Bulletin: Radon Control for Part 9 Buildings

Purpose

To provide a consistent interpretation of the installation of radon control barriers as outlined in the 2018 B.C. Building code (BCBC). The following information will provide clarification for typical installation standards to ensure minimum Building Code standards are achieved for the under-slab radon barrier and rough-in subfloor depressurization system for all buildings intended to be occupied on average for greater than 4 hours within a 24-hour period (Residential and non-residential).

The District of Peachland and the surrounding areas have been identified as an area prone to high levels of Radon. District of Peachland is identified as an area requiring Radon Rough-ins within the BCBC Division B, Appendix C, Table C-4 (Same as Kelowna). **See BCBC 9.13.4.2. Soil Gas Control**

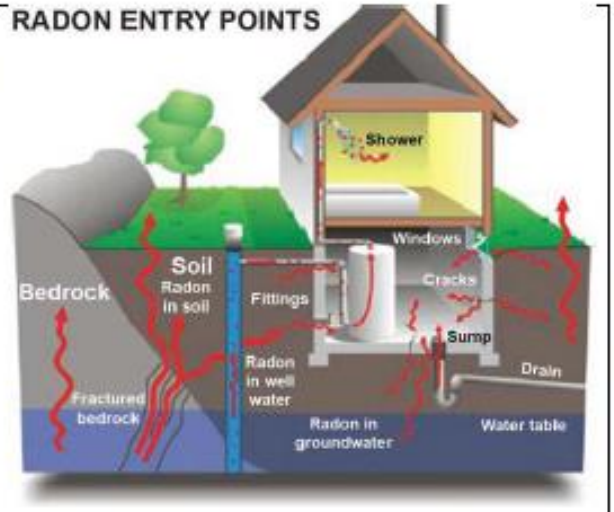
VIEW: [New interactive map estimates local health risk due to indoor radon levels in BC (bccdc.ca)]

Background

Radon is one of the most significant environmental health risks today, responsible for an estimated 3,200 deaths every year in Canada. Recent estimates published by the Radiation Protection Bureau of Health Canada show that 16% of lung cancer deaths are attributable to indoor radon exposure. This estimate is conservative and will increase as radon induced lung cancers are more commonly detected in the future.

What is Radon?

Radon is a colourless, odourless, radioactive gas that occurs naturally as a result of the decay of radium. It is found to varying degrees as a component of soil gas in all regions of Canada and is known to enter dwelling units by infiltration into basements and crawl spaces. The presence of radon in sufficient quantity can lead to an increased risk of lung cancer.



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Permit Requirements

Owners and contractors shall be responsible for ensuring that the air barrier and the subfloor Radon depressurization details are provided at the time of the permit review and installed for the under-slab poly and radon inspection. Alternative radon mitigation control measures should be reviewed with the Building Inspector prior to installation.

Drawing Details

Permit drawings shall indicate:

• Slab details showing poly, joints, edges and penetrations. This includes provisions for floor drains, sumps, bathtub trap arms etc.

• Approximate location of rough-in subfloor depressurization system. Please note that each contiguous area and slabs at different elevations of the floor must be either separately vented or connected with a solid pipe to one location. Floor plans and/or section should indicate the pipe location venting through the roof.

Inspections

Under-slab radon control: after installation and inspection of under slab plumbing but prior to placing concrete. Hydronic heating systems will require the review of the poly and subfloor depressurization prior to the installation of insulation and heating tubes

The under-slab poly and radon rough-in inspection will consist of a review of:

• Sealing of all air barrier joints/laps and edges to concrete

• Sealing around penetrations including electrical wiring, plumbing and hvac

• Providing for the rough-in for a subfloor depressurization system. Because the BC building code does not require a fan, there are no requirements specific to radon mitigation that the fan must comply with other than to be airtight. A fan installed along the radon vent pipe must maintain the airtightness of the radon vent pipe and maintain the integrity of the air barrier system to limit leakage from the radon vent pipe into the building.

Labelling

BC Building code section 9.13.4.3 3) b) viii) states that every radon pipe is clearly labelled “RADON VENT PIPE” every 1.2 m and at every change in direction.

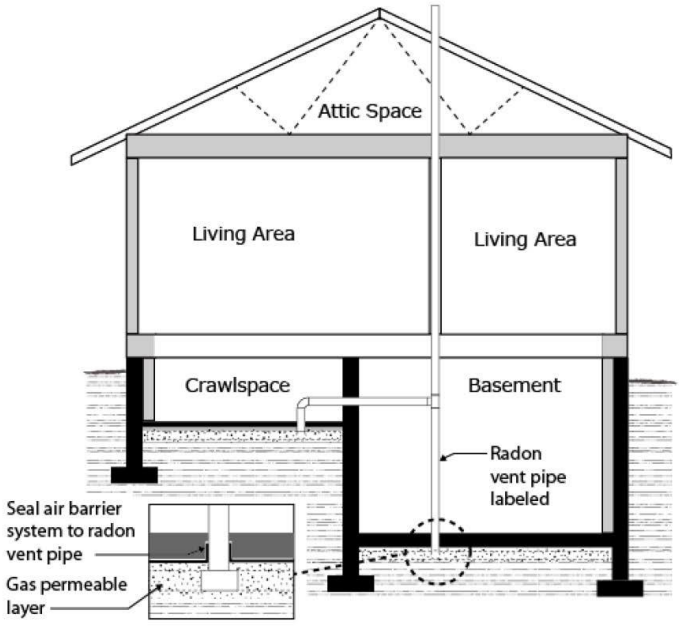
Renovations and Additions

Additions and significant renovations or buildings/spaces being altered from un-occupied to occupied space (garage to living space) will be required to meet soil gas and rough-in depressurization system requirements.

Testing

Testing is not mandatory but is highly recommended by the BC Lung association. Radon test kits can be purchased through the BC Lung association and placed in the home for either a short term (10-30 days) or long-term test (3-12 months). **www.radoncorp.com** www.radonaware.ca

9.13.4.3 Rough-in for a Subfloor Depressurization System



9.13.4.3.(3) b) – Radon Pipe

A radon vent pipe not less than 100 mm in diameter that is constructed so as to be air-tight and installed through the floor-on-ground such that

i)it opens into each contiguous area of the granular layer required by Clause (a) and not less than 100 mm of granular material projects beyond the terminus of the pipe measured along its axis (see A-9.13.4.3.(2)(b)(i) and (3)(b)(i) in Appendix A),

ii)it terminates not less than 1 m above and not less than 3.5 m in any other direction from any air inlet, door or openable window,

iii)it terminates not less than 2 m above and not less than 3.5 m in any other direction from a roof that supports an *occupancy*,

iv)it terminates not less than 1.8 m from a property line,

v)it is shielded from the weather in accordance with Sentence 6.2.3.12.(3),

vi)it is protected from frost closure by insulating the pipe or by some other manner, if subject to frost closure,

vii)the accumulation of moisture in the pipe is prevented, and

viii)it is clearly labelled “RADON VENT PIPE” every 1.2 m and at every change in direction.

Contact Information

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