

## CCMC 14184-R

### CCMC Canadian code compliance evaluation

<b>CCMC number:</b>	14184-R
<b>Status:</b>	Active
<b>Issue date:</b>	2021-09-23
<b>Modified date:</b>	2021-12-09
<b>Evaluation holder:</b>	<p><b>Vipco Industries Ltd.</b>                      3230 – 58th Avenue SE                      Calgary AB T2C 0B3                      Canada                      Website: <a href="http://www.vipco.ca">www.vipco.ca</a>                      Telephone: 403-279-7501                      Email: <a href="mailto:info@vipco.ca">info@vipco.ca</a></p>
<b>Product name:</b>	VipRoc vinyl laminated gypsum
<b>Code compliance:</b>	NBC 2015
<b>Evaluation requirements:</b>	CCMC-TG-092915-15 "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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## Code compliance opinion

It is the opinion of the Canadian Construction Materials Centre that the evaluated product, when used 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>
9.29.5.3.(1) Maximum spacing of supports for gypsum b ...	<u>Alternative</u>
9.29.5.8. Spacing of Nails	<u>Alternative</u>

The above opinion is 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:

VipRoc vinyl laminated gypsum

### Product description

The product is a 12.4-mm-thick gypsum board laminated with 4-mm-thick vinyl on one side. The gypsum board is manufactured in accordance with ASTM C 1396/C 1396M-14, "Standard Specification for Gypsum Board."

### Manufacturing plant

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

- Calgary, Alberta, Canada

## 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 product must be installed parallel to framing and include perpendicular let-in furring. The framing must not be spaced more than 600 mm on centre (o.c.) and must comply with Table 9.23.10.1., Size and Spacing of Studs, 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 product must not be used to support insulation.
- The product must not be used for the protection of foamed plastics.
- The product must not be used where a fire separation is required.
- The boards must be installed over furring or framing that complied with the requirements of the NBC 2015 using adhesive. 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."
- A vapour barrier must be installed as per Subsection 9.25.4., Vapour Barriers, of Division B of the NBC 2015
- The product application in walls around baths and showers is beyond the scope of this evaluation.
- The product must not be used by itself where braced wall panelling is required to meet specific seismic resistance requirements:
  - In locations where the seismic,  $S_a(0.2)$ , is less than 0.70 or the 1-in-50 hourly wind pressure is less than 0.80 kPa (refer to Division B of NBC 2015 Table C-2 and C-3 in Appendix C for locations of low to moderate wind and seismic zones), the exterior walls must be sheathed with oriented strandboard (OSB) as per Article 9.23.17.2., Thickness, Rating and Material Standards, and fastened in accordance with Table 9.23.3.5.-A, Fasteners for Subflooring and for Sheathing, 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 load must be designed and constructed in accordance with Article 9.23.13.4., Braced Wall Bands, to Article 9.23.13.7., Additional System Considerations, of Division B of the NBC 2015.
- The product must be installed in accordance with the manufacturer's installation instructions, dated 2021-11-10.
- The staples for the vinyl laminated gypsum board must be installed at 150 mm o.c. around the perimeter. The staples must be minimum 18 gauge with a 6.35 mm crown and 25.4 mm leg.
- When used as interior finishing of exterior walls, exterior wall sheathing must be installed in accordance with Subsection 9.23.17., Wall Sheathing, of Division B of the NBC 2015.
- Use of a single top plate is permitted only in accordance with the requirements of Sentence 9.23.11.3.(2), Top Plates, of Division B of the NBC 2015. Note that racking load tests are based on framing with a double top plate for both the control specimen and the evaluated product.

## Technical information

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

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

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

### Material requirements

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

Property <sup>(1)</sup>	Unit	Requirement	Result
Flexural strength – bearing edges perpendicular to the panel length	N	≥ 476	640
Flexural strength – bearing edges parallel to the panel length	N	≥ 160	253
Humidified deflection	mm	≤ 32	3
Nail pull resistance <sup>(2)</sup>	N	≥ 343	368
Hardness – core	N	≥ 49	63
Hardness – end	N	≥ 49	67
Hardness – edge	N	≥ 49	130

**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 the racking load testing of the product

Property	Unit	Requirement <sup>(1)</sup>	Result <sup>(2)</sup>
Deflection at 3.5 kN	mm	≤ 3.02	4.92
Deflection at 7.0 kN	mm	≤ 19.19	- <sup>(3)</sup> <sup>(4)</sup>
Deflection at 10.5 kN	mm	- <sup>(5)</sup>	-
Residual deflection at 3.5 kN	mm	≤ 1.74	1.91
Residual deflection at 7.0 kN	mm	≤ 14.14	- <sup>(3)</sup> <sup>(4)</sup>
Residual deflection at 10.5 kN	mm	- <sup>(5)</sup>	-
Residual/deflection for 3.5 kN	%	≤ 57	39
Residual/deflection for 7.0 kN	%	≤ 74	- <sup>(3)</sup> <sup>(4)</sup>
Residual/deflection for 10.5 kN	%	- <sup>(5)</sup>	-

### Notes:

- 1 Requirements based on the following control specimen: single layers of 12.7-mm gypsum board were fastened using 38-mm galvanized ringed wallboard nails every 150 mm o.c. at edges and in-field. The framing was 38 mm × 89 mm Spruce-Pine-Fir (S-P-F) grade wood studs at 406 mm o.c. spacing. The wall specimen was 2.4 m × 2.4 m.
- 2 VipRoc vinyl laminated gypsum specimen: a single layer of 12.7 mm vinyl-laminated gypsum board adhered and fastened to the framing using Lepage PL 200 Drywall Construction Adhesive and ¼ in. × 1 ¼ in. × 18 gauge staples every 150 mm o.c. at the perimeter of the panels. The framing was 38 mm × 140 mm S-P-F grade wood studs at 600 mm o.c. spacing. The studs are notched to accommodate two horizontal 19 mm × 89 mm belt rails. The wall specimen was 2.4 m × 2.4 m.
- 3 The specimen failed prior to reaching the load.
- 4 The VipRoc vinyl laminated gypsum specimen did not meet or exceed the controlled specimen requirements. See the “Conditions and limitations” section of this report for exterior wall sheathing requirements.
- 5 The control specimen failed prior to reaching the 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	5
Smoke developed classification	≤ 300	15

# Administrative information

## Disclaimer

This evaluation is issued by the Canadian Construction Materials Centre (CCMC), a part of the Construction Research Centre at the National Research Council of Canada (NRC). The evaluation must be read in the context of the entire [CCMC Registry of Product Assessments](#) and the legislated applicable building code in effect.

The CCMC was established in 1988 on behalf of the applicable regulator (i.e., the provinces and territories) to ensure—through assessment—conformity of alternative and acceptable solutions to regional building codes as determined by the local authority having jurisdiction (AHJ) as part of the issuance of a building permit. It is the responsibility of the local AHJs, design professionals, and specifiers to confirm that the evaluation is current and has not been withdrawn or superseded by a later issue. Please refer to [the website](#) or contact:

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The NRC has evaluated the material, product, system or service described herein only for those characteristics stated 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 (i.e., AHJs, design professionals and specifiers). This evaluation is only valid when the product is installed in strict compliance with the stated conditions and limitations of evaluation and the applicable local building code. In circumstances where no applicable local building permit is issued and that no confirmation of compliance 'for use in the intended field application' is undertaken, this evaluation is null and void in all respects. This evaluation is provided without representation, warranty, or guarantee of any kind, expressed, or implied, and the NRC provides no endorsement for any evaluated material, product, system or service described herein. The NRC accepts no responsibility whatsoever arising in any way from any and all use and reliance on the information contained in this evaluation with respect to its compliance to the referenced code(s) and standard(s). The NRC is not undertaking to render professional or other services on behalf of any person or entity nor to perform any duty owed by any person or entity to another person or entity.

## Language

Une version française de ce document est disponible.  
In the case of any discrepancy between the English and French version of this document, the English version shall prevail.

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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:

Alliance of Canadian Building Official Associations (ACBOA)



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

First Nations National Building Officers Association (FNNBOA)



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

Canadian Home Builders' Association (CHBA)



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

Alberta Building Officials Association (ABOA)



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Nova Scotia Building Officials Association (NSBOA)



[\(Nova Scotia Building Officials Association \(NSBOA\)\)](#)

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](mailto:ccmc@nrc-cnrc.gc.ca)

## 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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