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Page 1 of 3
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Sidewall vent terminations

TO: GASFITTERS/INSTALLERS, NATURAL GAS UTILITIES, PROPANE DISTRIBUTORS, ACCREDITED MUNICIPALITIES AND AGENCIES

This bulletin has been jointly developed by Safety Services and the Gas Technical Council to inform designers, vendors, builders, contractors (Gasfitters and Sheet Metal Mechanics) and owners of the minimum requirements to ensure safe and effective venting of gas appliances.

Traditionally, gas appliances were designed with a draft hood or a draft diverter and depended on natural buoyancy to vent their products of combustion to the outdoors through the roof. Current efficiency requirements are resulting in more appliances with many different vent termination options. As the number of appliances being used in homes that have sidewall vent termination options increases, so has the issues with combustion products at those locations.

The B149.1 – 2010 Natural Gas and Propane Installation code states;

8.14.8 a *vent* shall not terminate

- (a) where it may cause hazardous frost or ice accumulations on adjacent property surfaces;
- (b) less than 7 ft (2.1 m) above a paved sidewalk or a paved driveway that is located on public property;
- (c) within 6 ft (1.8 m) of a mechanical ***air-supply*** inlet to any ***building***;
- (d) above a ***regulator*** within 3 ft (900 mm) horizontally of the vertical centreline of the ***regulator*** vent outlet to a maximum vertical distance of 15 ft (4.5 m);
- (e) except as required by Clause 8.14.8(d), any distance less than that of any gas pressure regulator vent outlet as detailed in Table 5.2;
- (f) less than 1 ft (300 mm) above grade level;
- (g) within the following distances of a window or door that can be opened in any ***building***, of any nonmechanical ***air-supply*** inlet to any ***building***, or of the ***combustion air*** inlet of any other ***appliance***:
 - (i) 6 in (150 mm) for inputs up to and including 10 000 Btuh (3 kW);
 - (ii) 12 in (300 mm) for inputs from 10 000 Btuh (3 kW) up to and including 100 000 Btuh (30 kW); and

- (iii) 3 ft (900 mm) for inputs exceeding 100 000 Btuh (30 kW); and
- (h) underneath a veranda, porch, or deck unless
 - (i) the veranda, porch, or deck is fully open on a minimum of two sides beneath the floor; and
 - (ii) the distance between the top of the **vent** termination and the underside of the veranda, porch, or deck is greater than 1 ft (300 mm).

Note: Alberta Building Code 2006 States:

9.32.3.13. Outdoor Intake and Exhaust Openings

3) The distance separating **air intakes** from building envelope penetrations that are potential sources of contaminants, such as **gas vents** or oil fill pipes, shall be not less than 900mm (3 feet)

8.14.8(a) is an objective requirement that has no reference to caps, directional diversion, property line or building separations.

The issues that could be affected by frost and ice accumulations due to side yard vent terminations include adjoining property air inlets, appliance performance, windows, doors, building openings, property surfaces, mould, and moisture.

The items to consider for side wall vent terminations are;

1. Vents from category III or category IV appliances or appliances with special venting systems exceeding 35 000 Btuh,
2. Appliances that have some means of redirecting the exhaust plume
3. Measurements
 - (a) Unobstructed distances to property lines of less than 4ft.(1.2m),
 - (b) distances of 4 ft.(1.2m) and up to 8 ft.(2.4m), and
 - (c) distances beyond 8 ft.(2.4m)
4. Alcove installations.

Sidewall Vent terminations require;

- A vent from a category III or category IV appliance or an appliance with a special venting system exceeding 35 000 Btuh shall not extend through an exterior wall and terminate adjacent to the exterior wall unless there is a minimum unobstructed distance of 4 ft.(1.2m) or greater from the foundation to the property line.
- A vent from a Category III or Category IV appliance or an appliance with a special venting system exceeding 35,000 Btuh that terminates into a side yard which measures not less than 4 ft.(1.2m) from the foundation wall to property line, shall have a means of redirecting the vent plume with a certified fitting such as a "T", a 90 degree elbow, or termination acceptable to the Authority Having Jurisdiction, installed in accordance to the manufacturer's installation instructions.
- Distances greater than 8 ft.(2.4m) will have no restriction.
- In an alcove installation the depth of the vent termination FROM THE EXTERIOR FACE cannot exceed the separation between the two opposing walls.

Note: These requirements do not apply to locations where adjoining properties are public spaces such as road ways, alleyways, walkways or parks where structures would not normally be erected.

Rationale

- Revised to better reflect installation variations and concerns expressed by inspectors and contractors. Addresses all sidewall vented appliances not just category IV. Allows for unrestricted side terminations of special vent systems up to 35 000 Btuh. appliances with less than 4 ft.(1.2m) clearance, which should cover such appliances as fireplaces and garage heaters under 35 000 Btuh which usually have shorter run times and not a lot of plume production.
- Appliances over 35 000 Btuh, venting within side yards with a width of no less than 4 ft.(1.2m) can be installed with discharge directed away from property lines. Most appliances allow for directional fittings and others already have termination caps such as on garage heaters and boiler venting. Appliances such as power vent water heaters over 35 000 Btuh are being used more and more for some space heating which increases run times and hence exhaust plumes. They need adequate space for proper plume dispersal and 4 ft.(1.2m) side yard terminations have resulted in numerous issues.
- Finally, as the note indicates, open public spaces adjoining the properties are exempt from the requirements