

The 2024 British Columbia Building Code (BCBC) requires all conditioned spaces in buildings that have a wall, roof or floor assembly in contact with the ground have a Soil Gas Control System (radon rough in) installed.

Drawings

The 2024 Building Code requires the vent pipe to terminate to the exterior of the building and due to the limited permitted locations where this pipe can terminate (see below), the exterior location of the vent pipe shall be indicated on the permit drawings where other than a through roof termination is anticipated.

Subfloor depressurization layer

Floors-on-ground shall include the installation of a contiguous gas-permeable layer between the air barrier system and the ground consisting of a material or materials that allow effective depressurization of that space or not less than 100mm (4 in) of coarse clean granular material containing not more than 10 per cent of material that would pass through a 4mm sieve under all concrete slabs within the building footprint. Acceptable materials include proprietary below slab gas collection systems (CCMC Canada Registered) or approximately 3/8" clear crushed stone or similar sized pea gravel.

Air barrier system to conform to Subsection 9.25.3 BCBC

Wall, ceiling, and floor assemblies separating conditioned space from unconditioned space or from the ground shall be constructed to include an air barrier system that will provide a continuous barrier to air leakage.

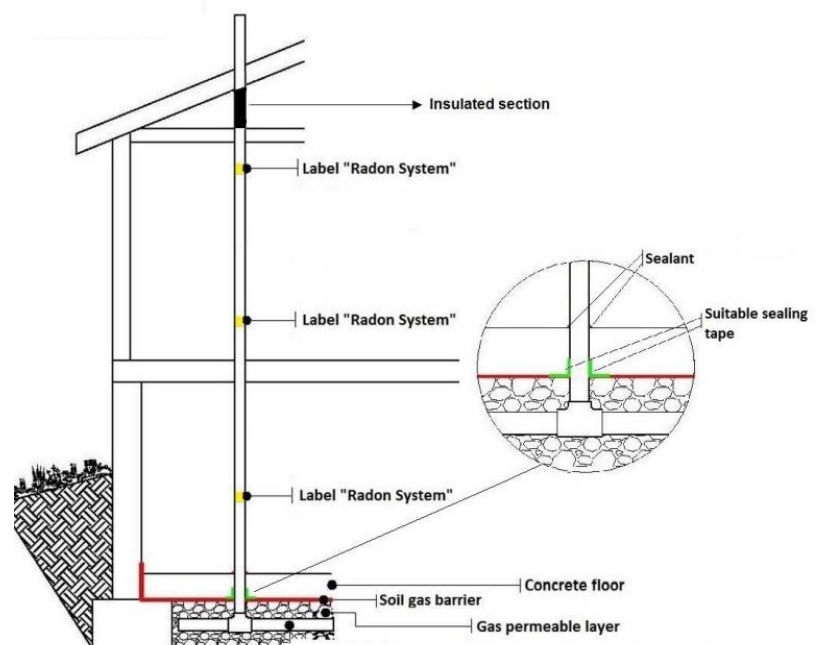
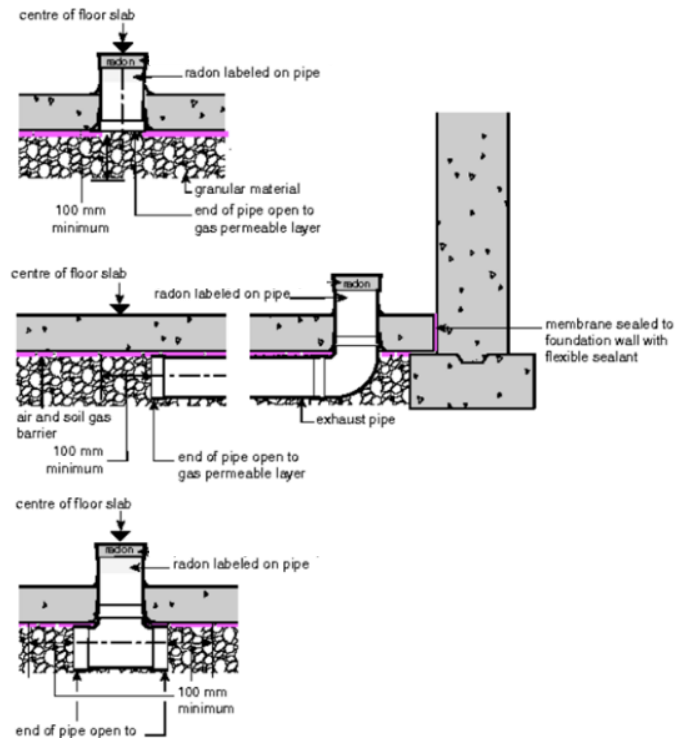
- Where polyethylene sheet is used to provide airtightness in the air barrier system, it shall conform to CAN/CGSB-51.34-M/Vapor barrier 0.15 mm (6 mil) thick polyethylene
- All joints or material changes in the barrier shall be lapped not less than 300 mm and sealed to prevent air leakage
- Seal air barrier material to pipe
- Seal air barrier systems around perimeter to inner surfaces of adjacent walls using flexible sealant

Pipe Material

- Pipe shall be not less than 100mm (4 in) in accordance with 7.1.3 of CAN/CGSB 149.11
- Pipe material shall conform to one of the following standards ASTM F891, CSA B181.1 or ASTM F628
- Above grade PVC pipe shall comply with Schedule 40 (Additional information on pipe can be found in ASTM E1465 and ANSI/AARST RRNC 2.0)
- SDR 35 PVC pipe (Below grade only) shall conform to requirements of CSA B182.1
- PVC flue gas venting pipe and fittings shall meet the requirements of ULC S636

Installation

- Provide soil gas collector near center of the floor-on-ground
- At least one suction point for each sub-slab area (each plenum) surrounding footings or connect to another soil gas collector served by suction point(s)
- Vertical pipe extension, or riser of the suction point to be made of solid pipe
- Vertical radon stack system through the inside of building envelope (cannot be in exterior walls)
- Clearly label vertical pipe with the word RADON every 1.8 m and every change in direction
- Protect pipe at top and bottom plates and any horizontal framing members
- Fit base of pipe passing through fire rated wall or ceiling with an intumescent collar on the fire rated side to maintain fire resistance
- Insulate pipes to a minimum thermal resistance of 2.47 m²K/W (R-12) in unconditioned space
- Provide accessible area for a fan 1.2 m high and 500 mm located as close to the exhaust outlet as practical - Consideration to install a circuit receptacle within 1.8 m
- Minimize horizontal pipe runs, suggested 22.5° fittings be used
- Supported every 1.2 m
- Install horizontal pipes above and below ground with at least a 1% slope to return water
- Termination located in accordance with either 7.2.4.6 or 7.3.4 of CAN/CGSB-149.11
- Top of roof pipe fitted with corrosion-resistant screen or mesh grille with opening of 10 mm to 12.5 mm
- Not less than 1.8 m from a property line



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