



Evaluation Report CCMC 13169-R DMX AG

1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “DMX AG”, when used as a material for dampproofing below grade of concrete walls 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)(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:
 - Subsection 9.13.2., Dampproofing

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

Ruling No. 09-25-223 (13169-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 2009-11-27 (revised on 2010-04-15) 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 a black dimpled high-density polyethylene membrane with a flat tab on one side.

The product is available in rolled sheets that are 0.6 mm thick, 20 m long and up to 2.4 m wide. When two sheets are joined side-by-side they must be overlapped by 200 to 300 mm with their dimples meshing and when two sheets are joined top-to-bottom they must be overlapped by 150 mm.

To ensure correct application, the product's dampproofing system includes a range of accessories such as special trim strips, plugs and nails.

Installation details are illustrated in Figures 1 and 2.

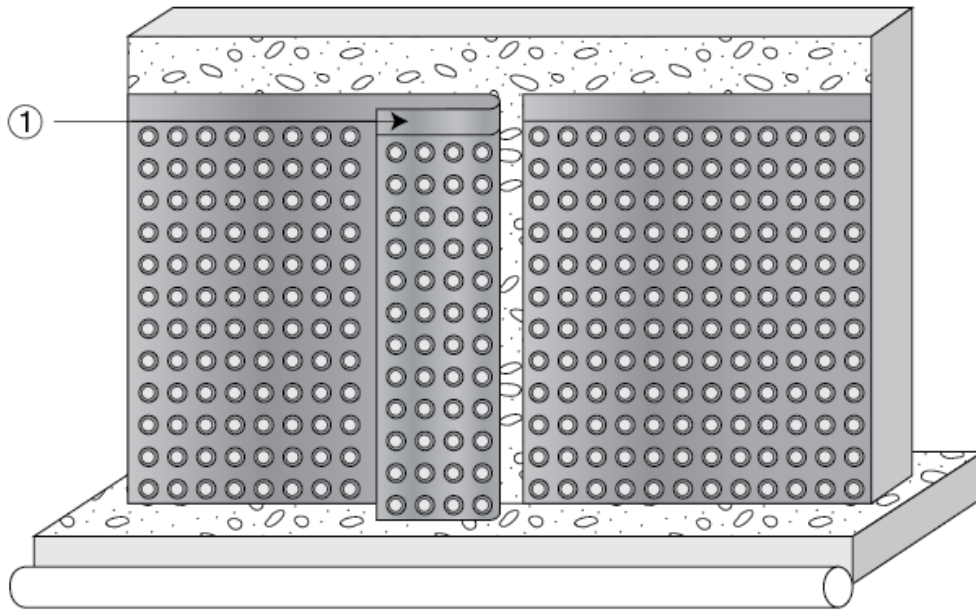


Figure 1. Membranes joined vertically:

Overlap the membrane 200 to 300 mm. Insert plugs and nails every 200 mm along the overlap.

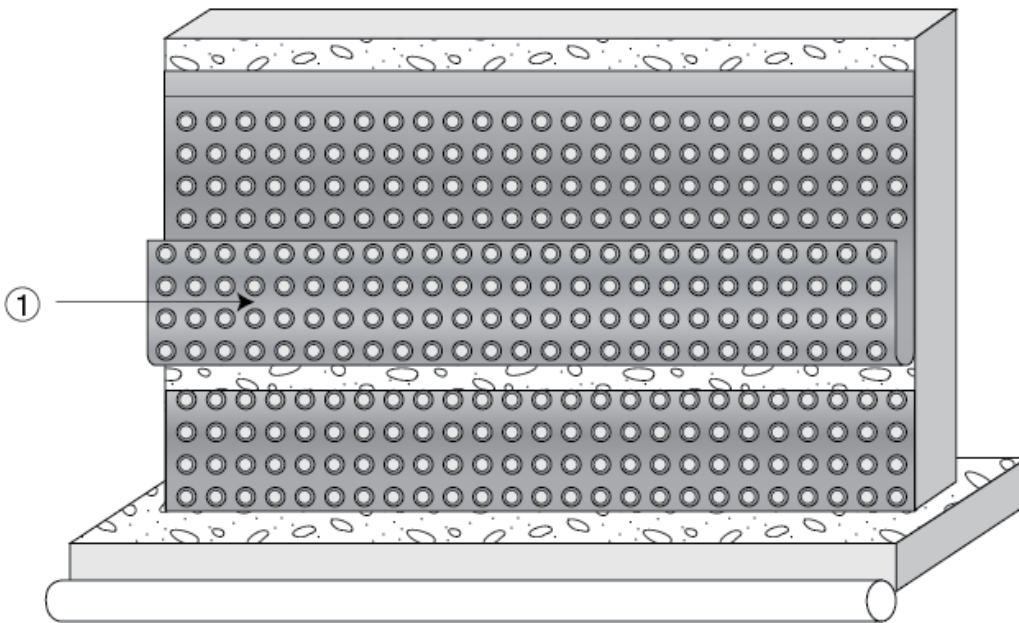


Figure 2. Membranes joined horizontally:

Overlap the membrane 150 mm. Insert plugs and nails every 200 mm along the overlap.

3. Conditions and Limitations

CCMC's compliance opinion in Section 1 is bound by the "DMX AG" being used in accordance with the conditions and limitations set out below.

- The product must be used in locations where the foundation base is well drained in accordance with Section 9.14., Drainage, of Division B of the NBC 2010.
- Use of the product has been evaluated for application depths falling under the provisions of Part 9 of Division B of the NBC 2010, and to depths up to 3.7 m. Applications deeper than 3.7 m are considered beyond the scope of this evaluation.
- The product must be protected from exposure to ultraviolet radiation (sunlight) within 30 days of its installation.
- The dampproofing product is to be installed in direct contact with the surface of the concrete foundation wall. The product does not have to be fully adhered to the concrete substrate. Surface preparation of the concrete and concrete block foundation wall must be in accordance with Article 9.13.2.4., Preparation of Surface, of Division B of the NBC 2010.
- The concrete or concrete block foundation wall must be covered with the product from the top of the footing to the final grade. The top of the membrane must be securely fastened to the foundation surface and finished in accordance with the manufacturer's installation manual. Please note that other wall substrates other than the ones stated above are considered beyond the scope of this evaluation.
- The product has also been evaluated as a foundation drainage product and is included in the CCMC Registry under 13182-R.
- Where possible the product label or packaging must be identified with the following information:
 - manufacturer's name or logo, and
 - the phrase "CCMC 13169-R"
- The product must be installed in accordance with the manufacturer's current instructions.

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 Performance Requirements

4.1.1 Technical Evidence

Table 4.1.1 Test results for the product

Properties		Requirements	Results
Thickness (mm)		Min. 0.6 in flat area	0.9
		Min 0.5 in dimpled area	1.1
Weight (g/m ²)		Min. 500	878
Impact load		Min. 12 of 15 shall pass a rating of 3	30 of 30
Static puncturing (rating of 3)		Min. 5 of 6 shall pass a rating of 3	12 of 12
Cold bending		No visible cracking	No visible cracking
Water vapour permeability (g/m ² /d)		Max. 4	2.6
Original	Tensile strength (kN/m width)	Min. 10	MD 21.2 ¹
	Elongation (%)	Min. 25	MD 102.4 ¹
Water immersion	Tensile strength (%)	80% of original	MD 123 ¹
	Elongation (%)	70% of original	MD 149 ¹

Table 4.1.1 Test results for the product (cont.)

Properties		Requirements	Results
Heat aging	Dimensional change (%)	± 1	Width -0.2
			Length -1.3 ²
	Weight change (%)	0.10	-0.3
	Tensile strength (%)	80% of original	MD 99 ¹
Chemical attack exposure	Ammonium chloride	80% of original	MD 95 ¹
			MD 111 ¹
	Sodium sulfate	80% of original	MD 97 ¹
			MD 120 ¹
Compressive strength (kN/m ²) ³		Min. 100	419

Notes to table 4.1.1

- ¹ MD refers to the "machine direction" of the long dimension of the polymer sheet.
- ² Deemed acceptable based on an acceptable compressive strength test after heat aging.
- ³ The compressive load test was done on the dimpled surface.

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Date modified:
2013-10-31