



Evaluation Report CCMC 13571-R DMX Drain 5M (Dampproofing)

1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “DMX Drain 5M (Dampproofing)”, when used as dampproofing for basement 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:
 - Sentence 9.13.2.2.(1) Material Standards (required dampproofing)

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

2. Description

The product is composed of a high-density polyethylene membrane (DMX AG CCMC #13182-R) laminated to a geotextile filter fabric. The membrane is installed on the foundation wall with the raised dimples placed away from the wall.

The sheets are available in rolls 0.6 mm thick, 20 m long in a variety of widths up to 2.4 m. When two sheets are joined side-by side they must be overlapped by 150 to 300 mm with their dimples meshing and when two sheets are joined top-to-bottom (horizontally) they must be overlapped by 150 mm (minimum).

To ensure correct application, the products system includes a range of accessories such as trim strips, plugs and nails.

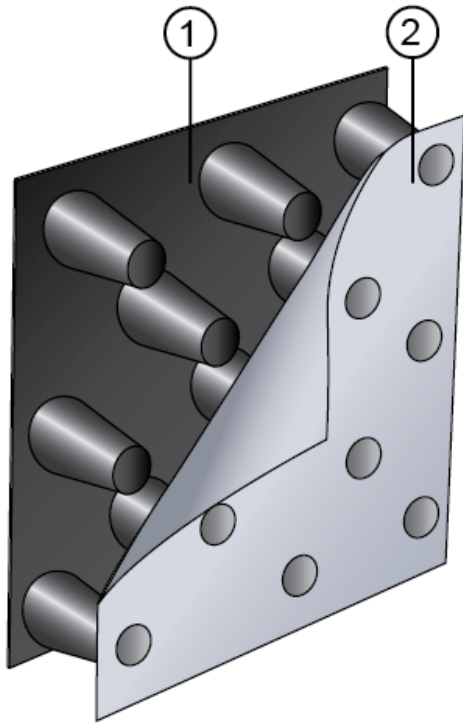


Figure 1. DMX-5M damproofing membrane

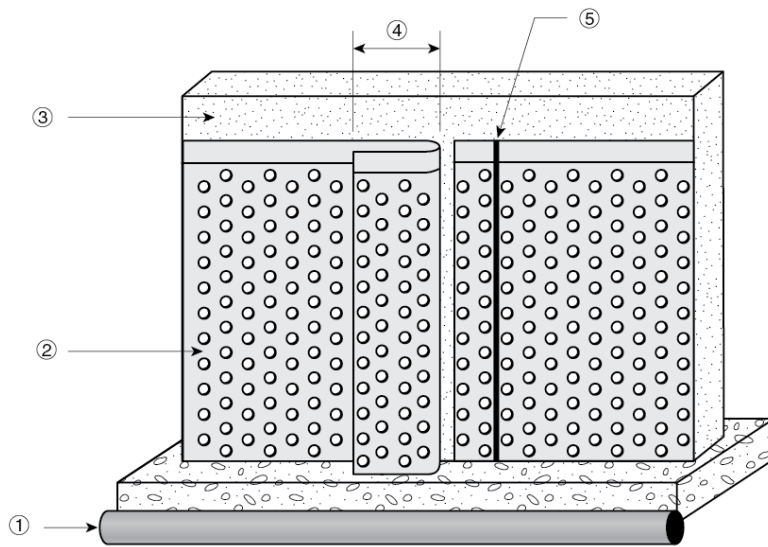


Figure 2. "DMX 5M":

1. drainage tile
2. membrane
3. concrete foundation
4. minimum 150 mm
5. caulking and fasteners at top edge and all laps (refer to manufacturer's installation guide for details)

note: filter fabric is not shown in above drawing for clarity purposes

3. Conditions and Limitations

CCMC's compliance opinion in Section 1 is bound by the "DMX Drain 5M (Dampproofing)" being used in accordance with the conditions and limitations set out below.

- The product has been evaluated for use against cast-in-place and concrete block foundations only.
- The product can only be used in locations where the foundation wall is well drained in accordance with Subsection 9.14.2. of Division B of the NBC 2010.
- The product must be installed with the dimples facing away from the foundation wall and must be protected from exposure to ultraviolet radiation from the sun within 30 days of its installation.
- The product is evaluated for use in depths up to 3.7 m below grade. Application depths greater than 3.7 m are considered to be outside the scope of this Report.
- The product must cover the foundation wall from the top of the footing to the final grade.
- The top of the membrane must be mechanically fastened and sealed.
- All vertical joints and terminations must be mechanically fastened and sealed.
- As the dampproofing membrane does not have to adhere to the surface and can permanently bridge any normal joint, tie hole, fault or shrinkage crack, the wall surface does not have to be parged, cleaned, patched or sealed before hanging the membrane.
- The product has also been evaluated for use as a foundation wall drainage material. For details see CCMC 13568-R.
- The product label and/or packaging must be clearly identified with the following:
 - manufacturer's name or logo, and
 - the phrase "CCMC 13571-R".

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

Table 4.1 Test Results for the Product

Property		Requirement	Result
Dynamic 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
Tensile strength	At yield (kN/m)	Min. 8	MD ¹ 21.2
	Elongation at break (%)	Min. 25	MD 102.4
Tensile strength after water immersion	At yield (%)	Min. 80% of original	MD 123
	Elongation at break (%)	Min. 70% of original	MD 149
Heat aging	Dimensional change (%)	±1	MD -0.2 ² XD -1.3 ²
	Weight change (%)	Max. 0.10	-0.3
Tensile strength after heat aging	Tensile strength (%)	Min. 80% of original	MD 99 ¹
	Elongation (%)	Min. 70% of original	MD 74 ¹

Table 4.1 Test Results for the Product (cont.)

Property		Requirement	Result	
Chemical attack exposure	Ammonium chloride	Tensile strength (%)	Min. 80% of original	MD 95 ¹
		Elongation (%)	Min. 70% of original	MD 111 ¹
	Sodium sulfate	Tensile strength (%)	Min. 80% of original	MD 97 ¹
		Elongation (%)	Min. 70% of original	MD 120 ¹
Compressive strength (kN/m ²) ³		Min. 100	419	

Notes to Table 4.1:

- ¹ MD: machine direction
- ² Deemed acceptable based on an acceptable compressive strength test.
- ³ The compressive load test was done on the dimpled surface.

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