

CCMC 14338-R

CCMC Canadian code compliance evaluation

CCMC number:	14338-R
Status:	Active
Issue date:	2020-11-17
Modified date:	2023-11-08
Evaluation holder:	<p>Patrick Industries 57420 Nagy Drive Elkhart IN 46517 United States Telephone: 574-849-7535</p>
Product name:	Patrick Covered Gypsum System
Compliance:	NBC 2015
Criteria:	CCMC-TG-092915-A-15, "CCMC Technical Guide for vinyl-laminated gypsum used as an interior finish (non-structural applications only)"

In most jurisdictions this document is sufficient evidence for approval by Canadian authorities.

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Compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used as as an interior finish on walls for manufactured housing in accordance with the conditions and limitations stated in this evaluation, complies with the following code:

National Building Code of Canada 2015

Code provision	Solution type
9.10.17.1. Flame-Spread Rating of Interior Surfaces	<u>Acceptable</u>
9.29.5.2.(1) Gypsum products shall conform to ...	<u>Alternative</u>
9.29.5.6. Nails	<u>Alternative</u>
9.29.5.8. Spacing of Nails	<u>Alternative</u>

The above opinion(s) is/are based on the evaluation by the CCMC of technical evidence provided by the evaluation holder, and is bound by the stated conditions and limitations. For the benefit of the user, a summary of the technical information that forms the basis of this evaluation has been included.

Product information

Product name

Patrick Covered Gypsum System

Product description

The product is made from nominal 12.7-mm-thick gypsum board laminated with 0.1-mm-thick vinyl sheet on one side. The gypsum board is manufactured in accordance with ASTM C 1396/C 1396M-14, "Standard Specification for Gypsum Board." The vinyl laminated gypsum board is stapled and adhered to a 4.7 mm lauan plywood panel, which is fastened to the wood stud framing.

Manufacturing plant

This evaluation is valid only for products produced at the following plant:

Product name	Manufacturing plant
	Montevideo, MN, US
Patrick Covered Gypsum System	☑

☑ Indicates that the product from this manufacturing facility has been evaluated by the CCMC

Conditions and limitations

The CCMC's compliance opinion is bound by this product being used in accordance with the conditions and limitations set out below.

- The product is intended to be used for the interior finish of exterior and interior walls of manufactured, single-family, detached one-storey houses only.
- The orientation of the product must be installed parallel to framing. The framing must not be spaced more than 600 mm on centre (o.c.) and must comply with Table 9.23.10.1., Stud Size and Spacing, of Division B of the NBC 2015.
- The fasteners for the lauan plywood panel must be installed at 150 mm o.c. around the perimeter and 300 mm o.c. at intermediate supports.
- The staples for the vinyl laminated gypsum board must be installed at 150 mm o.c. around the perimeter and 600 mm o.c. at intermediate supports, and the adhesive must be installed on the lauan plywood panel at all stud locations. The staples must be minimum 19 gauge with a 6.35-mm crown and 25.4-mm leg. The adhesive must be third-party or CCMC-evaluated to CAN/CGSB-71.25-M88, "Adhesives, for Bonding Drywall to Wood Framing and Metal Studs," or ASTM C 557-03(2017), "Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing."
- The resistance to lateral loads of the product when used in braced wall applications is beyond the scope of the evaluation. Therefore, where braced wall paneling is required, the wall design must meet the NBC 2015 specific seismic resistance requirements without considering the contribution of the product.
 - In locations where the seismic $S_a(0.2)$ is less than 0.70, and the 1-in-50 hourly wind pressure is less than 0.80 kPa (refer to Table C-2, Climatic Design Data for Selected Locations in Canada, and to Table C-3, Seismic Design Data for Selected Locations in Canada, in Appendix C of Division B of the NBC 2015 for locations of low-to-moderate wind and seismic zones), the exterior walls must be sheathed in accordance with Article 9.23.17.2., Thickness, Rating and Material Standards, and fastened in accordance with Table 9.23.3.5.-A, of Division B of the NBC 2015.
 - In locations where the seismic $S_a(0.2)$ is greater than 0.70 but not more than 1.8, and the 1-in-50 hourly wind pressure is less than 1.20 kPa (refer to Table C-2 and Table C-3 in Appendix C of Division B of the NBC 2015 for locations of high wind and seismic zones), bracing to resist lateral loads must be designed and constructed in accordance with Articles 9.23.13.4., Braced Wall Bands, to 9.23.13.7., Additional System Considerations, of Division B of the NBC 2015.
- A vapour barrier must be installed as per Subsection 9.25.4., Vapour Barriers, of Division B of the NBC 2015.
- An air barrier system must be installed as per Subsection 9.25.3., Air Barrier Systems, of Division B of the NBC 2015.
- The use of the product for the protection of foamed plastics is beyond the scope of the evaluation.
- The use of the product in a fire separation is beyond the scope of the evaluation.
- The application of the product in walls around the bath and shower is beyond the scope of the evaluation.

Technical information

This evaluation is based on demonstrated conformance with the following criteria:

Criteria number	Criteria name
CCMC-TG-092915-A-15	CCMC Technical Guide for vinyl-laminated gypsum used as an interior finish (non-structural applications only)

Material requirements

Table 1. Results of testing the gypsum board properties of the product

Properties (Method B)	Unit	Requirement	Result
Flexural strength - bearing edges perpendicular to the panel length ⁽¹⁾	N	≥ 476	734
Flexural strength - bearing edges parallel to the panel length ⁽¹⁾	N	≥ 160	262
Humidified deflection ⁽¹⁾	mm	≤ 32	0
Nail pull resistance ⁽¹⁾ ⁽²⁾	N	≥ 343	489
Hardness - core ⁽¹⁾	N	≥ 49	142
Hardness - end ⁽¹⁾	N	≥ 49	133
Hardness - edge hardness ⁽¹⁾	N	≥ 49	129

Notes:

- ¹ All testing conducted in accordance with Method B from ASTM C 473-17, "Standard Test Methods for Physical Testing of Gypsum Panel Products."
- ² Nails were used for the test to verify the pull-out resistance of the vinyl-covered gypsum panel.

Performance requirements

Table 2. Results of testing the racking load of the product

Property	Unit	Requirement (based on control specimen) ⁽¹⁾	Result ⁽²⁾
Deflection at 3.5 kN	mm	≤ 1.880	0.584 ⁽³⁾

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Property	Unit	Requirement (based on control specimen) ⁽¹⁾	Result ⁽²⁾
Deflection at 7.0 kN	mm	≤ 12.040	1.575
Deflection at 10.5 kN	mm	– ⁽⁴⁾	3.251
Residual deflection after 3.5 kN	mm	≤ 0.965	0.051 ⁽³⁾
Residual deflection after 7.0 kN	mm	≤ 7.925	0.305
Residual deflection after 10.5 kN	mm	– ⁽⁴⁾	0.889
Residual/deflection for 3.5 kN	%	≤ 52.2	7.0 ⁽³⁾
Residual/deflection for 7.0 kN	%	≤ 65.8	19.2
Residual/deflection for 10.5 kN	%	– ⁽⁴⁾	27.3

Notes:

- 1 Control specimen: single layers of 12.7-mm gypsum board were fastened using 38-mm galvanized ringed wallboard nails every 200 mm o.c. at the edges and in-field. The framing was 38 mm × 89 mm SPF-grade wood studs at 406 mm o.c. spacing. The wall specimen was 2.4 m × 2.4 m.
- 2 Patrick Covered Gypsum System specimen: the lauan plywood panel was fastened to the framing using 38-mm drywall nails. Structural adhesive was applied to the face of the lauan plywood panel in a serpentine pattern along all stud locations. The Patrick Covered Gypsum System sheathing was also fastened through the lauan plywood panel to the framing using 6.35 mm × 25.4 mm staples on the perimeter at 150 mm o.c. spacing and 600 mm at intermediate supports. The wall specimen was 2.4 m × 2.4 m.
- 3 The deflection of the Patrick Covered Gypsum System does not exceed the control specimen deflection; therefore, it meets the requirements. See limitations in this evaluation for the installation requirements as per Subsection 9.23.13., Bracing to Resist Lateral Loads Due to Wind and Earthquake, of Division B of the NBC 2015.
- 4 The control specimen failed prior to reaching the applied racking load. As a result, no deflection or residual deflection was recorded.

Table 3. Results of testing the flame-spread rating of the product

Property	Requirement	Result
Flame-spread rating	≤ 150	0

Property	Requirement	Result
Smoke-developed classification	≤ 300	20

Administrative information

Use of Canadian Construction Materials Centre (CCMC) assessments

This assessment must be read in the context of the entire [CCMC Registry of Product Assessments](#), any applicable building code or by-law requirements, and/or any other regulatory requirements (for example, the [Canada Consumer Product Safety Act](#), the [Canadian Environmental Protection Act](#), etc.).

It is the responsibility of the user to confirm that the assessment they are using is current and has not been withdrawn or superseded by a later version on the [CCMC Registry of Product Assessments](#).

Disclaimer

The National Research Council of Canada (NRC) has evaluated only the characteristics of the specific product described herein. The information and opinions in this evaluation are directed to those who have the appropriate degree of experience to use and apply its contents (such as authorities having jurisdiction, design professionals and specifiers). This evaluation is valid when the product is used as part of permitted construction, respecting all conditions and limitations stated in the evaluation, and in accordance with applicable building codes and by-laws.

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Language

Une version française de ce document est disponible.

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The Canadian Construction Materials Centre (CCMC) assesses compliance with Canadian building, energy and safety codes. We are the only construction code compliance service supported and operated by the Government of Canada. Trusted by over 6,000 regulators across Canada.

Most Canadian authorities having jurisdiction (AHJs) consider CCMC product assessments acceptable as evidence for product approval.

CCMC assessments are recognized by construction authorities across Canada:

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[\(Alliance of Canadian Building Official Associations \(ACBOA\)\)](#)

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[\(First Nations National Building Officers Association \(FNNBOA\)\)](#)

Canadian Home Builders' Association (CHBA)



[\(Canadian Home Builders' Association \(CHBA\)\)](#)

Alberta Building Officials Association (ABOA)



[\(Alberta Building Officials Associations \(ABOA\)\)](#)

Saskatchewan Building Officials Association (SBOA)



[\(Saskatchewan Building Officials Association \(SBOA\)\)](#)

Manitoba Building Officials Association (MBOA)



[\(Manitoba Building Officials Association \(MBOA\)\)](#)

Ontario Building Officials Association (OBOA)



[\(Ontario Building Officials Association \(OBOA\)\)](#)

New Brunswick Building Officials Association (NBBOA)



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Nova Scotia Building Officials Association (NSBOA)



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The CCMC provides code compliance assessments to Canadian code requirements, consulting nationwide with construction regulators to elicit regional variations in code requirements as well as provincial and local interpretations. Users are advised to review the technical information presented in CCMC assessments when making approval decisions. [Learn more about how the CCMC provides a unique service for Canada.](#)

For more information, contact the CCMC by phone at (613) 993-6189 or by email at ccmc@nrc-cnrc.gc.ca

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Code compliance as an acceptable solution

Code Compliance via Acceptable Solutions

If a building design (e.g. material, component, assembly or system) can be shown to meet all provisions of the applicable **acceptable solutions** in Division B (e.g. it complies with the applicable provisions of a referenced standard), it is deemed to have satisfied the objectives and functional statements linked to those provisions and thus to have complied with that part of the Code.

— National Building Code of Canada, Sentence A-1.2.1.1.(1)(a)

The CCMC has determined that compliance with this provision of the Code has been demonstrated as an **Acceptable Solution**. The evaluation report provides a summary of the basis of CCMC's compliance opinion.

CCMC's code compliance opinions

All CCMC evaluation reports are opinions of code compliance established in accordance with the National Building Code of Canada, Subsection 1.2.1. "Compliance with this Code," which requires compliance to be achieved by:

- complying with the applicable acceptable solutions in Division B, or
- using an alternative solution that will achieve at least the minimum level of performance required by Division B in the areas defined by the objective and functional statements attributed to the applicable acceptable solutions.

The CCMC assesses compliance with Canadian building, energy and safety codes, and is trusted by over 6,000 regulators across Canada.

Code compliance as an alternative solution

Code Compliance via Alternative Solutions

Where a design differs from the acceptable solutions in Division B, then it should be treated as an **"alternative solution."** A proponent of an alternative solution must demonstrate that the alternative solution addresses the same issues as the applicable acceptable solutions in Division B and their attributed objectives and functional statements. However, because the objectives and functional statements are entirely qualitative, demonstrating compliance with them in isolation is not possible. Therefore, Clause 1.2.1.1.(1)(b) identifies the principle that Division B establishes the quantitative performance targets that alternative solutions must meet. In many cases, these targets are not defined very precisely by the acceptable solutions [...] Nevertheless, Clause 1.2.1.1.(1)(b) makes it clear that an effort must be made to demonstrate that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solutions in Division B—not “well enough” but “as well as.”

— National Building Code of Canada, Sentence A-1.2.1.1.(1)(b)

The CCMC has determined that compliance with this provision of the Code has been demonstrated as an **Alternative Solution**. The evaluation report provides a summary of the basis of CCMC's compliance opinion.

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