OTTAWA INSULATION CONTRACTORS

# Building Code Values

SB-12 Zone 1 values for new houses and additions in Ottawa, and the Part 11 renovation rule for existing homes

7 Expert Answers from R-Value IQ

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Q1

## Exposed floors in new Ottawa houses: which R-value applies?

For a new house or addition in Ottawa, Ontario's Building Code energy standard for housing, SB-12, sets the exposed floor at R-31 in Zone 1. Ottawa falls in Zone 1 of SB-12, which covers locations under 5,000 heating degree-days.

That R-31 figure comes from SB-12's Package A1, which applies to new houses and additions with a gas furnace or boiler of at least 92% efficiency. Other SB-12 packages also require R-31 for exposed floors in Zone 1 for new houses and additions. The value is a minimum nominal insulation value for the insulation itself.

A few things shape how that R-31 is met in practice. Natural Resources Canada lists design R-values per inch for common materials: closed-cell polyurethane spray foam at R-6 per inch, open-cell spray foam at R-3.6 per inch, extruded polystyrene board at R-5 per inch, expanded polystyrene Type II at R-4 per inch, glass fibre batt at R-3.2 per inch, and mineral fibre batt at R-3.4 per inch. Products of the same class vary, and Natural Resources Canada notes that a long-term value claimed above about R-6.5 per inch may not be substantiated. The Code also requires that insulation give a reasonably uniform value over the whole face and fill the full width and length of the space between framing.

The Code's rules on air barriers and vapour barriers apply to floors separating heated space from unheated space or outside air, so a quote for an exposed floor should address those assemblies, not just the insulation layer.

When you have two written quotes in front of you, line them up on four things: the insulation material named, the total area in square feet being insulated, the finished thickness or depth and the R-value it delivers, and whether the air barrier and vapour barrier work are included or priced separately.

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Q2

## Does an older Ottawa house have to meet today's insulation values?

No, an existing Ottawa house is not required to meet the insulation values that apply to new construction. Ontario's Building Code treats renovations differently from new builds.

The relevant rule is in Part 11 of the Code. Section 11.3.1.1.(1) says that where an existing building system is materially altered or repaired, its performance afterward must be at least equal to its performance before the work. The Code's note on that clause says performance may stay the same or improve, but may not be made worse. That is the standard for most renovation work on an existing house: do not degrade what is there.

Where a new system is added, or an existing one is extended, section 11.3.1.2.(1) says it must comply with the other Parts of the Code, with some relief available through compliance alternatives. One of those alternatives, C207, says that where framing systems are being altered to match the existing framing, lesser amounts and extent of insulation and vapour barrier are acceptable.

The values in SB-12, the Code's energy standard for housing, are minimums for new houses and additions. R-60 in an attic, R-22 in above-grade walls, R-20 ci in basement walls: those numbers apply when a new house is built or an addition is constructed, not when an existing attic is topped up or an existing wall is re-insulated. We found no Code number that sets a minimum R-value for voluntarily adding insulation to an existing attic.

That does not mean anything goes in a renovation. The Part 11 rule still requires that the work not leave the assembly performing worse than before. And if the renovation involves removing walls, altering structure, or other work that appears on the City of Ottawa's permit list, a building permit may be required for that scope. Insulation on its own is not named on the City's lists; ask the City's Building Code Services before walls or the roof are opened.

One practical point worth knowing: if the house was built before 1990 and has granular material in the attic, Health Canada advises treating it as potentially containing asbestos until tested. Do not disturb it or attempt removal yourself; testing and removal belong to a qualified specialist. For that, see ottawaabatement.com.

Before any work begins, make sure you have a written contract that sets out exactly what is being done, where, to what finished R-value, what materials are used, the total price, and the start and completion dates, so there is no dispute later about what was agreed.

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Q3

## Is R-20 continuous a rule for my existing Ottawa basement?

R-20 continuous insulation is the value SB-12 sets for basement walls in new houses and additions. It is not a rule that applies to your existing basement simply because you are adding insulation.

For an existing house, Ontario's Building Code takes a different approach under Part 11. Section 11.3.1.1.(1) says that where an existing building system is materially altered or repaired, its performance afterward must be at least equal to its performance before the work. The Code does not set a target R-value for voluntarily topping up or insulating an existing basement wall; we found no Code number for that situation.

That said, the Home Renovation Savings program, run by Enbridge Gas and Save on Energy, does use R-value thresholds as rebate conditions for basement walls, and those are program rules, not Code requirements. If you are pursuing a rebate, the program's own rules govern what qualifies, and you should check those directly at

homerenovationsavings.ca.

What the Code does say for any insulation work in an existing basement is worth knowing. Section 9.25.2.3 requires that insulation give a reasonably uniform value over the whole face and fill the full width and length of the space between framing. Where insulation runs along a basement wall enclosing a heated space, it must run the full height of that wall. Insulation and vapour barrier that could be mechanically damaged must be covered, for example with gypsum board, with one exception: in an unfinished basement, mineral fibre insulation covered with a membrane meeting the vapour barrier rules does not need a rigid covering. The vapour barrier itself must have a permeance no higher than 60 ng/(Pa·s·m²) and must be placed on the warm side of the assembly, as required by section 9.25.4.

On permits: insulation on its own is not named on the City of Ottawa's permit lists. If the basement work involves altering walls or structure, ask the City's Building Code Services before opening anything up.

When you have two written quotes in hand, set them side by side and check that each one names the insulation material, states the total wall area being covered in square feet, and gives the finished thickness and the resulting R-value, so you are comparing the same scope of work and not just the bottom-line price.

Q4

## Is R-50 or R-60 the attic number for new Ottawa homes?

Both numbers appear in Ontario's energy standard for housing, SB-12, and which one applies to a new house in Ottawa depends on the compliance package the house is designed to.

SB-12 sets the insulation rules for new houses and additions in Ontario. Ottawa falls in Zone 1 of SB-12, the zone for locations under 5,000 heating degree-days (Ottawa City Hall is listed at 4,440). For a new house heated by a gas furnace or boiler of at least 92% efficiency, SB-12's Zone 1 table offers several packages: package A1 calls for R-60 in a ceiling with an attic space, and packages A3 and A5 set R-50, with different values elsewhere in the house. So R-50 and R-60 are both minimums for new Ottawa houses, tied to the package. SB-12 says these are minimum nominal values for the insulation only. Additions have their own table: for a new addition in Ottawa, it lists R-60 for a ceiling with an attic space and R-31 for a ceiling without one. Every part of the city is Zone 1: SB-12's climate table lists Barrhaven, Kanata, Orleans and the airport at 4,500 to 4,520 degree-days.

These values apply to new houses and additions only. We found no Code rule that sets an R-value for voluntarily adding insulation to an existing attic; the renovation rule is that the work cannot leave the house worse than before (11.3.1.1).

If you are building new or adding on, ask your designer which SB-12 package the house is designed to and what attic R-value and finished depth the plans call for, in writing.

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Q5

## Can a renovation in Ottawa use less insulation to match old framing?

Yes, Ontario's Building Code has a compliance alternative that allows this in specific circumstances. It is called C207, and it applies where framing systems are being altered to match the existing framing.

### What C207 says

The Building Code's Part 11 governs renovations to existing buildings. The general rule under 11.3.1.1.(1) is that where an existing building system is materially altered or repaired, its performance afterward shall be at least equal to its performance before the work. C207, found in Table 11.5.1.1.-C, creates a specific relief from that rule: where the framing systems are being altered to match the existing framing, lesser amounts and extent of insulation and vapour barrier are acceptable.

That is the part of C207 that applies here. It does not name an R-value floor, and it does not apply to every renovation, only to work where the framing is being matched to what was already there.

The Code's energy standard for housing, SB-12, sets minimum insulation values for new houses and additions in Ottawa. Those values do not apply to an existing house being renovated under Part 11, and we found no Code number that sets a minimum R-value for voluntarily topping up insulation in an existing home.

Part 11 also includes 11.3.1.2.(1), which says a new building system, or the extension of an existing one, must comply with the other Parts of the Code, with some relief through compliance alternatives. So if the renovation introduces something genuinely new rather than matching what was there, C207 may not be the right path.

A few things to sort out before relying on C207:

- The work must involve altering framing systems to match existing framing. A contractor or designer needs to confirm the scope fits that description.
- The vapour barrier relief is part of the same alternative, so the vapour barrier may also be matched to what was there rather than brought up to new-house standards.
- Insulation on its own is not named on the City of Ottawa's permit lists. Where the renovation also involves removing or adding walls, structural repairs, or other listed work, a permit question arises and the City's Building Code Services is the right place to ask.

The Code note attached to 9.25.2.4.(3) is worth knowing if the renovation involves filling existing wood-frame walls with loose-fill: it says adding insulation to existing wood-frame walls increases the likelihood of damage to framing and cladding from moisture accumulation, and it suggests sealing openings, applying a low-permeability interior paint, and checking siding, flashing and caulking first. That note is about existing walls specifically.
Before you sign anything with a contractor for this job, ask them to show you in writing exactly which Code clause or compliance alternative covers the insulation and vapour barrier approach they are proposing, and whether they have confirmed that interpretation with the City.

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**Q6**

## Does Ontario use section 9.36 for insulation values in Ottawa?

No, Ontario does not use Section 9.36 of the National Building Code for insulation values. In Ontario's Building Code, Section 9.36 is marked "Reserved," which means it has no content and sets no requirements.

For houses in Ottawa, the insulation values come from a different source entirely. Ontario's Building Code, at clause 12.2.1.2.(3), directs new houses and additions to Chapters 1 and 3 of the province's own energy standard

for housing, called SB-12 (Supplementary Standard SB-12, "Energy Efficiency for Housing"). SB-12 divides Ontario into two climate zones at 5,000 heating degree-days. Ottawa falls in Zone 1, with City Hall recorded at 4,440 degree-days and Barrhaven, Kanata and Orleans in the 4,500 to 4,520 range.

For a new house in Ottawa under package A1 (a gas furnace or boiler of at least 92% efficiency), the SB-12 Zone 1 minimums are: ceiling with attic space R-60, ceiling without attic space R-31, exposed floor R-31, above-grade walls R-22, and basement walls R-20 continuous insulation. These are minimums for new houses and additions only. SB-12 also lists other packages that trade different wall and basement values against each other.

For an existing house being renovated, the picture is different. Part 11 of the Code governs renovations to existing buildings. Under clause 11.3.1.1.(1), where an existing building system is materially altered or repaired, its performance afterward must be at least equal to what it was before. We found no Code number that applies to voluntarily topping up insulation in an existing attic or wall.

If you are planning work on a new house, an addition, or a renovation that alters building systems, make sure the contractor puts the target R-values, the materials, and the SB-12 package being followed in writing before any work starts.

Q7

## Why is Ottawa in Zone 1 of Ontario's energy standard?

Ottawa sits in Zone 1 of SB-12, Ontario's energy standard for housing, because its heating degree-days fall below the 5,000 mark that divides the two zones. The climate table in SB-12 places Ottawa City Hall at 4,440 heating degree-days, and the surrounding communities, Barrhaven, Kanata, Orleans and the airport area, at 4,500 to 4,520. All of those figures land under the 5,000 threshold, so every part of the City of Ottawa is Zone 1.

SB-12 sends a house to its Zone 1 tables when the location has less than 5,000 heating degree-days, and to its Zone 2 tables at 5,000 or more. The two zones carry different compliance packages for new houses. Within Zone 1, SB-12 has separate tables for a new house heated by a furnace or boiler of 92% efficiency or more, for a lower-efficiency furnace or boiler, and for electric space heating, so the heating system changes which package values apply.

It is worth being clear about what zone classification does and does not do. The SB-12 values, R-60 in an attic with attic space, R-22 in above-grade walls, R-20 continuous insulation for basement walls, and so on, are minimums for new construction and additions only. They are not requirements the Code imposes on an existing home that is simply getting its insulation topped up. Ontario's Section 9.36 is Reserved, so the national energy rules are not the source of Ottawa's values; SB-12 is.

For an existing house, Part 11 applies: work that alters a building cannot leave its performance worse than before (11.3.1.1), and where the framing being altered matches the existing framing, lesser amounts of insulation and vapour barrier are acceptable (C207).

If you are planning new work, ask your designer which SB-12 package the house is designed to and which heating system it assumes.

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**Disclaimer:** This guide is provided for informational purposes only by Ottawa Insulation Contractors. It does not constitute professional advice. Always consult qualified contractors and your local building authority (the City of Ottawa) before starting any insulation project. Insulation on its own is not named on the City's permit lists, but work that comes with it can need a permit, so ask the City first. Information is current as of November 15, 2026 and may change. Visit **ottawainsulationcontractors.ca** for the latest answers.