

### **9.13.4.3. - Rough-in for a Subfloor Depressurization System**

Floors-on-ground shall accommodate the future installation of a subfloor depressurization system by installing a radon vent pipe, and a contiguous gas permeable layer between the air barrier system and the ground. A subfloor depressurization system may be either **passive** or **active**.

Passive Systems:	Active Systems:
<p><b><u>Contiguous Gas Permeable Layer:</u></b></p> <p>a material or materials that allow effective depressurization of that space. <b><u>Or,</u></b> not less than 100 mm of coarse clean granular material containing not more than 10% of material that would pass a 4 mm sieve.</p> <p><b><u>Radon Vent Pipe:</u></b></p> <p>Consist of pipe and fittings in accordance with 7.1.3. of <a href="#">CAN/CGSB-149.11: ASTM F891, ASTM F628, or CSA B181.1</a>. (see below) and shall have a nominal internal diameter of not less than 10cm (4in)</p> <p><b><u>And,</u></b> Where it terminates outside the building, not less than 1.8 m from a property line, the exterior pipe termination of the passive stack terminated above the roof top shall be directed vertically conforming to <a href="#">Table 7.2.4.6</a>. The vent opening of the pipe shall be fitted with a corrosion resistant screen or grille with a mesh opening size of 10 mm to 12.5 mm or a product of equivalent air flow performance.</p>	<p><b><u>Contiguous Gas Permeable Layer:</u></b></p> <p>a material or materials that allow effective depressurization of that space. <b><u>Or,</u></b> not less than 100 mm of coarse clean granular material containing not more than 10% of material that would pass a 4 mm sieve.</p> <p><b><u>Radon Vent Pipe:</u></b></p> <p>Consist of pipe and fittings in accordance with 7.1.3. of <a href="#">CAN/CGSB-149.11: ASTM F891, ASTM F628, or CSA B181.1</a>. (see below) and shall have a nominal internal diameter of not less than 10cm (4in)</p> <p><b><u>And,</u></b> Where it terminates outside the building, not less than 1.8 m from a property line, located in accordance with 7.3.4 of <a href="#">CAN/CGSB-149.11</a>. Active radon reduction systems shall discharge to the outdoors at a roof top, gable end, or sidewall (near ground level). Active radon reduction systems terminating above the roof or via a gable end shall have their fans located in the attic. The three possible choices of active radon reduction system discharges (roof top, gable end, or side-wall discharge near ground level) shall conform to the clearance distances shown in <a href="#">Table 7.3.4.3</a>. The vent opening of the pipe shall be fitted with a corrosion resistant screen or grille with a mesh opening size of 10 mm to 12.5 mm or a product of equivalent air flow performance.</p>

**Table 7.2.4.6 – Minimum passive radon stack termination clearances for roof top discharge.**

Location	Minimum Dimension (m)
Vertical clearance above the roof at the point of penetration	0.30
Vertical clearance above windows and doors	0.60
Vertical clearance above mechanical air supply inlet (air intake)	0.90
Horizontal clearance from windows, doors, or mechanical air supply inlet	3
Clearance horizontally from a vertical wall that extends above the roof penetrated	3

**Table 7.3.4.3 – Clearance distances for active radon reduction systems.**

Locations	Suggested clearances (m)	Required minimal clearances (m)
Clearance to a mechanical air supply inlet.	3	2
Clearance to permanently closed window.	1	0.60
Clearance to a openable window.	2	2
Clearance from a door that may be opened.	2	1
Clearance to outside corner.	0.30	0.30
Clearance to inside corner.	0.30	0.30
Clearance above paved sidewalk or paved driveway located on public property.	2	2
Clearance above grade, veranda, porch, deck, or balcony.	1	0.30
Vertical clearance below soffits or from any attic venting component.	1	1
Horizontal clearance from an area directly below the discharge where there is a risk of injury from ice fall.	2	1

See [CAN/CGSB-149.11 – “Radon control options for new construction in low-rise residential buildings”](#) for additional best practices on Radon gas control in low rise residential buildings. A pdf copy of the standard can be provided upon request.

**Please note** that the below pipes are to be used as radon gas ventilation pipes. Other pipes not mentioned may be used if it can be shown that their performance meets or exceeds that of the below approved pipes.

**ASTM F891** – Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe With a Cellular Core.

**ASTM F628** – Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe with a Cellular Core.

**CSA B181.1** – Acrylonitrile-Butadiene-Styrene (ABS) Drain, Waste, and Vent Pipe and Pipe Fittings.