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**CCMC 13079-R**



*EVALUATION  
REPORT*

**DIVISION 02622.1**

**Issued 2002-07-30**

**Re-evaluated 2005-12-08**

**Re-evaluation due 2008-07-30**

## *Wrap-N-Drain*

Advanced Coatings Inc.  
P.O. Box 670  
15288 Highway 12  
Midland, Ontario  
L4R 4P4

Tel.: (705)-534-4760  
Fax: (705)-534-4125

Plant: Oldroyd Systemer AS  
3766 Sannidal  
Norway

### **1. Purpose of Evaluation**

The proponent sought confirmation from the Canadian Construction Materials Centre (CCMC) that "Wrap-N-Drain" can serve as a drainage material conforming to the intent of the Ontario Building Code (OBC).

### **2. Opinion**

Subject to the limitations and conditions stated in this report, test results and assessments provided by the proponent show that "Wrap-N-Drain" complies with CCMC's Technical Guide, "Foundation Wall Drainage Systems – Dimpled Membranes," MasterFormat number 02622.1, dated 2004-12-23, as a Class B, Type 2 drainage product, and provides a level of performance equivalent to that required in:

- Ontario Building Code, 1997, Clause 9.14.2.1.(2)(b), and Sentence 9.14.2.1.(3).

Canada Mortgage and Housing Corporation permits the use of this product in construction financed or insured under the National Housing Act.

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### 3. Description

“Wrap-N-Drain” is a black polypropylene sheet roll with a dimpled surface on one side to provide an air gap between the concrete wall and the adjacent soil.

The “Wrap-N-Drain” sheet pattern features double cone dimples 6 mm high and about 25 mm on centre, joined by channels. The product is available in rolls that are 0.5 mm thick, 20 m long and up to 2.40 m wide.

The foundation wall installation is shown in Figure 1.

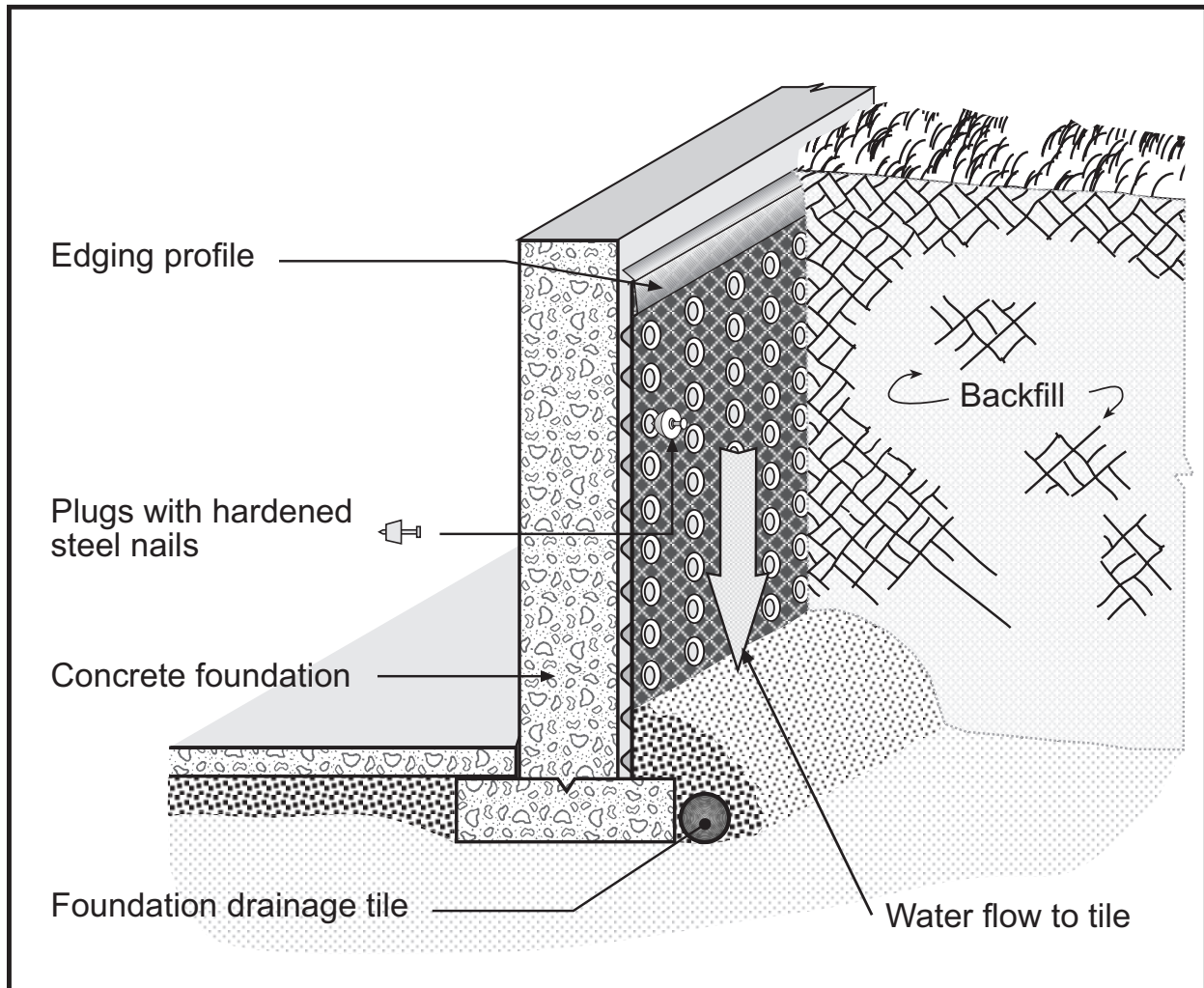


Figure 1. Installation of “Wrap-N-Drain”

### 4. Usage and Limitations

- “Wrap-N-Drain” is a Class B Type 2 drainage product designed as a protective layer or as a capillary breaking layer against the foundation wall to protect it against transient or intermittent water that may come in contact with the wall surface.
- As a Type 2 drainage product, “Wrap-N-Drain” has been evaluated for use in depths of up to 3.7 m below grade.

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- “Wrap-N-Drain” is suitable for use in pervious and semi-pervious soil conditions that allow for some drainage through the soil. These soils comprise very fine sand, organic and inorganic silts, mixtures of sand, silt and clay, glacial till, and stratified clay deposits, that have a soil grain size defined by  $D_{10} > 0.002$  mm, where  $D_{10}$  is the sieve size that permits 10% by weight of the soil to pass through it in a sieve analysis test.

“Wrap-N-Drain ” is not to be used in practically impervious soil conditions where the soil grain size is  $D_{10} < 0.002$  mm.

- “Wrap-N-Drain” is only one portion of the total foundation drainage system, which consists of a combination of design and construction processes that use different products. A well-functioning weeping tile or pipe system that directs water away from the foundation wall is required.

- The placement and grading of backfill shall conform to the requirements of Subsection 9.12.3. of the OBC. It is recommended that an impervious “topping off” layer of clay silt material be placed on top of the backfill with a positive slope leading surface water away from the building.
- “Wrap-N-Drain” must be installed in accordance with the manufacturer’s instructions. “Wrap-N-Drain” must be protected from exposure to ultra-violet radiation (sunlight) within 30 days of its installation.

This Evaluation Report is applicable only to products identified directly or on their packaging with the following: “CCMC 13079-R.”

### ***5. Performance***

Testing was conducted at an independent laboratory recognized by CCMC.

The results of testing “Wrap-N-Drain” are summarized in Table 1.

**Table 1. Test Results for “Wrap-N-Drain”**

<b>Property</b>	<b>Requirements</b>	<b>Results</b>
Thickness (mm)	min. 0.6 in flat area min. 0.5 in bubble area	0.653 0.738
Weight (g/m <sup>2</sup> )	min. 500	546
Impact load (rating of 3)	min. 12 of 15 (shall pass a rating of 3)	15 of 15
Static puncturing (rating of 3)	min. 5 of 6 (shall pass a rating of 3)	6 of 6
Cold bending	no visible cracking	no visible cracking
Original		
- Tensile strength (kN/m width)	min. 10	MD 13.6, XD 11.5
- Elongation (%)	min. 25%	MD 492, XD 120
Water immersion		
- Tensile strength (%)	80% of original	MD 107%, XD 103%
- Elongation (%)	70% of original	MD 108%, XD 115%
<b>Property</b>	<b>Requirements</b>	<b>Results</b>
Heat aging		
- Dimensional change (%)	Max ±1%	MD -0.68, XD -0.22
- Weight change (%)	0.10	0.08
- Tensile strength (%)	80% of original	MD 13.7, XD 11.8 (Pass)
- Elongation (%)	70% of original	MD 533, XD 86.0 (Pass)
Chemical attack exposure		
Ammonium chloride		
- Tensile strength (%)	80% of original	MD 13.9, XD 12.7 (Pass)
- Elongation (%)	70% of original	MD 533, XD 86 (Pass)
Sodium sulfate		
Tensile strength (%)	80% of original	MD 14.5, XD 12.7 (Pass)
Elongation (%)	70% of original	MD 533, XD (86 Pass)
Compressive strength (kN/m <sup>2</sup> ) <sup>(1)</sup>	100	115
Side water flow	Min 500mL / 15minutes	Passed

<sup>(1)</sup> The compressive load test was done on the dimpled surface.

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For more information, contact:

John Flack, Ph.D.  
(613) 990-8518

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John Flack, Ph.D.  
Manager, CCMC

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