Energy Efficiency Requirements

For Buildings Complying with the BC Building Code (BCBC) Section 9.36 Verification

NEW WESTMINSTER

OVERVIEW

British Columbia (BC) has been pursuing energy efficiency and greenhouse gas reduction goals in buildings for more than six years. In April 2013, BC took the next step towards greater energy efficiency and greenhouse gas reduction with the adoption of the following **new BC Building Code requirements.**

As of **December 19, 2014**, applications for building permits must comply with new requirements for energy efficiency in housing, small commercial and industrial buildings. The new building envelope requirements vary depending on your location. New Code requirements are also being added related to the energy efficiency of heating, ventilation and air conditioning (HVAC) equipment and service water heating (SWH).

This mid-stream amendment to the 2012 BC Building Code treats **building as a system**, adds **multiple pathways to compliance**, enables **performance-based design and compliance**, removes the barrier for new technologies such as hybrid wall systems and provides a **new normal** for **air-sealing** and **insulation**.

COMPLIANCE OPTIONS

Compliance options for Section 9.36 include:

PRESCRIPTIVE *(9.36.2 to 9.36.4)*	PRESCRIPTIVE + TRADE OFF *(9.36.2 to 9.36.4)*	PERFORMANCE *(9.36.2 to 9.36.4)*

IMPORTANT CODE CHANGES

Effective R-Value:

- Thermal insulation requirements are **now defined in terms of effective insulation**. Previous versions of the Code referenced nominal insulation.

Garages:

- Attached garages are **treated as unconditioned space**, even if the garage is insulated and intended to be heated. The assembly separating the garage from the house must be insulated and be made airtight.

Equipment Location:

- HVAC equipment must be located **inside the plane of insulation**. Only HVAC equipment designed strictly for outdoor installation can be located outside the conditioned space. Attached garages, even if heated, are considered unconditioned space.

HVAC and Service Water Heating:

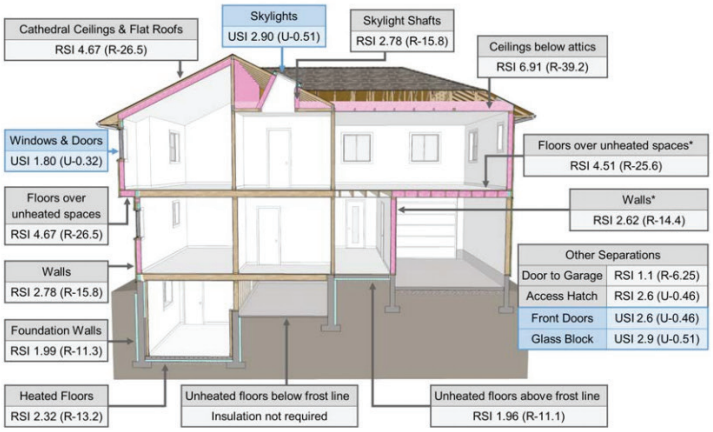
- New installation, performance and control requirements have been introduced in Section 9.36.

Section 9.32:

- Residential dwellings will be required to have a **principal ventilation system** that exhausts air from the bathrooms and kitchens and supplies fresh air to the bedrooms and living areas. For most dwelling units this means an end to exhaust-only ventilation.

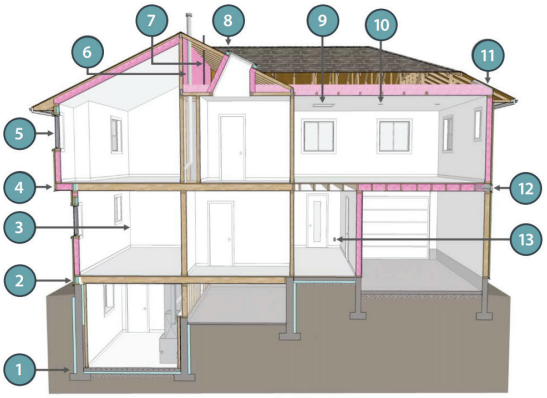
EFFECTIVE INSULATION REQUIREMENTS*

The **continuity of effectiveness of the insulation is required.** This may not require continuous insulation, since the Code permits interruptions from framing and other penetrations.



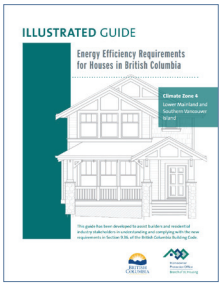
AIR BARRIER DETAILS*

A **continuous air barrier is required**. The air barrier must be continuous across joints, between assemblies and around penetrations.



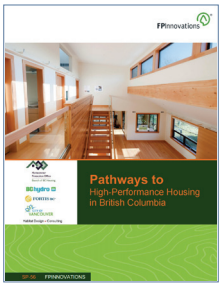
1. Slab Wall Foundation
2. Foundation to Sill Plate and Rim Joists
3. Interior Wall Interface
4. Rim Joist and Cantilevered Floor
5. Window, Head and Window Sill
6. Mechanical Flues and Chimneys
7. Plumbing Stacks
8. Skylights
9. Attic Hatches
10. Pot Lights
11. Wall to Ceiling
12. Wall Vented Ducts
13. Electrical Penetrations in Walls

RESOURCES



Illustrated Guide: Energy Efficiency Requirements for Houses in British Columbia

https://www.hpo.bc.ca/energy-efficiency-requirements

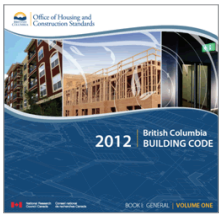


Pathways to High Performance Housing in British Columbia

https://www.hpo.bc.ca/PathwaysToHigh-PerformanceHousing

Canada Wood Council Effective R-Value Calculator

http://cwc.ca/resources/wall-thermal-design/



BC Building Code 2012

http://www2.gov.bc.ca/gov/content/industry/construction-industry/building-codes-standards/

** Figures from The Illustrated Guide: Energy Efficiency Requirements for Houses in British Columbia (Climate Zone 4 Lower Mainland and Southern Vancouver Island).*