

Information Bulletin

Energy Efficiency Requirements for Existing Part 9 Buildings

While it is clear that Manitoba Building Code (MBC) Subsection 9.36, Energy Efficiency for Part 9 buildings, applies to new buildings and four-season additions, it is not as clear when it should be applied to existing building projects, specifically where building envelope and HRV requirements are concerned.

Application of Building Envelope Requirements

As noted in MBC 9.36.2.1.(1), “this Subsection is concerned with the loss of energy due to heat transfer and air leakage through materials, components and assemblies, including their interfaces, forming part of the building envelope where it separates conditioned space from unconditioned space, the exterior air, or the ground.”

The code does not prescriptively address when and where this Subsection applies to renovations such as additions, interior/exterior alterations, previously uninsulated portions of a house, fire repairs, etc. Housing permit applications that include work affecting existing building envelopes may be subject to the requirements of Subsection 9.36.2. In layman’s terms, if building envelope components, such as insulation, vapour barrier, interior finishes, exterior cladding, are being affected by the renovation, the requirements of 9.36.2. are likely to apply.

Examples of how to apply 9.36.2 to renovation projects

The necessity to comply with 9.36.2 requirements in existing buildings is dependent on the type of renovation project. These are categorized into three main types listed below:

1. Reinsulating a previously insulated building envelope
 - a. Subsection 9.36.2 compliance is not required when reinsulating the building envelope
 - b. Insulation values (R-value/RSI) shall not be less than the insulation values in the previous assembly
 - c. Depth of framing member cavities are not required to be increased to accommodate additional insulation
2. Insulating a previously uninsulated building envelope
 - a. Subsection 9.36.2 compliance is required when insulating any portion of a previously uninsulated building envelope
 - b. Examples of potentially uninsulated building envelope areas include: undeveloped basements, three-season sunrooms, attached garages, attics.

3. Reinsulating fire repaired buildings
 - a. Subsection 9.36.2 compliance is not required for fire repaired buildings as it is only necessary to bring the building back to its pre-fire condition.
 - i. Insulation values (R-value/RSI) shall not be less than the insulation values in the previous assembly
 - ii. Depth of framing member cavities are not required to be increased to accommodate additional insulation

Examples of challenges to Subsection 9.36.2 compliance

Space constraints of cavities formed by existing studs, joists and roof framing members create challenges to achieving insulation requirements of Subsection 9.36.2. However, every reasonable measure must be taken to ensure the requirements are met. Some areas that may require review by Housing Plan Examination and/or Inspections, on a case-by-case basis, include, but are not limited to:

- Flat roofs
- Site built attic roofs, also referred to as “stick framed” roofs, with shallow heel heights (i.e.: 2x4 roof rafters bearing on the top plate)
- Floors over unheated space
- Floors over crawlspaces
- Concrete grade beams and concrete slab floors of previous attached garages
- 2x4 wall cavities

Application of Heat Recovery Ventilator (HRV) Requirements

The requirement to install an HRV as noted in MBC Subsection 9.36.3. shall be determined on a case by case basis by both the Housing Plan Examination and Inspections Branches. Where an HRV must be installed, the effectiveness requirements in Article 9.32.3.12 must be adhered to.

Generally, an HRV is required to be installed in any of the following renovation scenarios:

1. Where more than 50% of the above ground building envelope assemblies (e.g.: exterior walls, roofs) are being opened up (i.e. reinsulated) during a renovation, or
2. Where an addition is added to an existing dwelling unit and the above ground building envelope assemblies of the addition (e.g.: exterior walls, roofs) consist of
 - a. 50% or more of the total floor area of the existing dwelling unit, or
 - b. 50% or more of the total linear length of the existing exterior walls.