



## Evaluation Report CCMC 13463-R Vipsum 71<sup>®</sup> Gold

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### 1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “Vipsum 71<sup>®</sup> Gold”, when used as an interior finish on walls for manufactured housing in accordance with the conditions and limitations stated in Section 3 of this Report, complies with the National Building Code 2010:

- Clause 1.2.1.1.(1)(a), Division A, using the following acceptable solutions from Division B:
  - Article 9.10.17.1., Flame Spread Rating of Interior Surfaces
- 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:
  - Sentence 9.29.5.2.(1), Materials (gypsum board finish (taped joints))
  - Sentence 9.29.5.3.(1), Maximum Spacing of Supports
  - Article 9.29.5.8., Spacing of Nails

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

Ruling No. 10-14-251 (13463-R) authorizing the use of this product in Ontario, subject to the terms and conditions contained in the Ruling, was made by the Minister of Municipal Affairs and Housing on 2010-07-13 (revised on 2017-08-21) pursuant to s.29 of the *Building Code Act*, 1992 (see Ruling for terms and conditions). This Ruling is subject to periodic revisions and updates.

### 2. Description

The product is made from 6.35-mm-thick gypsum board laminated with vinyl. The vinyl lamination is on one side of the gypsum board. The gypsum board is manufactured in accordance with ASTM C 1396-11, “Standard Specification for Gypsum Board.”

### 3. Conditions and Limitations

CCMC’s compliance opinion in Section 1 is bound by the “Vipsum 71<sup>®</sup> Gold” 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 2010.
- The fasteners must be installed at 150 mm o.c. around the perimeter and adhesive must be installed on all framing and furring. 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(2009)-e1, “Adhesives for Fastening Gypsum Wallboard to Wood-Framing.”
- 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 2010 Table C-2 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, of Division B of the NBC 2010.

- In locations where the seismic,  $S_a(0.2)$  is greater than 0.70 or the 1-in-50 hourly wind pressure is greater than 0.80 kPa (refer to Division B of NBC 2010 Table C-2 in Appendix C 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 Considerations, of Division B of the NBC 2010.
- A vapour barrier must be installed as per Subsection 9.25.4., Vapour Barriers, of Division B of the NBC 2010.
- An air barrier system must be installed as per Subsection 9.25.3., Air Barrier Systems, of Division B of the NBC 2010.
- 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.

## 4. Technical Evidence

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

### 4.1 Material Requirements

#### 4.1.1 Vinyl-Laminated Gypsum Board Properties

**Table 4.1.1.1 Results of Testing the Material Requirements of the Product**

Property		Unit	Requirement	Result
Flexural strength (Method B) <sup>1</sup>	bearing edges perpendicular to panel length	N	≥ 476	513 <sup>2</sup>
	bearing edges parallel to panel length	N	≥ 160	183 <sup>2</sup>
Humidified deflection		mm	≤ 32	9 <sup>3</sup>
Nail pull resistance (Method B) <sup>1</sup>		N	≥ 343	473
Hardness (Method B) <sup>1</sup>	core	N	≥ 49	189
	end	N	≥ 49	190
	edge hardness	N	≥ 49	170

#### Notes to Table 4.1.1.1:

- <sup>1</sup> Method B referenced within this Table is the test method from ASTM C 473-12, “Physical Testing of Gypsum Panel Products.”
- <sup>2</sup> Three specimens in the machine direction and three specimens in the cross-machine direction were prepared for each testing condition. Specimens were tested in both the face up and face down condition.
- <sup>3</sup> Six specimens in the cross-machine direction were used for testing.

## 4.2 Performance Requirements

### 4.2.1 Racking Load

Table 4.2.1.1 Results of Testing the Performance Requirements of the Product

Property		Unit	Control Specimen <sup>1</sup>	Result for Product <sup>2</sup>
Deflection at racking load	3.5 kN	mm	3.17	4.51
	7.0 kN	mm	13.0	Failed <sup>4,5</sup>
	10.5 kN	mm	Failed <sup>3</sup>	–
Residual deflection	3.5 kN	mm	2.19	2.27
	7.0 kN	mm	10.09	Failed <sup>4,5</sup>
	10.5 kN	mm	Failed <sup>3</sup>	–
Residual deflection	3.5 kN	%	69	50
	7.0 kN	%	78	–
	10.5 kN	%	Failed <sup>3</sup>	–

#### Notes to Table 4.2.1.1:

- <sup>1</sup> Control specimen: A single layer of 12.7-mm gypsum board was fastened using 32-mm galvanized ringed wallboard nails conforming to CSA B111-1974, “Wire Nails, Spikes and Staples.” Fasteners were spaced not more than 200 mm o.c. on vertical wall supports and on the top and bottom plates. The framing was made of 38-mm × 89-mm wood studs at 406 mm o.c. spacing. The wall specimen was 2.4 m × 2.4 m.
- <sup>2</sup> “Vipsum 71<sup>®</sup> Gold” specimen: The 38-mm × 89-mm wood stud framing at 406 mm o.c. spacing was notched to accommodate two 25-mm × 100-mm belt rails fastened using 56-mm-long nails. A 9.5-mm bead of Chemetron Versabond adhesive was applied to the belt rail in a serpentine pattern. A single layer of the product was fastened using 4.8-mm × 25.4-mm × 1.1 gauge staples spaced 152 mm o.c. on the edge. The wall specimen was 2.3 m × 2.4 m.
- <sup>3</sup> The control specimen failed prior to reaching the load. As a result, no deflection or residual deflection was recorded.
- <sup>4</sup> The specimen failed prior to reaching the load.
- <sup>5</sup> The “Vipsum 71<sup>®</sup> Gold” specimen did not meet or exceed the control specimen requirements. See Section 3 of this Report for exterior wall sheathing requirements in low to moderate wind and seismic zones, and bracing to resist lateral load requirements in high wind and seismic zones.

### 4.2.2 Flame-spread Rating

Table 4.2.2.1 Results of Fire Testing the Product

Property	Unit	Requirement	Result
Flame-spread rating	–	≤ 150	15

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