



January 2, 2014

Jay Conrod
LATICRETE International, Inc.
One LATICRETE Park North Bethany
CT 06524-3423 USA



Re: FINAL LABORATORY TEST REPORT

Dear Mr. Conrod:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the *final* laboratory report for the conformance testing of **one (1) HYDRO BAN® Membrane sample**.

PROJECT NAME: ASTM E96 Procedure E

DATE REPORTED: January 2, 2014

REFERENCE TRI JOB NO.: R13061

DATE RECEIVED: December 16, 2013

SAMPLE(S) SENT BY: LATICRETE International, Inc.

SAMPLED BY: N/A

SAMPLE IDENTIFICATIONS:

SAMPLE ID

HYDRO BAN® Membrane

(Representative for Styles: 9455-0108-2 & 9455-0323-2)

TRI CONTROL NUMBER

00658

TESTS REQUIRED / PERFORMED:

TEST METHOD

1. ASTM E 96 Procedure E

DESCRIPTION

Water Vapor Transmission

TEST RESULTS: The test results are summarized in the attached Table (Table 1).

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Carmelo V. Zantua
Technical Director

Signatures are on file

It shall be noted that the **sample/s** tested **is/are** believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. **Retained conformance samples are disposed of after one (1) month.** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

TABLE 1.
MATERIAL PROPERTIES
 CLIENT: TRI Environmental, Inc.
 PROJECT: ASTM E96 Procedure E

Date Received: **12/16/2013**
 Date Reported: **1/2/2014**
 Client Sample ID: **HYDRO BAN Membrane (Olive Green); Styles: 9455-0180-2 & 9555-0323-2**
 Material Description: **Olive Green Composite Woven Geotextile**

QC'd By: Maria Espitia
 PGL Job No.: **R13061**
 PGL Control No.: **00658**

		SPECIMENS										Avg.	Std. Dev.	Min	Max	Proj. Specs.
METHOD	DESCRIPTION	1	2	3	4	5	6	7	8	9	10					
ASTM E96 Procedure E	Water Vapor Transmission (Dessicant Method) <i>Test Temperature: 100°F (37.8°C) Relative Humidity: 90% Aluminum Test Dish: 4" x 5" with lid placed on top of the specimen and clamped using metal screws. Brand of Sealant: M-1 Test Chamber: TPS LUNAIRE, Model: CEO958-4 Side of specimen towards dessicant: Smoother side</i>															
	Water Vapor Transmission (<i>gm/hr-m²</i>)	0.071	0.069	0.082	0.070							0.073	0.0062	0.0691	0.0822	
	Water Vapor Transmission (<i>gm/day-m²</i>)	1.702	1.658	1.972	1.676							1.752	0.1477	1.6577	1.9718	
	Water Vapor Transmission (<i>gm/sec-cm²</i>)	1.97E-09	1.92E-09	2.28E-09	1.94E-09							2.03E-09	1.71E-10	0.0000	0.0000	
	Water Vapor Transmission (<i>grain/hr-ft²</i>)	0.101	0.099	0.117	0.100							0.104	0.009	0.0988	0.1175	
	Permeance (<i>gm/PA-hr-m²</i>)	1.20E-05	1.17E-05	1.39E-05	1.18E-05							1.24E-05	1.04E-06	1.17E-05	1.39E-05	
	Permeance (<i>gm/PA-sec-cm²</i>)	3.33E-13	3.25E-13	3.86E-13	3.28E-13							3.430E-13	2.89E-14	3.25E-13	3.86E-13	
	Permeance (<i>gm/day-m² - mm Hg</i>)	0.038	0.037	0.044	0.038							0.040	0.0033	3.74E-02	4.45E-02	
	Permeance <i>Perm (inch-lb)</i>	0.058	0.057	0.068	0.057							0.060	0.0051	0.0568	0.0676	

(End of Table 1)

(Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc from and against all liabilities in excess of the aforementioned limit.