
**EVALUATION OF 'BOREAL NATURE ELITE' SPRAY FOAM MATERIAL
FOR WATER VAPOR PERMEANCE
IN ACCORDANCE WITH ASTM E96/E96M-16**

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1.0 INTRODUCTION

At the request of Genyk, Element Materials Technology was retained to evaluate a sample of spray foam material for water vapor permeance properties in accordance with ASTM E96/96M-16 test method.

Upon receipt, the sample was assigned the following Element Sample No.:

Client Sample Identification	Element Sample No.
Boreal Nature Elite	20-06-B0040-WVP

2.0 PROCEDURE

The sample was evaluated using the following test method:

Test Description	Test Method
Standard Test Methods for Water Vapor Transmission of Materials	ASTME96/E96M-16, Procedure A (Desiccant)

Procedure:	Method A (Desiccant)	
No. of Specimens:	Three (3) and one (1) dummy	
Sealant:	Type 1 GE Silicone (100% silicone) 60% microcrystalline wax; 40% refined crystalline paraffin wax	
Equipment:	Mitutoyo Micrometer, Digital Calipers, Digital Balance (0.01g), Barometer, Environmental Controller,	MII# B05010 MII# B10643 MII# B17286 MII# B14977 MII# B11364
Conditioning:	>88 hours at 23 ± 2°C, 50 ± 5% RH	
Test Area:	0.0645 m ²	
Container Design:	Stainless Steel Square Tray	
Thickness:	57.48 mm (average of 7 measurements)	
Test Conditions:	23 ± 2°C, 50 ± 5% RH	
Test Dates:	2020-08-19 to 2020-08-31	

3.0 RESULTS

A summary of the water vapor permeance test results is presented in Table 1 and Figure 1. SI units are the primary unit of measure.

Table 1 – Water Vapor Permeance Test Results					
Applicable Standard: ASTM E96/E96M-16					
Element Sample No.: 20-06-B0040-WVP					
Specimen Number	Mass, g			Water Vapor Permeance	
	Initial	Final	Change	ng/Pa·s·m ²	US Perms
1	3030.350	3034.120	3.770	45.165	0.790
2	3034.060	3037.890	3.830	46.416	0.811
3	3146.720	3150.430	3.710	44.868	0.784
Average	3070.377	3074.147	3.770	45.5	0.80

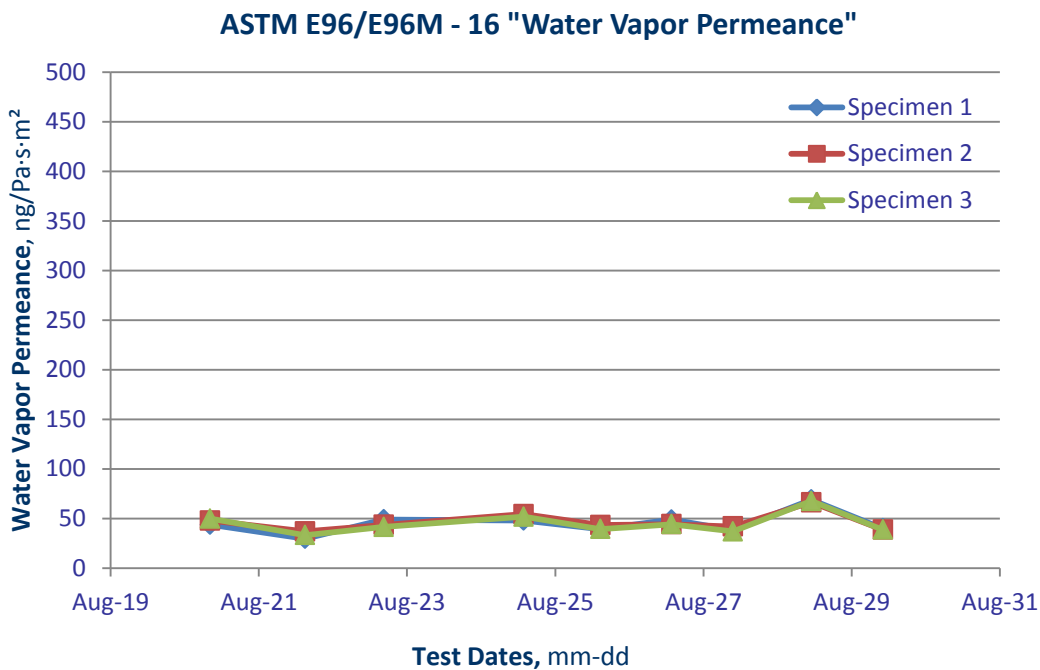


Figure 1: Elapsed time vs Water Vapor Permeance for *Element Sample No.: 20-06-B0040-WVP*.

4.0 CONCLUSION

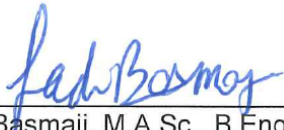
The material submitted by Genyk, identified as "Boreal Nature Elite", was tested as described in this report. The material had a measured water vapor permeance of 45.5 ng/Pa•s•m² [0.80 US perms].

5.0 REVISION HISTORY

Date:	Revision:	Comments:
2020-09-04	Original Document	N/A

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