

Addenda to the Second Edition of Z83.20-2008 • CSA 2.34-2008  
**American National Standard/  
CSA Standard For  
Gas-Fired Low Intensity  
Infrared Heaters**



# ***Preface***

The standards set forth herein apply to the second edition of the Standard for Gas-Fired Low-Intensity Infrared Heaters, ANSI Z83.20-2008 • CSA 2.34-2008, and supersede corresponding standards therein. Following their preparation by the supervising Technical Advisory Group, they were accepted by the American National Standards Institute (ANSI) and the Interprovincial Gas Advisory Council (IGAC), and subsequently approved.

NOTE: Changes, other than editorial, are denoted by a vertical line in the margin.

APPROVED



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American National Standards Institute, Inc.

# ***IGAC***

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# ***Addenda to American National Standard/CSA Standard For Gas-Fired Low Intensity Infrared Heaters***

## ***Part I: Construction***

### **1.1 Scope**

#### **1.1.5**

Heaters covered by this standard may be of the catalytic type (see Part IV, Definitions). These heaters are intended for indoor installation and are only of the vented or un-vented type. The heaters are to be constructed of entirely of new, unused parts and materials with inputs up to and including 60,000 Btu/hr (17.58 kW) per burner.

(Former 1.1.5 through 1.1.11 become 1.1.6 through 1.1.12, respectively.)

#### **1.2.11**

Catalytic infrared heaters submitted for examination under this standard shall be furnished with the catalytic pads and a list of applicable equipment specified by the manufacturer.

#### **1.2.12**

A catalytic heater shall not be equipped with a flue collar or any other means for flue connection.

#### **1.2.13**

A catalytic heater shall not use adjustable air shutters.

#### **1.2.14**

Catalytic heaters covered by this standard shall only be installed in a fixed position such that the heater cannot be tipped over, dislocated or otherwise compromised accidentally. Mounting means shall be incorporated as part of the heater design and construction.

#### **1.2.15**

Special construction provisions applicable to catalytic infrared heaters are outlined under 1.1.5, 1.2.11, 1.2.12, 1.2.13, 1.2.14, 1.8.11, 1.8.12, 1.8.13, 1.26.6, 1.27.2.i, and 1.27.12.

### **1.8 Main Burner**

#### **1.8.11**

Catalytic infrared heaters shall be designed and assembled in a manner to preclude the passage of fuel gases through other than the surface of the catalytic material.

#### **1.8.12**

Catalytic infrared burners shall be manufactured from materials that have reasonable mechanical and thermal stability and can withstand exposure to a minimum temperature of 1500°F (815.55°C) for a period of 24 hours.

## Method of Test

Place a 12"x12" piece of the catalytic burner material inside a kiln. Raise the temperature of the kiln to a set point of 1500°F (815.55°C) and maintain the temperature for a period of 24 hours. Allow the material to cool down to room temperature and remove the material after test.

Measure dimensions such as length, width, thickness and weight before and after the kilning process. Material must not become brittle and shall exhibit similar mechanical properties and integrity prior to kilning.

### 1.8.13

A catalytic heater shall be equipped with a canopy, guard, grille or screen that will protect the catalytic pad against damage. The maximum allowed open surface area shall not exceed 80 percent or equivalent. Additional screens, grilles or guards that are not in contact with the catalytic pad are exempt from 1.8.13.

### 1.8.14

When a catalytic heater employs guards, screens or grilles they shall be mechanically attached to the heater by the manufacturer.

## 1.26 Instructions

### 1.26.3

Each heater shall be accompanied by printed instructions and diagrams adequate for proper field assembly, installation and safe operation, including all controls and accessories.

The cover, or in the absence of a cover, the first page of the instruction manual shall bear the following statements. They shall be boxed as shown:

 **WARNING:** Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

These instructions shall indicate the following:

- a. The manufacturer's, distributor's, jobber's or dealer's name, as it appears on the rating plate, and address and appliance model or series number.
- b. Adequate clearance around air openings into the combustion chamber, clearances from combustible material, provisions for accessibility and for combustion and ventilating air supply.
- c. Adequate clearances in public garages and airplane hangers for overhead heaters (see 1.1.4).
- d. The stated clearance to combustibles represents a surface temperature of 90°F (32°C) above room temperature. Building materials with a low heat tolerance (such as plastics, vinyl siding, canvas, tri-ply, etc.) may be subject to degradation at lower temperatures. It is the installer's responsibility to assure that adjacent materials are protected from degradation.
- e. A warning statement that an overhead heater should be installed so that the minimum clearances marked on the heater will be maintained from vehicles parked below the heater.

- f. statement indicating that in locations used for the storage of combustible materials, signs must be posted to specify the maximum permissible stacking height to maintain the required clearances from the heater to the combustibles, and that such signs must either be posted adjacent to the heater thermostats or in the absence of such thermostats in a conspicuous location.
- g. The installation must conform with local building codes or, in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1/NFPA 54* or the *Natural Gas and Propane Installation Code, CSA B149.1*.
- h. For horizontally vented heaters, information on where the vent terminal, air-intake terminal or vent-air terminal should and should not terminate, including:
  - 1. Distances from adjacent public walkways, adjacent buildings, openable windows and building openings, consistent with the *National Fuel Gas Code, ANSI Z223.1/NFPA 54* or the *Natural Gas and Propane Installation Code, CSA B149.1*;
  - 2. Information on preventing blockage by snow; and
  - 3. Information on protecting building materials from degradation by flue gases.
- i. If applicable, the manufacturer's specified maximum and minimum length of heat exchanger surfaces (see Part IV, Definitions) for tube type radiant heaters.
- j. Directions to provide a  $\frac{1}{8}$  in (3.2 mm) NPT plugged tapping, accessible for test gage connection, immediately upstream of the gas supply connection to the heater.
- k. If an external electrical source is utilized, the heater, when installed, must be electrically grounded in accordance with the *National Electrical Code, ANSI/NFPA 70* or current *Canadian Electrical Code, CSA C22.1*.
- l. The maximum and minimum inlet gas supply pressure to the heater.
- m. If applicable, a statement that the appliance is equipped with a safety control system designed to shut the burner off in the event of inadequate gas pressures. This statement shall also include the information specified in 1.27.3.
- n. The manifold pressure in inches water column.
- o. If a transformer is not supplied with the heater, transformer specifications which are compatible with the electrical ratings marked on the appliance shall be provided.
- p. A statement that the user shall not attempt to ignite the pilot by hand on heaters equipped with automatic pilot igniters. (See 1.17.3.)
- q. Information regarding the connection of a heater to the gas supply line, in particular taking into account the thermal expansion and contraction of an appliance/heater.

### 1.26.6

For catalytic infrared heaters, specific instructions relative to the care and cleaning shall be provided.

(Former 1.26.6 through 1.26.13 become 1.26.7 through 1.26.14, respectively.)