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## BUILDINGS BULLETIN 2013-004

### OTCR

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**Supersedes:** Buildings Bulletin 2012-005 dated April 6, 2012

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**Purpose:** This document establishes acceptance criteria for gas-fired direct vent space-heating appliances used for providing heat in rooms for sleeping purposes in accordance with the 2008 NYC Construction Codes.

**Related Code Section(s):**

|               |             |          |
|---------------|-------------|----------|
| AC 28-113.2.3 | FGC 503.8   | PC 804.1 |
| FGC 303.3     | FGC 601.3   |          |
| FGC 503.4.2   | FGC 503.2.2 |          |

**Subject(s):** Space-heating appliance, gas-fired, direct vent; Space-heating appliance, sleeping room; Gas-fired heater, direct vent, sealed combustion; Carbon monoxide detectors, sleeping rooms.

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**Background:** Section FGC 303.3, exception (1) prohibits the location of gas-fired direct vent space-heating appliances in rooms for sleeping purposes. However, such appliances installed in accordance with this bulletin shall be deemed to be located outside of the sleeping room.

**Description:** Gas-fired direct vent space-heating appliances for use in rooms for sleeping purposes consist of automatic gas burner, gas pressure regulator and different controls with or without cooling section, and shall be constructed as a sealed combustion chamber. A CO detector as prescribed in the evaluation criteria of this bulletin shall be installed in conjunction with gas-fired direct vent space heating appliances.

**Evaluation Scope:** 2008 NYC Construction Codes

**Evaluation Criteria:** Pursuant to section AC 28-113, the Office of Technical Certification and Research recognizes gas-fired direct vent space-heating appliances when used to provide heat in sleeping rooms tested, designed and evaluated in accordance with:

1. ANSI Z21.86 "Gas-Fired Vented Space Heating Appliances."<sup>1</sup>
2. Protocol for CO detectors installed with gas-fired direct vent space-heating appliances. The protocol is outlined as follows:
  - Gas-Fired direct vent space-heating appliances shall be hard-wired connected to a listed and labeled CO detector.
  - The detector shall be installed in accordance with national, state and city building codes and shall be installed in accordance to manufacturer's installation instructions:

- The CO detector may be installed the following manner:
  - an integral to the unit
  - on the surface of the unit or
  - remotely, but hard-wired no further than a maximum of 5 feet from the unit
- The CO detector must be listed and labeled to the “Standard for Single and Multiple Station Carbon Monoxide Alarms”, UL 2034 and “Gas and Vapor Detectors and Sensors”, UL 2075.
- The gas-fired direct vent space-heating appliances shall be tested for compatibility in conjunction with the supplied CO detector, installed in a manner identical to intended actual installation, and be labeled for its purpose by an Approved Agency and specifically identified in the evaluation report of the gas-fired direct vent space-heating appliance unit for this purpose.
- Gas-fired direct vent space-heating appliances shall be hard-wired to the CO detector in a supervisory signaling mode. If the CO detector connection is not sensed, the gas fired direct vent space-heating appliance shall not initiate a startup sequence and shall alert the operator to the fault condition.
- Gas-fired direct vent space-heating appliances shall be supplied with CO fault indicator easily visible and recognizable to the operator.
- Gas-fired direct vent space-heating appliances shall be equipped with manual restart control.

Note:

1. CO detector installed with gas-fired direct vent space-heating appliances shall be provided in addition to code required CO detector devices in dwelling units.
2. CO detector installed with gas-fired direct vent space-heating appliance shall not be interconnected to other CO detecting devices in the dwelling unit.

Acceptable gas-fired direct vent space-heating appliance shall be listed and labeled by an approved agency in accordance with section AC 28-113.2.3.

**Uses:** Gas-fired direct vent space-heating appliances are used for providing heat in an interior environment. This bulletin addresses the use of such appliances in rooms for sleeping purposes.

**Conditions of Acceptance:** Gas-fired direct vent space-heating appliances used for providing heat in sleeping rooms shall be designed and installed in accordance with the 2008 NYC Construction Codes and other applicable provisions including but not limited to the following:

**A. Design**

1. The unit shall be specified in accordance with manufacturer’s recommendations, the applicable listing, and the conditions of this bulletin.
2. The unit shall be factory assembled.
3. The unit shall be of direct vent type, that all air for combustion is derived from the outside atmosphere and that all flue gases are discharged directly to the outside atmosphere.
4. No retrofitting or on-site duct work is permitted in association with the unit.
5. All gas piping shall be hard-piped with no flexible connectors.
6. The unit shall be installed through a sleeve located in an exterior wall.
7. All gas-fired direct vent space-heating appliances used for providing heat in sleeping rooms and installed or replaced pursuant to a work permit issued on or after December 31, 2013 shall be manufactured with carbon monoxide detector interlock with automatic main gas shut-off valve in compliance with this bulletin.  
 Exceptions for installation or replacement pursuant to a work permit issued prior to December 31, 2013:

- a. In buildings constructed pursuant to the 2008 Code, gas-fired direct vent space-heating appliances installed or replaced may be monitored by carbon monoxide detectors installed in sleeping rooms as required by section BC 908.7. Such appliances shall be deemed to be located outside of the sleeping room notwithstanding section FGC 303.3, Exception 1.
- b. In buildings constructed pursuant to the 1968 Code or prior codes, gas-fired direct vent space-heating appliances installed or replaced shall be in accordance with the conditions of this bulletin, except that a carbon monoxide alarm complying with 1 RCNY §28-02 may be installed within the sleeping room. Such appliances shall be deemed to be located outside of the sleeping room notwithstanding 1 RCNY §40-11 (b).

#### **B. Installation Requirements**

1. Installation requirements shall be in accordance with the manufacturer's instructions, the applicable listing and the conditions of this bulletin.
2. Gas-fired direct vent space-heating appliances, including those for use in rooms for sleeping purposes, shall only be installed by a master licensed plumber.
3. A licensed master plumber shall file for a permit with an "LAA 1" or a "PW1" application.
4. The unit shall be installed with natural gas only.
5. Clearances from adjacent combustible surfaces shall meet the minimum clearances indicated by the manufacturer's instruction and the listing agency.
6. Clearances from adjacent openings shall meet the minimum clearances indicated by the manufacturer's instructions and the listing agency.
7. Gas-fired direct vent space-heating appliances for use in rooms for sleeping purposes shall be labeled as per section AC 28-113.4. All shipment and deliveries of materials shall be accompanied by a label certifying the material shipped or delivered are equivalent to those tested and approved.

#### **C. Maintenance**

Gas-fired direct vent space-heating appliances, carbon monoxide detectors installed in sleeping rooms pursuant to 1 RCNY §28-02 or section BC 908.7, and carbon monoxide detectors installed in conjunction with gas-fired direct vent space heating appliances shall be maintained in accordance with the manufactures instructions and the conditions of their listing.

- Referenced Standards:**
1. ANSI Z21.86-1998 "*Gas-Fired Vented Space-Heating Appliances*"
  2. UL 2034-96, revised 3/8/05 – "*Standard for Single and Multiple Station Carbon Monoxide Alarms*"
  3. UL 2075-04, revised 7/20/05 – "*Gas and Vapor Detectors and Sensors*"