



Fuels Safety Program	Ref. No.: FS-101-07	Rev. No.: R1
ADVISORY	Date: April 16, 2007	Date: April 7, 2014

Subject: Plastic Vents (B149.1-10, 8.9.6)
Sent to: Posted on Web-Site and Distributed to Natural Gas RRG and Advisory Council

Requirements

Clause 8.9.6 of CSA B149.1-10 requires plastic vents to be certified to ULC S636 "Standard for Type BH Gas Venting Systems".

This requirement has been put in place due to the investigated failures in a number of existing plastic gas vents, predominantly ABS plastic pipe and fittings. Noted failures have included stress cracking and melting. This could result in a carbon monoxide (CO) safety hazard in homes causing personal injury to the occupants.

Clause 8.9.6 affects all new appliance installations and replacement installations. For example, if an existing water heater is replaced with a new water heater, the existing plastic venting must be completely replaced with a certified ULC S636 plastic venting system.

Existing appliances and their plastic venting systems will not require action until replacement of the appliance is required as this requirement is not retroactive to installations made prior to its formal adoption.

Variations

There may be situations where the replacement of the entire vent is not possible or is impractical due to specifics of that particular installation. For those situations, TSSA will consider a variance to allow the continued use of the existing vent provided that all of the following conditions are met:

1. It is not possible or practical to replace the entire vent;
2. The first 5 feet immediately downstream of the appliance is replaced with vent that is:
 - a. Suitable for the appliance; and,
 - b. Certified to ULC S636.
3. The existing vent is visually inspected and found in good working order (cracked or damaged vent is not allowed to be repaired - the entire vent shall be replaced).
4. The existing vent is pressure tested as follows:
 - a. Use of air or an inert gas;
 - b. A minimum test pressure of positive or negative 7 inches water column shall be applied to the entire length of the existing plastic vent but shall not exceed a pressure of 2 psig at any time;
 - c. The minimum test pressure of +/- 7 inches water column shall be measured by either a pressure gauge or equivalent device and, if a gauge is used, the minimum diameter shall be 3 in (75 mm) and the maximum range shall exceed the test pressure by at least 15% but not more than 300%. The pressure gauge or equivalent device shall be calibrated to read in increments of not more than 2% of the maximum dial reading of the pressure gauge;
 - d. The minimum test pressure shall be applied for at least 5 minutes and at least 75% of the test pressure shall be retained (if less than 75% pressure is retained, the entire vent must be replaced);

- e. Where it is not possible to reach the vent termination due to elevation or other access issues, it is permissible to test up to the interior side of the outside wall piece. This will require cutting the vent at the inside of the wall-piece, testing remaining concealed interior vent and installing a S636 certified coupling to re-attach the vent to the wall-piece;
5. Where the entire vent is replaced except the last section passing through the wall or roof (due to difficult access), a pressure test is not required, however the non-certified portion of the vent interior to the building shall be no longer than 12" and shall not include more than one joint. The joint shall be assembled according to the vent manufacturer's installation instructions;

If a vent had failed the pressure test, the entire venting system shall be replaced with vent suitable for the appliance and certified to ULC-S636.

Notes to Variances:

1. Residential buildings with multiple units may apply for a single variance before appliances are replaced and vents pressure tested.
2. The approval of the variance is also subject to the condition that every five years, the variance applicant or property owner is responsible to ensure that any vent covered by the variance shall be visually inspected and pressure tested by an appropriate certificate holder in accordance with the terms outlined in this Advisory. The applicant is also responsible for keeping records of the inspections and pressure tests on file for TSSA audits.
3. To facilitate a timely variance process please ensure that the application is submitted with:
 - a. Completed variance application form;
 - b. Fee (or purchase order number):
 - i. For single unit: \$169.25
 - ii. For building with multiple units: \$593.25
 - iii. For commercial installation: \$593.25
 - c. Inspection/Pressure test report. This report shall include the following (as minimum):
 - i. Date of inspection/test;
 - ii. Street number, street name and municipality;
 - iii. Name and TSSA certificate number of the person who conducted the inspection/test;
 - iv. Summary of visual inspection
 - v. Description of why it is not possible or practical to replace the entire vent
 - vi. Description of the venting system (material: ABS, PVC, CPVC, diameter);
 - vii. Description of appliance (furnace, water heater)
 - viii. Pressure test data: pressure, duration, result: fail or pass
4. Variances granted under Advisory FS-101-07 may be subjected to safety audits by TSSA with the associated costs being charged to the applicant or the current property owner

Existing vent alterations

1. Corrections made to existing vent termination

It is permissible to alter existing ABS venting system terminations with S636 approved PVC or CPVC venting components using appropriate S636 transition cements. Examples of such situations are as follows:

- a. Addition of snorkels to accommodate grade changes, to overcome vent termination/air supply pipe freeze-offs and to correct customer complaints (e.g. blowing on bushes, window fogging).
- b. Vent extensions to avoid building/air supply openings.
- c. Alterations required due to deck installations.

2. Minor venting alterations

It is permissible to alter existing ABS venting systems with S636 approved PVC or CPVC venting components using appropriate S636 transition cements. Examples of such situations are as follows:

- a. Raising of appliances, necessitated by floors being elevated during renovations.

- b. Shifting of appliances required to obtain service clearances (e.g. turning of water heater because a wall was built up against a relief valve).
- c. Minor venting adjustments necessitated by service work completion. (e.g. ventor changes)

ABS components affixed to and shipped as part of the appliance

ABS vent components integral to the appliance are considered to be approved as part of the appliance and are not required to be UL S636 certified. Vent components supplied loose must be ULC S636 certified components (PVC or CPVC).