

## Evaluation Report

### CCMC 13119-R

**MASTERFORMAT**

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# **Tyvek® CommercialWrap®**

## 1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “Tyvek® CommercialWrap®,” when used as a breather-type sheathing membrane in accordance with the conditions and limitations stated in Section 3 of this Report, complies with the National Building Code of Canada (NBC) 2005:

- 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 solution:
  - Article 9.27.3.2.

This opinion is based on CCMC’s evaluation of the technical evidence in Section 4.1 provided by the Report holder.

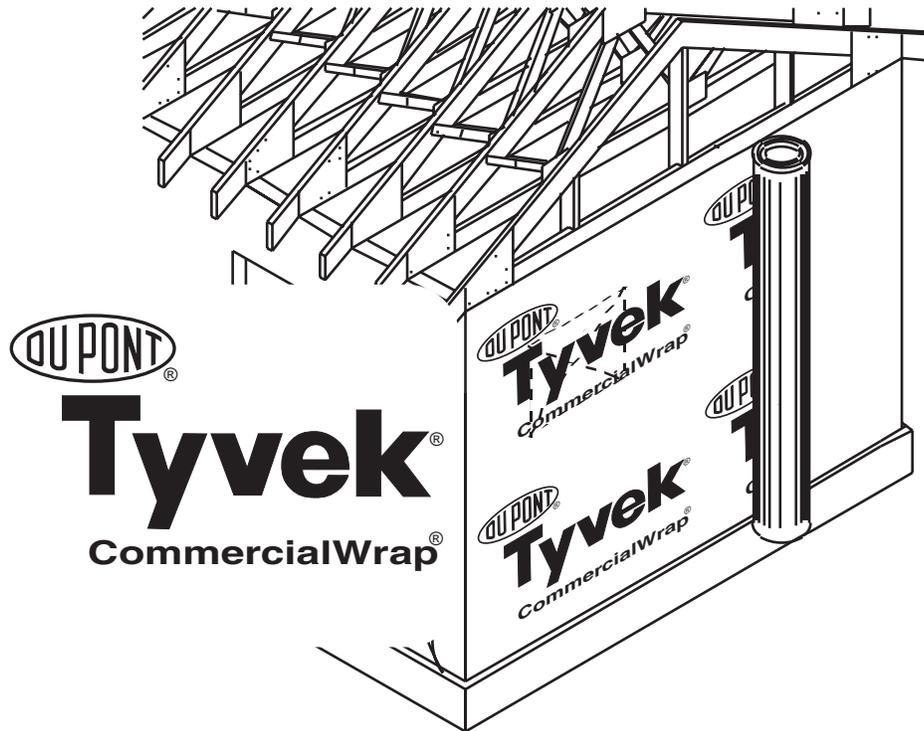
Ruling No. 05-03-127 (13119-R) authorizing the use of this product in Ontario, subject to the terms and conditions contained in the Ruling, was made by the Minister of Municipal Affairs and Housing on 5 April, 2005 pursuant to s.29 of the *Building Code Act, 1992* (see Ruling for terms and conditions). Canada Mortgage and Housing Corporation permits the use of this product in construction financed or insured under the *National Housing Act*.

## 2. Description

“Tyvek® CommercialWrap®” is made using a process of flash spinning fibres of high-density polyolefin, consolidating and then bonding the fibres into a sheet form using heat and pressure. Antioxidants and ultraviolet (UV) stabilizers are compounded into the polyolefin resin before spinning.

The product is 0.20 mm thick and white in colour. It comes in rolls of 3.05 m x 38.10 m and 1.53 m x 60.96 m.

The roll material is applied over exterior sheathing material (with the printed side out) so that it forms a continuous envelope around the entire building. At vertical joints, the material overlaps 75 mm to 150 mm, and at horizontal joints the overlap is 100 mm. Joints are taped and sealed around both window and door openings.



**Figure 1. Installation of “Tyvek® CommercialWrap®.”**

### **3. Conditions and Limitations**

CCMC’s compliance opinion in Section 1 is bound by “Tyvek® CommercialWrap®” being used in accordance with the conditions and limitations set out below.

- “Tyvek® CommercialWrap®” can be used as a breather-type sheathing membrane under commonly used types of exterior cladding to reduce the risk of water infiltration. The main purpose is to create a continuous envelope around the occupied areas of residential or commercial construction. Such continuity is achieved by overlapping or sealing the product either to itself using CCMC-evaluated contractor sheathing tape, or to other construction materials using an acoustical sealant.
- A conforming installation must be:
  - installed with the printed side facing outward;
  - protected from exposure to UV radiation from the sun within 60 days;
  - installed according to Article 9.27.3.3. of Division B of the NBC 2005 and the manufacturer’s current instructions;
  - installed with a minimum 10-mm air space between the sheathing membrane and the cladding, unless the cladding has been deemed to not require an air space (e.g. deemed by CCMC or by building officials based on past cladding performance); and
  - installed with the material overlapping 75 mm to 150 mm at vertical joints, and 100 mm at horizontal joints.
- It should be noted that a concealed air space exceeding 25 mm in width must contain proper fire stopping in accordance with Subsection 9.10.16. of Division B of the NBC 2005.
- The product must be clearly identified with the following information: name of the manufacturer or logo, and the phrase “CCMC 13119-R.”

## 4. Technical Evidence

CCMC's Technical Guide for "Sheathing, Membrane, Breather-Type" sets out the nature of the technical evidence required by CCMC to enable it to evaluate a product as an alternative solution in compliance with the NBC 2005. The Report holder has submitted test results and other data for CCMC's evaluation. Testing was conducted at an independent laboratory recognized by CCMC. The corresponding test results for "Tyvek® CommercialWrap®" are summarized below.

### 4.1 NBC 2005 Compliance Data for "Tyvek® CommercialWrap®" on which CCMC Based its Opinion in Section 1

**Table 4.1.1. Test Results for "Tyvek® CommercialWrap®" to CCMC's Technical Guide for "Sheathing, Membrane, Breather-Type"**

Test	Requirement	Results
Sheet width	Tolerance: -6 mm of specified width	Pass
Tensile strength (N/mm)	3.5	7.61
Water vapour permeance (ng/Pa·s·m <sup>2</sup> )	≥ 170	1 020
Water ponding of original samples	No leakage	Pass <sup>(1)</sup>
Tensile strength (% retention of original)		
• after UV exposure	≥ 90	90
• after UV and heat aging	≥ 85	90
Water vapour permeance of UV and heat-aged sample (ng/Pa·s·m <sup>2</sup> )	≥ 170	1 176
Water ponding of UV and heat-aged samples	No leakage	Pass <sup>(1)</sup>

**Note to Table 4.1.1:**

- (1) The water ponding test requires that the membrane retain 25.4 mm of water with no passage of water through the membrane for two hours.

Report Holder: DuPont Canada Incorporated  
 PO Box 2200, Streetsville  
 Mississauga, Ontario  
 L5M 6C7

Tel.: (905) 821-3300  
 Fax: (905) 821-5110

Plant: Richmond, Virginia

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