

CHAPTER 23.110 LOCAL AMENDMENTS TO THE INTERNATIONAL FUEL GAS CODE 2006 EDITION

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23.110.100 Local amendments to the International Fuel Gas Code, 2006 Edition

The amendments to the International Fuel Gas Code are listed hereafter by section. The last digits of the number (after the title and chapter digits) are the section of the International Fuel Gas Code to which the amendments refers, i.e., 23.110.210 refers to amendments to section 210 of the International Fuel Gas Code.

23.110.101.2 Scope

Delete the exception.

23.110.103 – 23.110.109

Delete sections 103 through 109.

23.110.110 Authority to render gas service

Add new sections to read as follows:

110.1 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.

110.2 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 new definitions as follows:

Connector fuel gas piping. A fitting that is used at all points where fuel gas piping enters or leaves the ground. 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 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.

23.110.303.3 Prohibited locations

Amend section by deleting Exceptions 2, 3, and 4, and add new Item No. 6, as follows:

6. Domestic gas-fired clothes dryers may be installed in bathrooms if provided with make-up air in accordance with section 614.5.

23.110.303.4 Protection from 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" high and be constructed of a minimum 2" diameter schedule 40 steel pipe. The barrier must have a minimum 6" setback from the platform or appliance. The maximum unprotected distance shall not exceed five (5) feet. The barrier shall be installed per one of the following methods:
 - a. Buried a minimum of 2'0" deep in compacted soil and imbedded in concrete slab
 - b. Set in a minimum 1'0" x 1'0" square by 1'0" 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 $\frac{3}{8}$ " diameter by 3 $\frac{1}{2}$ " 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 new section as follows:

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 means 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 gas appliance located in a pit or basement where heavier than air gas might collect to form a flammable mixture.

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 Engineered installations

Add a new section as follows:

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.

Combustion air is air required for stoichiometric combustion, plus excess air, plus flue dilution air.

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 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 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.

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 one-half (1/2) inch mesh, except as provided in section 304.8.1.7.3.

Exception: Combustion air openings serving a nonresidential portion of a building may be covered with a screen having openings larger than one-half (1/2) inch but in no case larger than one (1) 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 Under-floor supply. Combustion and ventilation air openings may connect with under-floor areas conforming to the following requirements:

1. Under-floor spaces having unobstructed openings to the exterior, sized to not exceed the maximum system static pressure requirements specified in sections 304.8.1.9 and 304.8.1.10.
2. The height of the under-floor space shall comply with the requirements of the Building Code and be without obstruction to the free flow of air.

304.8.1.6.3 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.

304.8.1.6.4 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 chapter 6 or equivalent corrosion-resistant material approved for this use.
2. Have a minimum cross-sectional dimension of three inches (3”).
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.

304.8.1.7.3 Screen. Neither end of the ducts terminating in an attic shall be screened.

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.

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.

Table No. 304.8.1.1 Combustion Air System Design Criteria

Fuels	System Static Pressure Limits ¹			Combustion Air Requirements
	Atmospheric		Forced Draft	
	Draft Hoods	Barometric Dampers		All Types
GAS (Natural, Propane, Butane)	0.02" WG	0.02" WG	0.05" WG	<u>24 CFM</u> 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 CF/1000 Btu

$$\text{GAS: } \frac{9.6 \text{ cu. ft. air}}{1 \text{ cu. ft. gas}} \times \frac{1 \text{ cu. ft. gas}}{1000 \text{ Btu}} = \frac{9.6 \text{ cu. ft. air}}{1000 \text{ Btu}} \text{ (14.4 @ 50\% excess)}$$

*Air at 2000 feet above sea level. Installations above this shall derate appliance output 4%/1000 feet.

EXAMPLE: Combustion Air Flow Rates (CFM) per 100,000 Btu input. Verify heating values and adjust CFM as required.

	STOICHIOMETRIC 0% EXCESS AIR	COMBUSTION @ 50% EXCESS AIR
Natural Gas	<u>16.0 CFM</u>	<u>24 CFM</u>
1000 Btu/cu. ft.	100,000 Btu	100,000 Btu

23.110.304.10 Louvers and grilles

Delete the words “not smaller than 1/4 inch” and replace with “of one-half inch (1/2”) for residential and one-half inch (1/2”) up to one inch (1”) for commercial applications.”

23.110.304.11 Combustion air duct

Delete the exception to Item 1.

Delete Item 5 and replace with:

Combustion air shall not be obtained from the attic, unless prior written approval is obtained from the authority having jurisdiction.

Insert the following words at the beginning of Item 8:

Due to a one foot (1') anticipated snow depth...

Change the reference of twelve (12) inches to twenty-four (24) inches in Item 8.

23.110.304.13 LPG systems

Add new 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 underfloor 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, S-1 and S-2 occupancies with overhead doors providing access to vehicles and equipment containing combustible fuel shall comply with this section.

Ignition sources shall include any mechanical or electrical device capable of generating a spark, glow or flame.

23.110.305.9 Aircraft hangars

Amend by adding a new section as follows:

305.9 Aircraft hangars. Overhead appliances installed in aircraft storage areas shall be located at least 10' 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' 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 Class II hangars.

23.110.306.3 Appliances in attics

Add Exception #3 as follows:

3. The passageway and level surface are not required for replacement of horizontal furnaces located above drop ceilings in strip malls. All other code requirements apply.

23.110.306.4 Appliances under floors

Amend by adding the following as the first sentence:

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

23.110.306.5 Appliances on roofs or elevated structures

Amend by deleting section 306.5 and replace with the following:

Where new or replaced equipment and appliances requiring access are installed on roofs or elevated structures of new or existing buildings, such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the equipment and appliances' level service space. Such access shall be located interior to the building and shall not require climbing over obstructions greater than thirty (30) inches high or walking on roofs having a slope greater than four (4) units vertical in twelve (12) units horizontal (33-percent slope).

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. Ladders having rung spacing not to exceed fourteen (14) inches on center.
2. Ladders shall have a toe spacing not less than six (6) inches deep.
3. There shall be a minimum of eighteen (18) inches between rails.
4. Rungs shall give a minimum 0.75-inch diameter and be capable of withstanding a 300-pound load.
5. Ladders over thirty (30) feet in height shall be provided with offset sections and landings capable of withstanding 100 pounds per square foot.

Catwalks installed to provide the required access shall be not less than twenty-four (24) inches wide and shall have railings as required for service platforms.

Exceptions:

1. Replaced equipment may be accessed by portable ladder on the single story portion of an existing building not exceeding sixteen (16) feet in height. If

the existing building exceeds sixteen (16) feet in height, an approved interior access shall be provided.

2. This section shall not apply to Group R-3 occupancies.
3. Existing buildings with an existing approved exterior access that is permanently mounted to the structure.

23.110.306.5.2 Electrical requirements

Revise the sentence to read:

A receptacle outlet shall be provided as required by the NEC.

23.110.306.7 Mezzanines and platforms

Add a new section as follows:

306.7 Mezzanines and platforms. Every mezzanine or platform more than ten (10) feet six (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 Local Amendment 23.110.306.5.

23.110.403.10.1 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 2 ½ inches or larger.
2. The pipe is installed under a driveway.
3. Medium pressure systems.

23.110.403.10.2 Tubing joints

Amend by adding the following sentences 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 sixty (60) feet. All pipe to tubing transitions shall be made above ground.

23.110.403.10.4 Metallic fittings

Amend Item 2 by deleting the words “cast iron.”

Delete Item 5.

Add a new Item 9 as follows:

9. **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.

23.110.404.4 Piping through foundation wall

Delete paragraph in its entirety and replace with the following:

Building fuel gas piping entrances and exits shall be located above grade or in an approved vented vault.

23.110.404.9 Minimum burial depth

Delete the wording “except as provided for in Section 404.9.1”

Amend by adding the following sentence to the end of the paragraph:

Plastic and copper gas piping shall have at least eighteen inches (18”) of earth cover or other equivalent protection.

23.110.404.9.1 Individual outside appliances

Delete this section.

23.110.404.17 Ground penetrations

Add a new section as follows:

404.17 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 six-inch (6”) displacement, in any direction, due to frost heave action.

23.110.404.18 Fuel gas piping connectors

Add a new section as follows:

404.18 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.

23.110.404.19 Frost heave protection for copper tubing

Add a new section as follows:

404.19 Frost heave protection for copper tubing. At points where copper tubing type systems enter or leave the ground, they shall be protected from frost heave action by the incorporation of a suitable above ground six-inch radius loop, or listed fuel gas piping connector of equal size.

23.110.406.4.1 Test pressure

Replace the reference to “1 ½” with “ten (10)”.

Replace the minimum test pressure of three (3) psig with ten (10) psig and add the following sentences at the end of the paragraph:

Required pressure tests of ten (10) psig shall be performed with gauges of 1/10 psi increments or less.

Welded pipe shall be tested with not less than sixty (60) psig test pressures.

23.110.406.8 Temporary gas provisions

Add a new section as follows:

The installation of temporary gas shall comply with sections 406.8.1 and 406.8.2.

23.110.406.8.1 Temporary gas installations – 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.
- B. The most commonly used appliance is a natural gas portable 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 “decorator 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 one-quarter inch (1/4”) 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 five (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 ten (10) feet from the furnace.
- F. Portable space heaters shall be provided with one hundred percent (100%) 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. If the regulator vent discharges, it shall not be allowed to 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 retested with sixty (60) psi air pressure.

23.110.406.8.2 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.

23.110.411.2 Manufactured home connections

Add the following item to the section:

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

23.110.501.7 Connection to fireplace

Add the following sentence to section 501.7:

Gas fired appliances shall not be connected to fireplace chimneys without prior approval of the Administrative Authority.

23.110.501.8 Equipment not required to be vented

Delete Item 8.

23.110.502.8 Enclosure required

Add the following section:

502.8 Enclosure required. Venting systems installed exterior to the building outside the thermal envelope shall be enclosed in an insulated (R-19 minimum) chase. The portion of the vent system above 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 Protection from sliding snow and ice

Add the following section:

502.9 Protection from sliding snow and ice. Vent terminations penetrating a metal roof with a pitch shall be protected by an ice dam or deflector of an approved type acceptable to the Administrative Authority.

23.110.503.3.6 Above ceiling air handling spaces

Add the following sentence to Item No. 1:

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.

23.110.503.6.13 Gypsum wall board (sheetrock) clearances

Amend by adding a new section as follows:

503.6.13 Gypsum wall board clearances. GWB shall be considered a noncombustible material when determining minimum required clearances. It should be noted GWB cannot be used to reduce clearances to combustibles. For example, B vent shall be installed with a one inch (1”) minimum clearance from wood, even if the wood is covered with GWB.

23.110.503.8 Venting system termination location

Amend by adding new Item 5 to read as follows:

5. An anticipated snow depth of twelve inches (12”) shall be used when determining the manufacturer’s minimum vent termination height. Measurements shall be made to the bottom of the vent outlet.

23.110.503.16 Common vents for multiple appliances

Add a new section as follows:

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

23.110.504.2.9 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

Delete the following words:

“and the appliances shall be interlocked with an exhaust hood system to prevent appliance operation when the exhaust hood system is not operating.”

Add the following to the end of the last sentence:

“unless part of the listed system.”

23.110.614.6.1 Maximum length

Amend by adding a new paragraph to the beginning of Exception #1:

The maximum length of a clothes dryer exhaust duct may be increased when necessary due to location of the dryer in relationship to an exterior wall or roof; however, the length shall not exceed the dryer manufacturer’s recommendations. When exceeding the code required maximum length, a dryer placard (available at the Building Safety Division handout shelves) stating the length of the run and the amount of ninety (90) degree elbows shall be posted on the wall next to the dryer exhaust connection. The placard shall be laminated or in a moisture resistant sleeve and be secured using screws, staples, or thumbtacks. Push pins are not acceptable. The duct shall be routed using the shortest possible distance and/or least number of (45) and (90) degree elbows as possible.

Add a new Exception #2:

Exception #2: For distances exceeding the dryer manufacturer’s recommendations, a booster fan, listed for the purpose, shall be used for lengths up to the booster fan manufacturer’s recommendations.

23.110.618.6 Screen size

Change ¼ to ½ in both places.

23.110.618.8 Multi-zone systems

Add a new section as follows:

618.8 Multi-zone systems. Prior to final inspection, the installer shall measure and record the temperature rise across the heat exchanger under all possible scenarios. The temperature rise shall be within the furnace nameplate rating. At the time of the final inspection, the installer shall submit the test results to the mechanical inspector. Since the inspector may require an additional test in his/her presence to verify the results, the installer shall be present. If the results show the furnace is not operating within its listed parameters under all possible scenarios, the test shall be noted as failed. The installer shall be responsible for correcting any deficiencies and demonstrating proper operation of the furnace.

23.110.621 Unvented room heaters

Delete section 621 in its entirety.

23.110.623 Cooking appliances

Add new subsections 623.7 and 623.8 to read as follows:

623.7 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.

623.8 Vertical clearance above cook top. Domestic freestanding or built-in ranges shall have a vertical clearance above the cook top of not less than thirty (30) inches to unprotected combustible material. When the underside of such combustible material is protected with insulating millboard at least one-quarter (¹/₄) inch thick covered with 0.021-inch-thick (No. 28 U.S. gauge) or a metal ventilating hood, the distance shall not be less than twenty-four (24) inches.

23.110.629.2 Small ceramic kiln ventilation

Add a new subsection 629.2 to read 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 twelve (12) inches and thirty (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 twelve (12) inches above any portion of a building within four (4) feet and terminate no less than four (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.

23.110.634 Chimney damper opening area

Delete section 634.

23.110.Appendix A Sizing and capacities of gas piping

Adopt Appendix A.