

November 2010

G-06-03-B149.1 [Rev 1]

(File number 16090-G01)

(Replaces Information Bulletin dated October 2006)

Page 1 of 2

## REQUIREMENTS FOR AIR SUPPLY SYSTEMS

**Subject: Air-Supply Openings and Ducts**

This bulletin has been jointly developed by Safety Services and the Gas Technical Council to inform the gas industry of the minimum requirements associated with the installation of air-supply openings and ducts.

**Designers, Contractors and Safety Codes Officers** are reminded that the termination of air-supply openings for combustion air supply, ventilation air and mechanical air require a space between them to ensure they will not create interference with the air supply for an appliance. This is to reduce the probability that, as a result of the design or installation of the air-supply grilles, the building interior will be exposed to an unacceptable risk due to contamination of the indoor air quality.

A number of building designers and installers are utilizing a common vertical/horizontal grill to enclose the inlet opening for an air-supply, mechanical air-supply and the ventilation air outlet. This common grill configuration under extreme atmospheric conditions, such as frost and high winds, will cause a negative pressure in the mechanical room and result in the products of combustion contaminating the indoor air quality. There have been a number of incidents where the building occupants have been hospitalized with carbon monoxide poisoning when frost blocked the screen in the grill. In addition, moisture and indoor air quality complaints have revealed that prevailing winds parallel to the buildings have created negative pressures within the mechanical rooms. The mechanical air-supply adversely affects the venting and safe operation of the gas appliances then circulates the products of combustion throughout the building.

There have also been problems with the practice of installing the ventilation air duct and combustion air duct in the same grill. In this configuration, the ventilation air is drawn back into the mechanical room through the combustion air duct. As a result, heat and any contaminants in the ventilation air will affect the indoor air quality in the mechanical room.

The **Natural Gas and Propane Installation Code (CAN/CSA-B149.1-2010)** under Clause 8, contains the minimum requirements for venting systems and air supply for appliances.

---

**Government  
of Alberta** ■

Issue of this STANDATA is authorized by  
the Administrator

*[Original Signed]*  
Sidney Manning



SAFETY CODES COUNCIL

This reference text is from the CAN/CSA-B149.1-10 Natural Gas and Propane Installation Code.

<p><b>Clause 8.1.3 –</b> Interference with the <b>air supply</b> for an <b>appliance</b> shall be prohibited</p>
<p><b>Clause 8.3.5 –</b> An <b>air-supply</b> inlet opening from outdoors shall be equipped with a means to prevent the direct entry of rain and wind, and such means shall not reduce the required free area of the <b>air-supply</b> opening.</p>
<p><b>Clause 8.3.6 –</b> An <b>air-supply</b> inlet opening from outdoors shall be located not less than 12 in (300 mm) above the outside grade level.</p>
<p><b>Clause 8.4.1 –</b> <b>Ventilation</b> of the space occupied by an <b>appliance</b> or <b>equipment</b> shall be provided by an opening for <b>ventilation air</b> at the highest practicable point communicating with the outdoors, and this opening shall not terminate within 12 in (300 mm) of any combustion air opening. The total cross-sectional area of such an opening shall be at least 10% of the area required in Clauses 8.4.2 and 8.4.3, but in no case shall the cross-sectional area be less than 10 in<sup>2</sup> (6500 mm<sup>2</sup>).</p>
<p><b>Clause 8.6 - Conditions created by exhaust fans, air-supply fans, circulating fans, or fireplaces</b></p> <p>When it is determined that the operation of another <b>appliance</b> or other <b>equipment</b>, including an exhaust fan, <b>air-supply</b> fan, or circulating fan, adversely affects the venting, combustion, or characteristics of a gas <b>appliance</b>, either the condition shall be corrected or the fuel supply to the affected <b>appliance</b> shall be discontinued.</p>

The purpose of this notice is to ensure that designers, vendors, builders and contractors are aware of the provisions within the Code that interference with the air-supply for an appliance is prohibited. Therefore, an **air-supply** inlet opening shall not terminate

- (a) less than 1 ft (300 mm) above grade;
- (b) within 1 ft (300 mm) of a **ventilation air** opening as required in Clause 8.4.1; and
- (c) within 3 ft (900 mm) of a mechanical **air-supply** inlet to any **building**.

**Note:** Where the outside fresh air-supply is connected to the return air system of a furnace and does not exceed 8 inches (203 mm) in diameter or equivalent the clearance in (c) is not mandatory.

Under the **Safety Codes Act** it is the responsibility of the designers and installers to ensure that the design and installation of combustion air, ventilation air and mechanical air-supply inlets in all buildings comply with the *Act* and are in accordance with the regulations.