



Evaluation Report CCMC 13302-R Suretouch

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1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “Suretouch,” when used as a masonry veneer cladding for buildings under the scope of Part 9 in accordance with the conditions and limitations stated in Section 3 of this Report, complies with the National Building Code (NBC) of Canada 2015:

- Clause 1.2.1.1.(1)(a), Division A, using the following acceptable solutions from Division B:
 - Article 9.20.9.5., Ties for Masonry Veneer
 - Article 9.20.12.3., Corbelling for Masonry Veneer
 - Article 9.20.13.6., Flashing for Weep Holes in Masonry Veneer
- Clause 1.2.1.1.(1)(b), Division A, as an alternative solution that achieves at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statements attributed to the following applicable acceptable solutions:
 - Article 9.20.2.7., Compressive Strength
 - Article 9.20.6.4., Masonry Veneer

This opinion is based on the CCMC evaluation of the technical evidence in Section 4 provided by the Report Holder.

2. Description

The product is a concrete brick or stone facing veneer wall cladding system that is made using premoulded polystyrene panels and thin masonry units, which are manufactured from a mixture of Portland cement, water and suitable aggregates, with or without the inclusion of other materials. During the installation each thin masonry unit is friction-fitted into a moulded cell of the polystyrene panel. The polystyrene panels are moulded into a pattern that predetermines the location and size of the brick or stone. The polystyrene panels are fastened to the wall studs using special anchors.

The bricks or stones are 45 mm thick and after installation their joints are filled with mortar. The anchors projecting between the masonry units ensure a secure mechanical resistance of the facing veneer. These projections are completely embedded in the joints of the mortar, so the anchors bind the cladding to the studs of the wall that they cover.



Figure 1. “Suretouch”

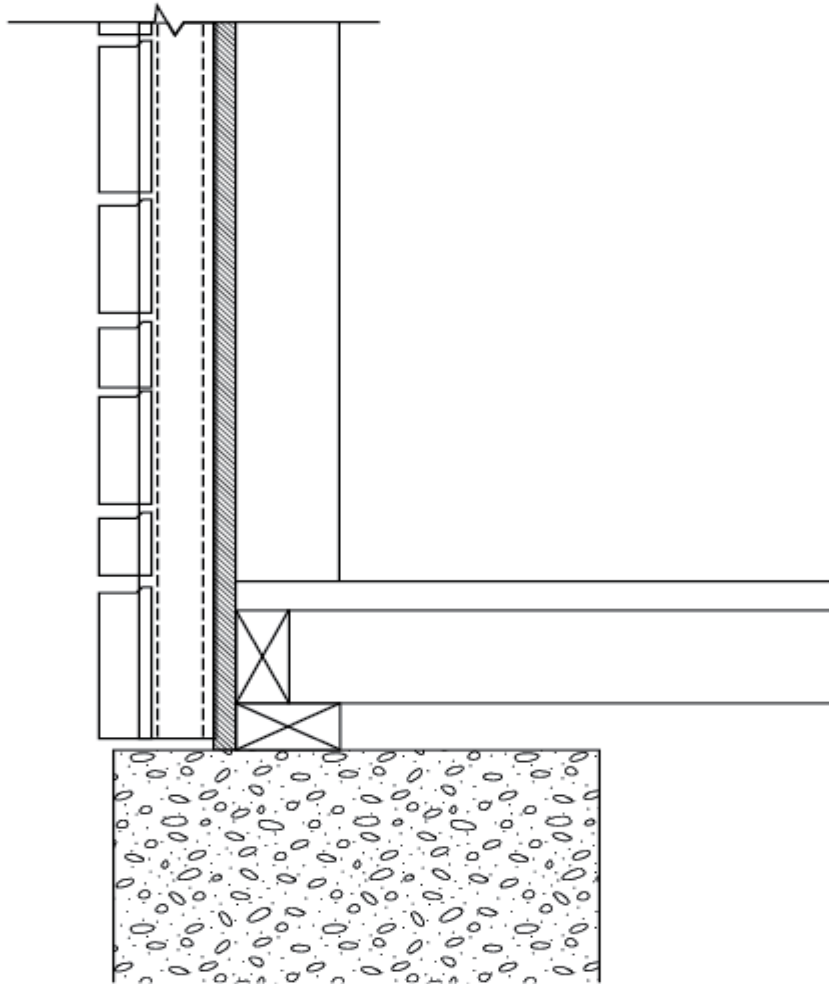


Figure 2. "Suretouch" wall cladding system cross-section

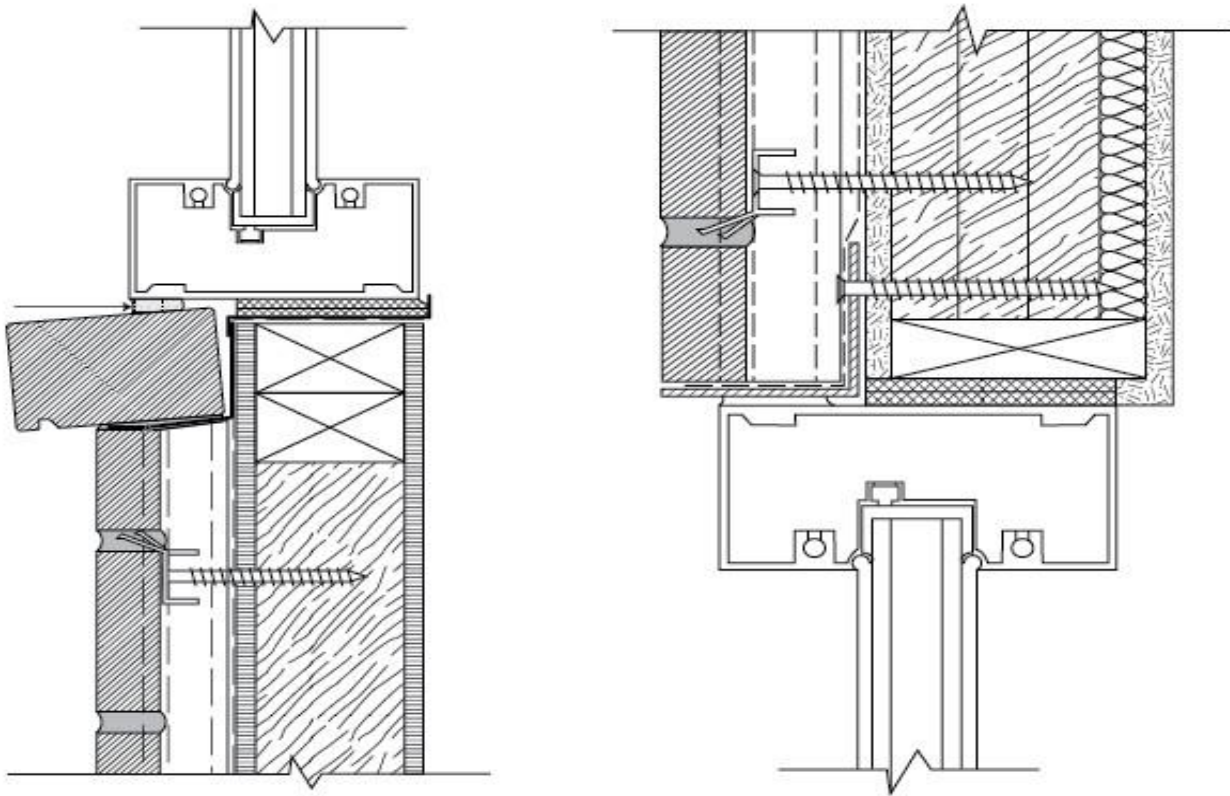


Figure 3. "Suretouch" windowsill cross-section and lintel cross-section

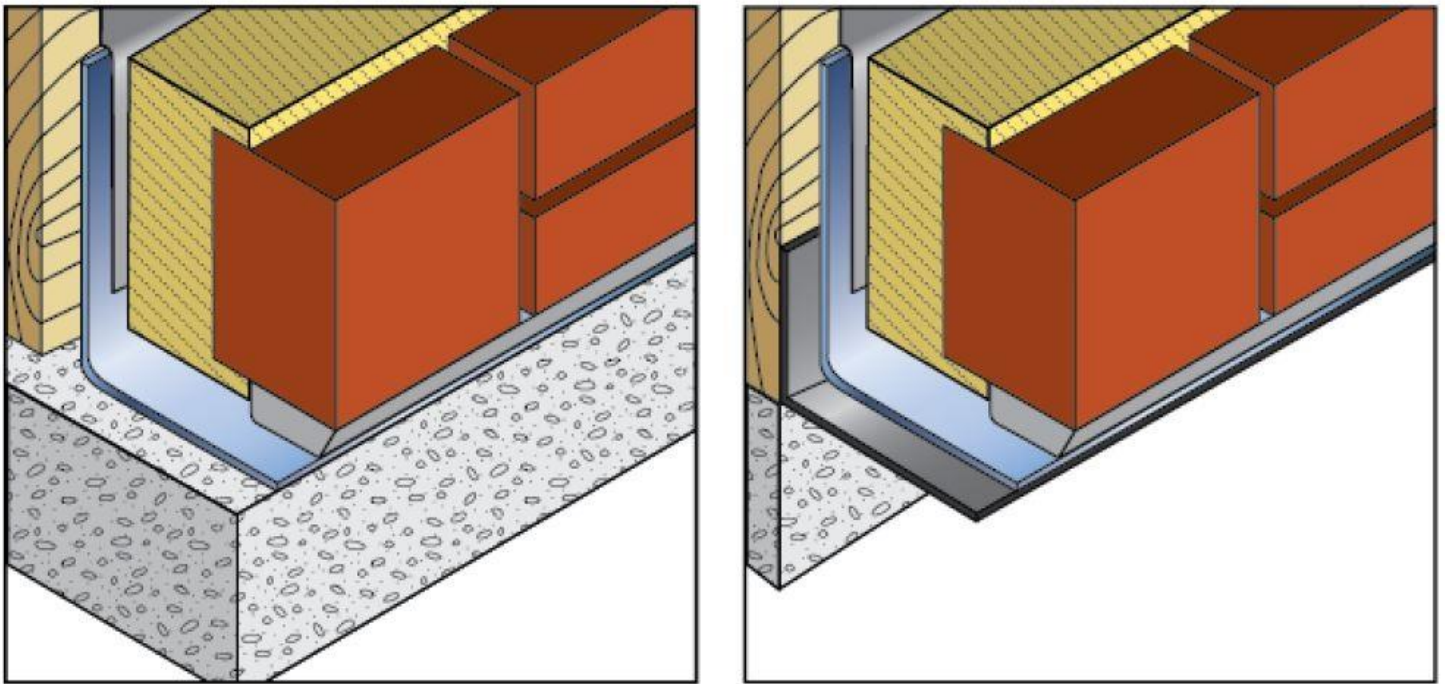


Figure 4. ‘SureTouch’ support with brick ledge and ‘SureTouch’ support using a steel starter strip

3. Conditions and Limitations

The CCMC compliance opinion in Section 1 is bound by “Suretouch” being used in accordance with the conditions and limitations set out below:

- The product may be used as cladding for wood-frame housing conforming to Part 9 of Division B of the NBC 2015.
- The product may be used on one- and two-storey wood-frame housing using Table 9.23.10.1., Size and Spacing of Studs, of Division B of the NBC 2015 for stud size and spacing. Studs must be spruce-pine-fir (S-P-F) grade No. 2 or better.
- Connectors used with the product must have a corrosion protection coating or be made of stainless steel.
- The steel flashing and counterflashing units holding the windowsill must comply with Section 3.1 of CSA S136-07, “North American Specification for the Design of Cold-Formed Steel Structural Members,” and have a minimum protection coating of 275 g/m² (G90) or better.
- The wall sheathing membrane must conform to Article 9.27.3.2., Sheathing Membrane Material Standard, of Division B of the NBC 2015 and must be installed on the wall sheathing prior to installing the polystyrene panels.
- An elastomeric membrane or metallic flashing must be used for flashing above window and door openings in accordance with Article 9.20.13.1.
- The wall sheathing membrane must overlap the elastomeric membrane by at least 100 mm.
- Maximum wind load must be limited to ≤ 1 kPa.
- No earthquake resistance study has been provided at this time.
- For seismic areas, a professional engineer must be consulted for compliance with Part 4, Structural Design, of Division B of the NBC 2015.
- This product must be identified with the phrase “CCMC 13302-R.”
- Installation must follow the manufacturer’s current instructions. Detailed instructions for the installation of the masonry veneer must be in accordance with the installation manual dated May 2013.

4. Technical Evidence

The Report Holder has submitted technical documentation for the CCMC evaluation. Testing was conducted at laboratories recognized by CCMC. The corresponding technical evidence for this product is summarized below.

4.1 General Requirements

4.1.1 Masonry Brick Properties

Table 4.1.1.1 Results of Testing the Masonry Brick Properties

Property	Unit	Requirement	Result
Dimensions overall, variations	mm	If dimensions are different than those specified in CSA A165-94, report all dimensions of the stone/brick unit. Check standard for permissible variations.	Report results
Compressive strength ¹	MPa	≥ 25	Pass
Maximum saturation coefficient	–	Average 0.78	Pass
		Individual 0.80	
Oven dry mass density	kg/m ³	Over 2 000	Pass
Water absorption (per unit weight)	%	Maximum 8	Pass
Linear shrinkage	%	≤ 0.45	Pass
Moisture content	%	≤ 45% of total absorption	Pass

Note to Table 4.1.1.1:

1. The blocks must first be immersed in room temperature water (21 ± 5°C) for 24 h.

4.1.2 Wall Component Properties

Table 4.1.2.1 Results of Testing the Wall Component Properties

Property	Requirement	Result
Polystyrene	Certified to ULC S701	Pass
Mortar and grout ¹	Complies with CSA A179-94	Pass
Ties ²	Complies with Article 9.20.9.5.	Pass

Notes to Table 4.1.2.1:

1. For exteriors, above-grade Type N or S mortar must be used.
2. Ties are used to attach the masonry unit to its backing. Masonry unit connectors must have Level II corrosion protection.

4.2 Performance Requirements

4.2.1 Wall Cladding Structural Stability

Table 4.2.1.1 Result of Testing the Structural Stability of the Wall Cladding

Property	Requirement	Result
Structural stability ¹	Wall to show no damage	Pass

Note to Table 4.2.1.1:

1. In addition to adhering to the specifications listed in Section 8 of ASTM C1201/C1201M-15, “Standard Test Method for Structural Performance of Exterior Dimension Stone Cladding Systems by Uniform Static Air Pressure Difference,” each test specimen must incorporate one vertical and one horizontal joint in the polystyrene backing. One specimen must be tested within 30-60 days of being constructed and maintained under controlled laboratory conditions. At least one other specimen must be tested that has been aged outdoors or under simulated outdoor conditions for a period of at least one year and then conditioned under a normal laboratory environment for an additional 30 days. (*Note:* This aged specimen test is intended to determine whether the masonry units could become loose, and as a result, pop out under suction due to shrinkage of the mortar or other effects that may bring about these conditions. The specimen is to be placed in an exposed location and subjected to the local climate elements, preferably in the prevailing wind-driven rain direction.)

4.2.2 Wall Resistance to Water Penetration

Table 4.2.2.1 Result of Testing the Wall Resistance Properties

Property	Requirement	Result
Water penetration and drainage	No water penetration	Pass

4.2.3 Wall Cladding Resistance to Wind Loading

Table 4.2.3.1 Result of Testing the Wall Cladding Resistance to Wind Loading

Property	Unit	Requirement	Result
Exterior cladding	kPa	Table C-2, Hourly Wind Pressure, of Appendix C of Division B of the NBC 2015 (wind load effects)	2.1 kPa

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