

4 Ventilation Checklist 4—Exhaust Fan & Passive Inlets SENTENCE 9.32.3.4(6)

2014 Amendment to Section 9.32 Ventilation

Use this checklist for small (≤ 1800 sqft), single level, **non-forced air** heated dwellings located in *mild coastal & moderate interior climates where winter design temperature is warmer than -4°F .*

Civic Address _____		Permit No. _____	
Climate Zone: _____	Number of Bedrooms	<input type="text"/>	(A) A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.
	Total Floor area of living space	<input type="text"/> ft ²	(B)
	Total Interior Volume of Dwelling	<input type="text"/> ft ³	Total volume includes all heated interior spaces (including crawlspace if heated).
.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 =		<input type="text"/> cfm	(C) Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Ventilation System Exhaust Fan Minimum Air-flow Rate

Use the bedroom count from Box (A) and Total square footage from Box (B) above and Table 9.32.3.5. to determine

Minimum Required Principal Exhaust System Capacity cfm (D)

2. Principal System Fan Choice

a) Exhaust Fan continuous running Make _____ Model _____ Sone Rating _____

Location: _____ **Capacity at 0.2 ESP** cfm (E) Must be \geq than Box (D)
If CEV, capacity @0.4ESP

3. Fan Duct Size and Equivalent Length

a) Installed Equivalent Length:
Length of duct _____ ft + Ext. hood **30 ft** + (_____ # elbows at 10 ft each = _____) = ft (F)

b) Choose type of duct: Flex duct or Rigid (smooth) duct

c) Duct size required to flow Box E cfm through Box F equivalent length of duct = in \varnothing
Use Table 9.32.3.8 (3) to determine duct size.

4. Required Kitchen and Bathroom Exhaust Fans: Re-list below if Principal Exhaust Fan meets all or part of Kitchen/Bathroom spot Exhaust requirements.

ROOM	REQUIRED EXHAUST RATE Table 9.32.3.6	EXHAUST EQUIPMENT						Ex.Fan/CEV Principal System CFM
		Spot Exhaust Kitchen & Bath WALL/CEILING FANS						
		Fan Make & Model	CFM @ 0.2 ESP Manf. Rated	*Duct Sizing per Table 9.32.3.8.(3)		Max. Equiv. Length per table	Installed Equiv. Length	
				Duct Dia (in \varnothing)				
rigid	flex							

* For fan capacities **exceeding** 175cfm in Table 9.32.3.8(3), follow manufacturer's installation instructions or use good engineering practice to size duct. See *Ventilation Guidelines* Appendix page 16-A, *Duct Sizing for Larger Fans*.

TOTAL (must = Box E)

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Removed reference to RADON in Make-up Air Requirements

5. Required Inlets for passive Ventilation Air Supply

- a) High wall installation (minimum 6 ft above floor)
- b) Located in each bedroom and at least one common area
- c) Inlet Free Area greater than or equal to 4 Sq In

6. If Heated Crawlspace present

- Choose ventilation option 1, 2, or 3 per sentence 9.32.3.7 (2).

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) present in dwelling unit? (per Sentence 9.32.4.1)

- No, Omit Steps 2 & 3
- Yes, Proceed to Step 2

2. Exhaust Appliance present which exceeds Box C 0.5 ACH:

- No such appliance. Omit Step 3
- Yes, Commit to Depressurization Test (See CAUTION, TECA Vent Manual pg 24)
- Yes, Proceed to Step 3

3. Use Active Make-up Air for Exhaust Appliance. (Choose a or b)

Make-up Air Fan required: Exhaust Appliance Actual Installed Cfm _____
 Fan Make _____ Model _____ Make-up Air Fan Cfm _____
 Duct diameter _____ inches Fan Location _____

- Fan interconnected with exhaust appliance fan.** Fan ducted to _____
- a) Active Make-up Air delivered to an Unoccupied Area first** (not directly to room containing the appliance).

i) Tempering Required per 9.32.4.1.(4)(a):
 Show calculation how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

$$\frac{\text{Make-up Fan cfm} \times 1.08 \times (34^\circ \text{F} - \text{Winter Design Temp your location})}{3412 \text{ BTUH/kw}} = \text{Duct Heater (kw)}$$

ii) Transfer Grill Required: Size 1 sq in of gross area per 2 cfm: Transfer grill size _____ sq. in. Location _____
 iii) Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area: Show calculation and **describe how make-up air will be further tempered** to at least 54°F (12°C).

$$\frac{\text{Make-up Fan cfm} \times 1.08 \times (54^\circ \text{F} - 34^\circ \text{F})}{3412 \text{ BTUH/kw}} = \text{Heat from unoccupied area required to raise temp by } 20^\circ \text{F}$$

Tempered by: _____

OR b) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation how make-up air will be tempered to at least 54°F (12°C).

$$\frac{\text{Make-up Fan cfm} \times 1.08 \times (54^\circ \text{F} - \text{Winter Design Temp your location})}{3412 \text{ BTUH/kw}} = \text{Duct Heater (kw)}$$

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Installer Certification:

I hereby certify that the design and installation of the ventilation system complies with the 2012 B.C. Building Code, 2014 Section 9.32 Amendment.

Date _____

Print Name _____

Signature _____

Company _____

Phone _____

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2012 TECA Ventilation Certification Stamp

