

**CLIENT:** **ZS2 TECHNOLOGIES**  
9128 52<sup>nd</sup> St SE  
Calgary, AB  
T2C 5A9

**Test Report: T1437-8**

**Issue Date: July 28, 2022**

**SUBJECT:** Testing of ZS2 Technologies TechPanel for Water Vapour Permeance.

**SAMPLE ID:** Samples were identified as ZS2 Technologies TechPanel.

**SAMPLING DETAIL:** Samples were sent to QAI Toronto directly from a ZS2 Technologies job site for testing.

**TESTING PERIOD:** June 30 to July 22, 2022

**AUTHORIZATION:** Proposal 22JL06171r1 was accepted, authorized and signed for by Doug Brown by on June 20, 2022.

**TEST PROCEDURES:** **ASTM E96/E96M-16**, "Standard Test Methods for Water Vapour Transmission of Materials, Procedure B"

**CONCLUSIONS:** ZS2 Technologies TechPanel was evaluated by QAI and had achieved an average water vapour permeance rating of 62.02 ng/Pa·s·m<sup>2</sup> (1.1 US Perms).

**Prepared By**



Robert Giona  
Operations Manager

**Signed for and on behalf of  
QAI Laboratories Ltd.**

Lawrence Gibson  
Executive Vice President

## **1.0 WATER VAPOUR PERMEANCE PER ASTM E96/E96M-16**

### **Test Procedure**

Test samples were conditioned at  $23 \pm 2^{\circ}\text{C}$  ( $75 \pm 5^{\circ}\text{F}$ ) at  $50\% \pm 5\%$  relative humidity for 40 hours prior to testing.

Testing was conducted in accordance with ASTM E96/E96M-16 Procedure A (Desiccant). Four (4) nominal 305mm x 305mm x 71mm (12 inch x 12 inch x 3 inch) thick specimens were cut from four (4) different sample boards. Each specimen comprised of a 6mm TechBoard, 50mm of expanded Polystyrene, and a 12mm TechBoard. The specimens were then sealed to three (3) test pans containing desiccant and one (1) that was empty. All specimens were sealed to the dishes with the 12mm board facing the area of high humidity, and the 6mm board facing the area of low humidity (desiccant). During exposure, weight measurements were taken periodically until the change in weight over a period of time was constant. The results were calculated using the slope of the straight line based on graphical analysis.

### **Test Apparatus**

Sealant(s): Combination 60% microcrystalline wax and 40% crystalline paraffin wax  
Premium Waterproof Silicone.

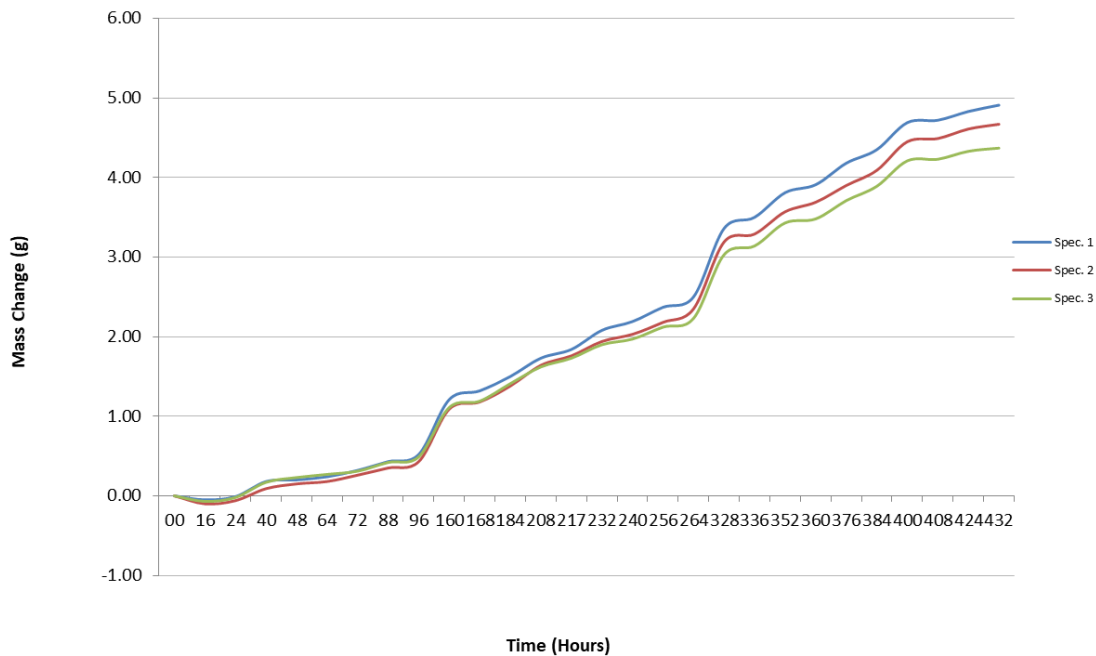
Tray: 305mm x 305mm x 15mm steel pan.

### **Test Results**

Specimen ID	Specimen Thickness		Total Corrected Mass Change		Water Vapor Permeance (ng/Pa·s·m <sup>2</sup> )	Permeance (perms)
	mm	in	g	oz		
1	71.25	2.81	5.04	0.178	70.56	1.23
2	71.38	2.81	4.76	0.168	66.60	1.16
3	71.53	2.82	3.49	0.123	48.90	0.85
<b>Average</b>	<b>71.39</b>	<b>2.81</b>	<b>4.42</b>	<b>0.156</b>	<b>62.02</b>	<b>1.08</b>

\*\*Graph of Mass Change and conclusion can be found on the following page.\*\*

### Total Mass Change During Testing



### Conclusions

ZS2 Technologies TechPanel was found to have an average water vapour permeance value of 62.02 ng/Pa·s·m<sup>2</sup> (1.1 US Perms) when tested to Procedure A of ASTM E96/E96M-16.

### Measurement Uncertainty

The values noted within this report have an estimated uncertainty of <1% with 95% confidence level (k=2).

### Decision Rule

Unless specifically stated or identified otherwise, QAI has utilized a simple acceptance rule to make conformity decisions on testing results contained in this report, as applicable.

### Revision History

Revision	Date	Comment	Eng/Tech
0	July 28, 2022	Original Issue	R. Giona

\*\*\*END OF REPORT\*\*\*