

Design Guide for New Buildings Accessory Dwellings

BC Building Code (BCBC) options for new construction, such as within a new house or as an addition to an existing building, are summarized here. Every project is unique and there may be further requirements not listed here. Please check with the BCBC, your designer, or reach out to the City's building staff.

Code Requirement	Notes
9.10.9.16: Residential Suites: Dwellings are separated from each other, ancillary space, and common space with a fire separation: • Having a 15-minute fire resistance rating when all smoke alarms within the house are of photo-electric type and interconnected, • Having a 30-minute fire resistance rating when additional smoke alarms or photo-electric type are installed and interconnected, or • Having a 45-minute fire resistance rating when smoke alarms are not installed as directly above.	Fire resistance rating not required where the building is sprinklered (Clause 9.10.9.16.(4)(d)).
9.10.3.1: Construction 15 MINUTE FIRE SEPARATION • Joist spaces filled with sound-absorbing material of not less than 150mm nominal thickness; • Stud spaces filled with sound absorbing material; • Resilient channel on one side of the separation spaced 400 or 600mm on-centre; • Gypsum board minimum 12.7mm (1/2") on ceilings and on both sides of walls. 30 MINUTE FIRE SEPARATION • Framing – wood stud wall, floor, and ceiling assemblies; • Joist spaces insulated with rock/slag or wet-blown cellulose fibre; • Stud spaces – non-load bearing with pre-formed fibreglass insulation; • Stud spaces – load bearing insulated with pre-formed rock/slag or cellulose fibre; • Resilient channel on one side of the fire separation spaced 400 or 600mm on-centre; • Not less than 12.7mm (1/2") thick gypsum board on ceilings and both sides of walls. 45 MINUTE FIRE SEPARATION • Test methods described in Part 3; • Calculation method presented in Appendix D; • Construction specification presented in Tables 9.10.3.1-A and 9.10.3.1-B	The construction methods listed are examples. There may be alternative assemblies not listed. Alternative assemblies must be appropriately referenced and detailed. The fire resistance rating of a ceiling is from the underside. The walls separating the dwellings are rated from each side.
9.10.10.3 & 9.10.10.4: Service Rooms: The service room (mechanical room) can serve both dwellings and requires the common wall between the spaces to be constructed with the same fire resistance rating as the assembly separating dwellings.	When designing your secondary suite, consider Fire Separation Continuity and ratings which are required from each side of the assembly. See also Heating System.

Excerpt only, please see complete design guide for more information

Code Requirement	Notes
9.10.5.1, 9.10.9.2, and 9.10.9.9: Fire Separation Continuity and Permitted Openings in Wall and Ceiling Membranes A wall or ceiling membrane forming part of a fire rated assembly is required to maintain the continuity of the separation. This is typically achieved by the installation of gypsum board. Penetrations of the continuous membrane in horizontal applications such as exhaust fans require the joist space to be lined with gypsum board. Vertical separation continuity is required in spaces such as behind bathtubs, showers, laundry boxes, and electrical boxes set into the wall assembly. In a house with an accessory dwelling, including their common spaces, ducts penetrating fire separations need not be equipped with fire dampers, provided they are non-combustible with all openings in the duct system serving one fire compartment.	
9.10.8.3: Loadbearing Elements: All loadbearing walls, columns, and arches in the storey immediately below a floor or roof assembly have a fire resistance rating not less than that required for the supported floor or roof assembly.	A 30 minute fire resistance rating requires ½" Type X gypsum board. A 45 minute fire rating requires 5/8" Type X gypsum board.
9.10.9.7: Piping Penetrations: Drain, waste, vent, and central vacuum system piping that is not located in a vertical shaft is permitted to penetrate a fire separation or membrane provided that: • Non-combustible piping – the penetration is either sealed by a firestop that has a fire resistance rating not less than the required assembly, the piping is tightly fitted or cast in place (provided the material is steel, ferrous, copper, concrete, or masonry), or sealed to maintain the integrity of the fire separation. • Combustible piping – the penetration is sealed by a firestop conforming to CAN/ULC S115.	The Canadian Fire Test Standard (CAN/ULC – S115) is used to provide fire resistance ratings to materials, or assemblies of materials, that provide continuity of fire separation at discontinuities (ie. joints).
9.5.3.1: Headroom: The minimum height of rooms and spaces, and access to the rooms and spaces, in minimum 2100mm (6'11").	The minimum clear height over stairs serving a dwelling or a house with a secondary suite is 1950mm (6'5") (Article 9.8.2.2)
9.9.6.4 and 9.7.2.1: Entrance Door: Entrance doors swing on a vertical axis and are provided with one of the following: transparent door glazing, a door viewer, or a sidelight.	The use of sliding glass doors is not permitted as the entrance to an accessory dwelling. See also Egress Dimensions.
9.8.2.1: Exit Stairs: Exit stairs serving a single dwelling or a house with an accessory dwelling, including their common spaces, will have a width of not less than 860mm (34").	Additional information on fire separations for exists, openings near unenclosed exterior exit stairs, and shared egress facilities can be found in Articles 9.9.4.2, 9.9.4.4, and 9.9.9.3.

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9.8: Stairs, Landings, Handrails, and Guards: Dimension and height requirements will meet Section 9.8. notes.	Risers will be of a uniform rise and run in any one flight of stairs.
9.9.3.3: Egress Dimensions: Minimum 860mm (34") wide.	Consideration should be given to the means of egress from the accessory dwelling to the parking area. Pathways and stairways need to meet the egress route requirements.
9.9.10.1: Bedroom Windows: Except where the accessory dwelling is sprinklered, each bedroom will have a minimum of at least one outside window or exterior door openable from the inside with a minimum area of 0.35m ² (3.77 ft ²) and no dimension less than 380mm (15").	Where a bedroom window required for egress opens into a window well, a clearance of at least 760mm (2.5ft) will be provided in front of the window.
9.32.3.2: Heating System 9.32.3.2.(4): In a house with an accessory dwelling, including their common spaces, where a heating or ventilation system serves more than a single dwelling, the system will be designed and installed to prevent the circulation of smoke upon a signal from a duct-type smoke detector. 9.32.3.2.(5): Ducts penetrating fire separations will be equipped with a fire damper. 9.33.4.3.(1): Where a single heating system serves a house with an accessory dwelling, individual temperature controls will be provided in each dwelling served by the system.	
9.32.3.6: Kitchen and Bathroom Fans: A dwelling requires the installation of exhaust fans in every kitchen and every bathroom or water closet room.	
9.10.19.1: Smoke Alarms: Each dwelling requires the installation of interconnected smoke alarms in each sleeping room, located between the sleeping rooms and the remainder of the storey. 30 MIN. FIRE SEPARATION – Requires additional photo-electric smoke alarm. 15 MIN. SEPARATION – All smoke alarms will be interconnected photo-electric type.	Smoke alarms are typically ionization type and are interconnected within each dwelling. Where photo-electric smoke alarms are installed, they are interconnected between dwellings. Smoke alarms will be provided in ancillary and common spaces. (9.10.19.1.(1)(c)).

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9.32.4.2: Carbon Monoxide Alarms Where a building contains a fuel fired appliance or attached garage, a carbon monoxide alarm will be installed in each bedroom, or within 5m of a bedroom, and interconnected throughout
Water Service Shut-offs Shut-offs for dwellings will be arranged to ensure that the water service to one dwelling is not interrupted when the other is off. Each dwelling requires its own accessible shut-off.
9.11.1.1: Sound Rating A sound rating separating the main dwelling from an accessory dwelling is required as follows: a. Construction having all of the following: • joists filled with 150mm sound absorbing material (insulation); • studs filled with sound absorbing material (insulation); • resilient channel one side at 400mm or 600mm on centre; • minimum ½" gypsum wall board on ceilings and both sides of walls, or; b. Construction having a minimum Sound Transmission Class (STC) rating of not less than 43, or; c. Separating assembly and adjoining construction with an Apparent Sound Transmission Class (ASTC) rating or not less than 40.

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