

PERFORMANCE TEST REPORT

Rendered to:

TREMCO INCORPORATED

PRODUCT: Air Barrier Material

Report No: 71403.02-109-44
Report Date: 06/18/07
Expiration Date: 05/30/11

PERFORMANCE TEST REPORT

Rendered to:

TREMCO INCORPORATED
3735 Green Road
Beachwood, Ohio 44122

Report No: 71403.02-109-44
Test Dates: 05/16/07
Through: 05/30/07
Report Date: 06/18/07
Expiration Date: 05/30/11

Product: Air Barrier Material

Project Summary: Architectural Testing, Inc. (ATI) was contracted by Tremco Incorporated to perform Water Vapor Transmission in accordance with ASTM E 96, *Standard Test Methods for Water Vapor Transmission of Materials* on the air barrier material provided by Tremco Incorporated. The material achieved a perm rating of 2.59 perms when evaluated under the Dry Cup Method.

Test Results: The results are reported in the following table.

Water Vapor Transmission Test: Four test specimens were fabricated from large stock to the dimensions of standard aluminum test dishes. The dishes were filled with 1/4" of activated desiccant, the tested material was installed, pressure fitted to seal the dish and monitored at room temperature (73°F and 50% relative humidity). One of the four prepared samples was left empty and used as a control comparison for barometric pressure changes. All four dishes were labeled and weighed to the nearest 0.0000001 lbs (0.0001g). During this test program the samples were monitored and daily weighings of the test dishes were recorded. This process was continued for 14 readings covering a period of 14 days. The permeability was then calculated and the results recorded. The data collected from this procedure is reported in the result section herein.

**Water Vapor Transmission per ASTM E96 (Dry Cup)
Air Barrier Material**

Sample	Control	1	2	3	Permeance (perms)
Beginning Weight	106.78 g	111.66 g	119.93 g	119.40 g	2.590
Ending Weight	106.78 g	112.45 g	120.76 g	120.20 g	

A copy of the full data set is included in Appendix A of this report.

Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing, Inc. for a period of four years from the original test date. At the end of this retention period such materials shall be discarded without notice and the service life of this report by Architectural Testing will expire. Results obtained are tested values and were secured by using the designated tested methods. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to specimens tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.:

Rodney E. Holland
Technician II - Component/Materials Testing

Todd D. Burroughs
Director - Component/Materials Testing

REH:reh/nlb

Attachments (pages)
Appendix A - Test Data (1)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	06/18/07	N/A	Original report issue.

APPENDIX A

Test Data

Sample Conditions and Dimensions

Dry-Bulb Temp.	23.0	°C
Hum.	50.0	%
Pressure:	1029.0	mbar

	L	W
Sample No. 1 Controlling Dimensions (inches):	1.000	4.909
Sample No. 2 Controlling Dimensions (inches):	1.000	4.909
Sample No. 3 Controlling Dimensions (inches):	1.000	4.909
Dummy Controlling Dimensions (inches):	1.000	4.909

	ft ²	m ²
Sample No. 1 Test Area ² :	0.0341	0.00317
Sample No. 2 Test Area ² :	0.0341	0.00317
Sample No. 3 Test Area ² :	0.0341	0.00317
Dummy Test Area ² :	0.0341	0.00317

Raw Data

DATA POINT NO.	DATE/TIME	TEMP. (°C)	REL. HUM. (%)	ELAPSED TIME FROM START (hours)	Sample #1		Sample #2		Sample #3		Dummy Sample	
					WEIGHT (to 0.001 g)	INCREM. EVAP. RATE (g/h·m ²)	WEIGHT (to 0.001 g)	INCREM. EVAP. RATE (g/h·m ²)	WEIGHT (to 0.001 g)	INCREM. EVAP. RATE (g/h·m ²)	WEIGHT (to 0.001 g)	INCREM. EVAP. RATE (g/h·m ²)
EXAMPLE	1/2/04 8:35 AM	23.0	50.0		149.6342		150.7965		150.4940		144.9372	
Initial	5/16/07 1:00 PM	23.0	50.0	-24.0	111.6600	N/A	119.9300	N/A	119.4000	N/A	106.7800	N/A
1	5/17/07 1:00 PM	23.0	50.0	0.0	111.7200	N/A	120.0000	N/A	119.4700	N/A	106.7800	N/A
2	5/18/07 1:00 PM	23.0	50.0	24.0	111.7900	0.9210	120.0700	0.9210	119.5400	0.9210	106.7800	0.0000
3	5/19/07 1:00 PM	23.0	50.0	48.0	111.8400	0.6578	120.1300	0.7894	119.5900	0.6578	106.7800	0.0000
4	5/20/07 1:00 PM	23.0	50.0	72.0	111.8900	0.6578	120.1900	0.7894	119.6400	0.6578	106.7800	0.0000
5	5/21/07 1:00 PM	23.0	50.0	96.0	111.9500	0.7894	120.2400	0.6578	119.7000	0.7894	106.7800	0.0000
6	5/22/07 1:00 PM	23.0	50.0	120.0	112.0000	0.6578	120.3000	0.7894	119.7500	0.6578	106.7800	0.0000
7	5/23/07 1:00 PM	23.0	50.0	144.0	112.0600	0.7894	120.3500	0.6578	119.8000	0.6578	106.7800	0.0000
8	5/24/07 1:00 PM	23.0	50.0	168.0	112.1200	0.7894	120.4200	0.9210	119.8700	0.9210	106.7800	0.0000
9	5/25/07 1:00 PM	23.0	50.0	192.0	112.1700	0.6578	120.4700	0.6578	119.9300	0.7894	106.7800	0.0000
10	5/26/07 1:00 PM	23.0	50.0	216.0	112.2300	0.7894	120.5300	0.7894	119.9800	0.6578	106.7800	0.0000
11	5/27/07 1:00 PM	23.0	50.0	240.0	112.2900	0.7894	120.5900	0.7894	120.0300	0.6578	106.7800	0.0000
12	5/28/07 1:00 PM	23.0	50.0	264.0	112.3500	0.7894	120.6500	0.7894	120.0800	0.6578	106.7800	0.0000
13	5/29/07 1:00 PM	23.0	50.0	288.0	112.4000	0.6578	120.7100	0.7894	120.1300	0.6578	106.7800	0.0000
14	5/30/07 1:00 PM	23.0	50.0	312.0	112.4500	0.6578	120.7600	0.6578	120.2000	0.9210	106.7800	0.0000
Average:		23.0	50.0									

	Sample #1	Sample #2	Sample #3	Dummy Sample
Weight vs. Time-Area Slopes Adjusted for Dummy Sample (g/h·m ²):	0.7388127	0.7691748	0.7388127	0.0000000

Reference Data

Metric Units		Imperial Units		SATURATION VAPOR PRESSURE @ 23.0°C (IN. Hg):	
23.0	Dry Bulb Temperature (°C)	73.4	Dry Bulb Temperature (°F)	AVERAGE % RELATIVE HUMIDITY OF SOURCE (R1):	
28.04	Saturation Vapor Pressure (millibars)	0.827	Saturation Vapor Pressure (in. of Hg)	AVERAGE % RELATIVE HUMIDITY OF VAPOR SINK (R2):	
0.50	Relative Humidity (x.xx)	50.0	Relative Humidity (%) - Chamber	AVERAGE CHAMBER TEMPERATURE (°C):	
12.0	DewPoint Temperature (°C)	53.6	DewPoint Temperature (°F)	AVERAGE CHAMBER TEMPERATURE (°F):	

Calculations

WATER VAPOR TRANSMISSION (WVT)

	grains/(hr·ft ²)	g/(hr·m ²)
Sample No. 1:	1.0565	0.7388
Sample No. 2:	1.0999	0.7692
Sample No. 3:	1.0565	0.7388
AVERAGE:	1.0710	0.7489

PERMEANCE (IN-LBS)

Sample No. 1:	2.555
Sample No. 2:	2.660
Sample No. 3:	2.555
AVERAGE:	2.590 perms

PERMEANCE (METRIC)

Sample No. 1:	1.46E-07
Sample No. 2:	1.52E-07
Sample No. 3:	1.46E-07
AVERAGE:	1.48E-07 (g/Pa·s·m ²)

PERMEANCE (ALTERNATE METRIC)

Sample No. 1:	146.135
Sample No. 2:	152.140
Sample No. 3:	146.135
AVERAGE:	148.136 (ng/Pa·s·m ²)