OTTAWA SIDING CONTRACTORS

Vinyl & Insulated Vinyl

Vinyl and insulated vinyl siding: Building Code fastening, expansion gaps in cold weather, and what the panel can and cannot do

4 Expert Answers from Siding IQ

ottawasidingcontractors.ca/construction-brain

Table of Contents

1. Is face-nailing vinyl siding acceptable on an Ontario house?
2. Insulated vinyl R-value on an Ontario house, how much?
3. What standard does vinyl siding have to meet in Ontario?
4. Can vinyl siding be nailed to the sheathing alone in Ontario?

Q1

Is face-nailing vinyl siding acceptable on an Ontario house?

No. The vinyl siding industry's installation notes say do not face-nail or staple through siding panels. The 2024 Ontario Building Code (Div. B, 9.27.5.6.) adds that fasteners for vinyl, insulated vinyl and polypropylene must be placed in the centre of the slots of the nail hem.

The vinyl siding industry's installation notes also say to leave about 1/32 inch (0.8 mm) between the fastener head and the panel.

The Code's fastener requirements for horizontal vinyl are 38 mm nails at not more than 400 mm spacing, penetrating not less than 32 mm into framing or through the nail-holding base (Div. B, 9.27.5.4., 9.27.5.7.). Fasteners must be corrosion-resistant and compatible with the cladding (9.27.5.5.). These rules apply to the work whether or not a permit is pulled for the job.

A few other things worth checking on any vinyl installation:

- The 2024 Ontario Building Code (Div. B, 9.27.2.2.(4)) requires two planes of protection: the siding itself as the first plane, and a sheathing membrane conforming to CAN/CGSB-51.32-M as the second, with joints lapped not less than 100 mm and upper sheets overlapping lower sheets (9.27.3.2., 9.27.3.3.).
- Flashing is required at every horizontal junction between cladding elements and every horizontal offset (9.27.3.7., 9.27.3.8.).
- Sealant goes between the siding and adjacent window and door frames or trim, unless those areas are completely protected from rain (9.27.4.).
- The vinyl siding industry's installation notes say to leave a minimum 1/4 inch (6.4 mm) clearance at openings and stops, increased to 3/8 inch (9.5 mm) when installing below 4.4°C.

If you have a quote in hand or work already done, ask the contractor to show you where the fasteners are placed. A written quote should spell out what happens to the price if damaged sheathing or framing is found once the old siding comes off, because that is a line item that can change the total after work has started.

Q2

Insulated vinyl R-value on an Ontario house, how much?

Insulated vinyl siding adds RSI 0.35 to 0.70, which Natural Resources Canada describes as "not high." That is the R-2 to R-4 range in imperial units, and it is the figure NRCan publishes for insulated siding products as a category.

What that number means for your house depends on a few things worth understanding before you buy.

NRCan notes that insulated siding should incorporate a drainage feature, and that strapping behind siding allows a drainage plane and reduces heat build-up. The Code's explanatory notes (Appendix A-9.27.3.1. of the 2024 Ontario Building Code) say a drained space at least 10 mm deep is recommended for walls other than masonry; that is a recommendation in the notes, not a Code requirement.

Where the insulation question gets more complicated is if you are also adding a separate layer of rigid foam board under the siding, on top of the insulated vinyl, or in combination with it. Sheet or panel materials with low air leakage and low water vapour permeance placed on the outside of a wall need a design check under section 9.25.5 of the 2024 Ontario Building Code: the ratio of outboard to inboard thermal resistance has to meet a table value, or the material has to sit outboard of a drained and vented air space at least 10 mm deep. Ottawa's heating degree-days run from 4,440 to 4,520 depending on the station, which puts the city in the under-4,999 band where the table ratio is 0.20. There is also a separate rule at 9.25.5.1.(4): a material with water vapour permeance of at least 30 ng/(Pa·s·m²) and thermal resistance of at least 0.7 (m²·K)/W does not have to meet that ratio in a location under 6,000 degree-days. Whether a specific insulated vinyl product meets those permeance and resistance thresholds is a question for the manufacturer's data sheet and a designer, not a number to estimate from the product name alone.

A fair quote for insulated vinyl should spell out: the wall area being covered, removal and disposal of the existing cladding, the sheathing membrane (conforming to CAN/CGSB-51.32-M under section 9.27.3.2.), flashing at horizontal junctions and over openings where required under 9.27.3.7. and 9.27.3.8., trim and corner pieces, and what happens to the price if damage is found behind the old siding. Ask for the manufacturer's written installation instructions and warranty in writing before work starts.

The City of Ottawa's permit pages do not list siding or exterior insulation either way, so ask the City's Building Code Services whether your specific scope, including any foam layer, needs a permit.

Q3

What standard does vinyl siding have to meet in Ontario?

Vinyl siding installed in Ontario must conform to ASTM D3679 under the 2024 Ontario Building Code (Div. B, 9.27.12.1.). Insulated vinyl siding has its own standard: ASTM D7793. Where a flame-spread rating is required, the product must also be tested under CAN/ULC-S102.2.

Those are the material standards. The Code also sets out how vinyl is fastened and handled during installation. Fasteners must be corrosion-resistant, at least 38 mm long, and placed in the centre of the slots of the nail hem (2024 Ontario Building Code, 9.27.5.6., Table 9.27.5.4.-A). For horizontally applied vinyl, fasteners go no more than 400 mm apart; for vertically applied, no more than 300 mm apart. The fastener must penetrate through the nail-holding base or at least 32 mm into framing (9.27.5.7.). Horizontal vinyl is fastened to framing, furring or blocking; it cannot be fastened to sheathing alone.

The vinyl siding industry's installation notes add a few handling details the Code does not cover: leave at least 6.4 mm clearance at openings and stops for expansion, increased to 9.5 mm when installing below 4.4 degrees Celsius; leave about 0.8 mm between the fastener head and the panel face; do not face-nail or staple through the panel face.

Behind the vinyl, the 2024 Ontario Building Code (9.27.2.2.(4)) requires two planes of protection: the siding itself as the first plane, and a sheathing membrane (house wrap conforming to CAN/CGSB-51.32-M) as the second, with joints lapped at least 100 mm and upper sheets overlapping lower sheets (9.27.3.3.). The Code's explanatory notes recommend a drained space at least 10 mm deep behind the cladding as best practice, though no Ontario clause makes that gap a requirement. Flashing is required at horizontal junctions between cladding elements, and over openings where 9.27.3.8.(3) requires it.

If the wall is close to the lot line, the choice of cladding can be restricted under 9.10.15.5. of the 2024 Ontario Building Code; ask the City's building official before choosing.

When you get quotes, ask what the contractor will charge if damaged or missing sheathing, blocking or framing is found once the old siding comes off.

Q4

Can vinyl siding be nailed to the sheathing alone in Ontario?

Only vertically applied vinyl, and only on thick enough sheathing, under the 2024 Ontario Building Code (Div. B, 9.27.5.1.).

The general rule is that siding is fastened to framing, furring or blocking (9.27.5.1.(1)). Vertically applied vinyl, insulated vinyl and polypropylene siding may be fastened to the sheathing alone only if the sheathing is at least 14.3 mm lumber, 12.5 mm plywood or 12.5 mm OSB (9.27.5.1.(2)). Horizontally applied vinyl is not on that list, so it goes to framing, furring or blocking.

The Code also sets the nail size and spacing. For horizontally applied vinyl, the fasteners are at least 38 mm long and spaced not more than 400 mm apart. For vertically applied vinyl, the spacing tightens to not more than 300 mm. The fasteners must be corrosion-resistant and compatible with the cladding (9.27.5.5.), and each one goes in the centre of the slots of the nail hem (9.27.5.6.). The vinyl siding industry's installation notes add about 1/32 inch (0.8 mm) between the fastener head and the panel.

Penetration depth matters too. The Code (9.27.5.7.) says vinyl fasteners must pass through the nail-holding base or reach at least 32 mm into the framing. Where the sheathing is not suitable for fastening, the fastener length has to increase to make up the difference, as the Code's explanatory notes confirm.

One more layer sits between the sheathing and the siding. The 2024 Ontario Building Code (9.27.3.2., 9.27.3.3.) requires at least one layer of sheathing membrane conforming to CAN/CGSB-51.32-M, with horizontal joints lapped at least 100 mm and upper sheets overlapping lower sheets. That membrane is the second plane of protection the Code requires for all exterior walls enclosing residential space (9.27.2.2.(4)). Flashing is also required at horizontal junctions between cladding elements, and over a wall opening where the vertical distance from the bottom of the eave to the top of the trim is more than one-quarter of the eave's horizontal overhang (9.27.3.8.).

Before a contractor arrives, walk around the house from the ground and note a few things: any panels that look bowed, buckled or have gaps at the seams; any staining or soft spots on interior walls directly below windows; any places where the bottom edge of the siding sits close to the soil or a roof surface; and the approximate age of the house; ask the contractor to confirm the sheathing type and thickness once the old siding is off.

Disclaimer: This guide is provided for informational purposes only by Ottawa Siding Contractors. It does not constitute professional advice. Always consult qualified contractors and your local building authority (the City of Ottawa or your own municipality) before starting any siding project, and have old siding on a house built before 1990 tested before it is disturbed. Siding work in Ontario must meet the 2024 Ontario Building Code (O. Reg. 163/24). Information is current as of November 15, 2026 and may change. Visit **ottawasidingcontractors.ca** for the latest answers.