listed clearances shall be maintained. The hose shall have an internal wire mesh or braid and be "kink proof". Supporting wire shall run the full length of the hose. Each time a hose is moved from one lot to another, it shall be tested with 60 psig air pressure.

## **406.8.2 Temporary gas installations - permit not required.**

A permit and inspection shall not be required for residential temporary construction heat serving tented footings and foundations. This provision is for thawing ground and curing concrete, not comfort heat for workers, such as plumbers installing underground. This allowance is limited to portable 'SURE FLAME' type heaters and not intended for unit heaters, furnaces, and boilers with special venting considerations. All heaters and hoses shall be of the approved type. Heaters shall be listed by an approved listing agency. All hoses shall have an internal wire mesh or braid and be "kink proof". Supporting wire shall run the full length of the hose. One hundred percent (100%) outside air shall be provided to heater at all times. Listed clearances to combustibles shall be maintained. A licensed journeyman plumber or gasfitter shall perform all work.

## **23.110.410.6 Regulator protection.**

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Add section as follows:

**23.110.410.6 Regulator protection.** When the manufacturer's instructions don't specify an installation elevation for the gas regulator, the regulator shall be installed 12 inches above the anticipated snow depth to protect the regulator from snow and ice buildup.

## **23.110.411.1 Connecting appliances.**

Amend item 1 as follows:

2. Rigid metallic pipe and fittings, excluding hanging appliances not otherwise restrained against lateral movement.

## **23.110.411.2 Manufactured home connections.**

Add the following to the end of the section:

Pounds to inches water column regulators serving mobile homes and connected to piping shall be attached to the exterior of the mobile home and shall not be located under the mobile home.

## **23.110.417 Medium pressure gas.**

Add Section as follows:

### **417 Medium pressure gas.**

**417.1 Medium pressure gas.** The installation of a medium pressure gas system (2 psig or 5 psig) within a building must be pre-approved by the local gas utility. Steel pipe connections shall be welded or press-connect fittings listed to ANSI LC-4/CSA 6.32 in accordance with IFGC 43

403.9. Test pressure for all medium pressure gas piping shall be 60 psig.

**Exception:** Medium pressure gas piping within mechanical rooms housing the equipment being served may be threaded in accordance with IFGC 403.9. Threaded piping shall not be concealed within construction.

**417.2 CSST medium pressure gas.** The installation of a CSST 7 medium pressure gas system (2 psig or 5 psig) within a building must be pre-approved by the local gas utility. Test pressure for all medium pressure gas piping shall be 60 psig. Joints shall be limited to the meter connection and at the regulator to the appliance being served. Intermediate joints are not allowed without prior approval.

## **23.110.501.8 Appliances not required to be vented.**

Delete Items 8 and Item 10.

## **23.110.502.8 Enclosure required.**

Add Section as follows:

**502.8 Enclosure required.** Venting systems installed outside the building thermal envelope shall be enclosed in an insulated (R-19 minimum) chase. The portion of the vent system above

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the last roof and its projected plane need not be enclosed. The portion of the venting system passing through an attic space need not be insulated or enclosed.

## **23.110.502.9 Vent terminals – ice and snow protection.**

Add Section as follows:

**502.9 Vent terminals – ice and snow protection.** Vent terminations penetrating any metal roof or an asphalt shingle roof exceeding an 8/12 pitch shall be protected by an approved type of snow retention or diversion device.

## **23.110.503.3.6 Above ceiling air handling spaces.**

Add the following to the end of the section 503.3.6:

The vent material shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 50 when tested in accordance with ASTM E84.

## **23.110.503.5.5 Size of chimneys.**

Item 2: Delete the phrase ", nor greater than seven times the draft hood outlet area" at the end of the sentence.

Item 3: Delete the phrase ", nor greater than seven times the smallest draft hood outlet area" at the end of the sentence.

Add the following to the end of the section:

In no case shall the gas vent be sized more than one size larger than the minimum size required by the appliance sizing tables referenced in this code or the manufacturer's installation instructions.

## **23.110.503.6.10.1 Category I appliances.**

Item 2: Delete the phrase ", nor greater than seven times the draft hood outlet area" at the end of the sentence.

Item 3: Delete the phrase ", nor greater than seven times the smaller draft hood outlet area" at the end of the sentence.

Add the following to the end of the section:

In no case shall the gas vent be sized more than one size larger than the minimum size required by the appliance sizing tables referenced in this code or the manufacturer's installation instructions.

## **23.110.503.7.9 Size of single-wall metal pipe.**

Item 2: Delete the last sentence.

Add the following to the end of the section:

In no case shall the gas vent be sized more than one size larger than the minimum size required by the appliance sizing tables referenced in this code or the manufacturer's installation instructions.

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## **23.110.Table 503.8 Through-the-wall vent terminal clearance.**

Replace the Clearance Location in row A of Table 503.8 with the following:  
Clearance above anticipated snow depth at finished grade level, veranda, porch, deck, or balcony

## **23.110.503.10.4.2 Common vents for multiple appliances.**

Add Section as follows:

**503.10.4.2 Common vents for multiple appliances.** When venting 3 or more Category I appliances, the common vent shall be a minimum Type "B" double wall.

## **23.110.Table 504.2(3) Masonry chimney.**

At the bottom of Table 504.2(3), delete the category "maximum internal area of chimney (square inches)" and the wording "seven times the listed appliance categorized vent area, flue collar area, or draft hood outlet area".

## **23.110.Table 504.2(4) Masonry chimney.**

At the bottom of Table 504.2(4), delete the category "maximum internal area of chimney (square inches)" and the wording "seven times the listed appliance categorized vent area, flue collar area, or draft hood outlet area".

## **23.110.504.2.9 Chimney and vent locations.**

Change R8 to R19 in last sentence of paragraph.

## **23.110.504.3.20 Chimney and vent locations.**

Change R8 to R19 in last sentence of the first paragraph.

## **23.110.505.1.1 Commercial cooking appliances vented by exhaust hoods.**

Add the following to the end of the last sentence: "unless part of the listed system."

## **23.110.614.9.2 Duct Installation.**

Delete the words "more than 1/8 inch (3.2mm)".

## **23.110.614.9.5 Length identification. 1**

Add after "equivalent length exceeds 35 feet" the following:

"or is concealed from visual inspection"

Add to the end of the paragraph:

"and shall be laminated or in a moisture-resistant sleeve secured to the wall using screw, staples, or thumb tacks. Push pins will not be accepted."

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## **23.110.618.3 Prohibited sources.**

Revise the first sentence to read:

Outdoor, return, or transfer air for forced-air heating and cooling systems shall not be taken from the following locations:

Revise item #7 to simply read "Crawl space".

## **23.110.618.4 Screen.**

Change 1/4 to 1/2 in both places.

## **23.110.621 Unvented room heaters.**

Delete section 621. Unvented room heaters are not allowed.

## **23.110.623.8 Ventilating hoods.**

Add Section as follows:

**623.8 Ventilating hoods.** Ventilating hoods shall be installed over all domestic free standing or built-in ranges, unless the range is otherwise listed for forced down draft ventilation. The hood or ventilation system shall exhaust to exterior of the building.

## **23.110.629.2 Small ceramic kiln ventilation.**

Add Section as follows:

**629.2 Small ceramic kiln ventilation.** A canopy-type hood shall be installed directly above each kiln. The face opening area of the hood shall be equal to or greater than the top horizontal surface area of the kiln. The hood shall be constructed of not less than 0.024-inch (No. 24 U.S. gauge) galvanized steel or equivalent and be supported at a height of between 12 5 inches and 30 inches above the kiln by noncombustible supports.

Each hood shall be connected to a gravity ventilation duct extending in a vertical direction to outside the building. This duct shall be of the same construction as the hood and shall have a minimum cross-sectional area of not less than one-fifteenth of the face opening area of the hood. The duct shall terminate a minimum of 12 inches above any portion of a building within 4 feet and terminate no less than 4 feet from any openable windows or other openings into the building or adjacent property line. The duct opening to the outside shall be shielded, without reduction of duct area, to prevent entrance of rain into the duct. The duct shall be supported at each section by noncombustible supports.

Provisions shall be made for air to enter the room in which a kiln is installed at a rate at least equal to the air being removed through the kiln hood.

## **23.110.630.3 Combustion and ventilation air.**

Delete section 630.3.

## **23.110. Appendices.**

Adopt Appendices as listed in AMC 23.05.010. Local amendments to appendices as follows, if applicable.