



ExcelPlas

T E S T R E P O R T

TECHNICAL REPORT ON THE MEASUREMENT OF WATER VAPOUR PERMEANCE ON A POLYMER FILM AFTER CSIRO FALLING AGGREGATE TEST

Client:

ExcelPlas Job # 11115

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COMMERCIAL-IN-CONFIDENCE



1. Objective

The objective of this study is to measure the water vapour permeance of a polymeric builder's film after CSIRO "Method for determination of the penetration resistance of water vapour barriers to falling aggregate".

2. Samples Supplied

2. Samples Supplied

One sample of black builders film was supplied by _____ for the determination of the water vapour permeance after the CSIRO Falling Aggregate Test. The film was supplied unopened as shown in the images below.

The identification of the sample was:
Medium Impact, Black builders' film sample as supplied.



Figure 1



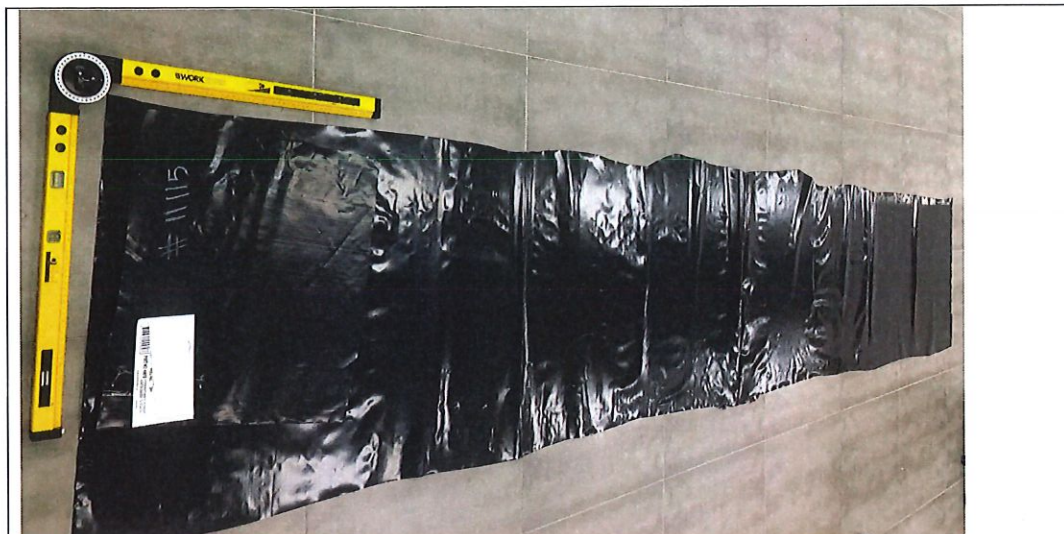


Figure 2

3. Testing Undertaken

A Falling aggregate test was performed to CSIRO Test “Method for Determination of the Penetration Resistance of Water Vapour Barrier to Falling Aggregate”.

The water vapour permeance testing was undertaken on specimens after the CSIRO test according to ASTM E 96.

Testing was carried out at ExcelPlas Highett laboratory.

4. Method of Sampling.

Three falling aggregate test specimens approximately 250mm x 200mm were cut randomly from the roll sample supplied.

Water vapour permeance specimens were taken from the specimens after being tested in falling aggregate test



5. Testing Methodology

The falling aggregate testing was conducted according to the procedure specified in CSIRO test of "Method for determination of the penetration resistance of water vapour barrier to falling aggregate"

The water vapour permeance testing was conducted according to the procedure described in ASTM E 96.

Test method used: Water Method

Test temperature: 23C +- 2C

Relative Humidity 50% +- 10%



6. Results

6.1 CSIRO Falling Aggregate Test.

The results of the ink were:

Specimen 1. No ink penetration observed (Figure 3)

Specimen 2. No ink penetration observed (see photograph)

Specimen 3. No ink penetration observed (see photograph)

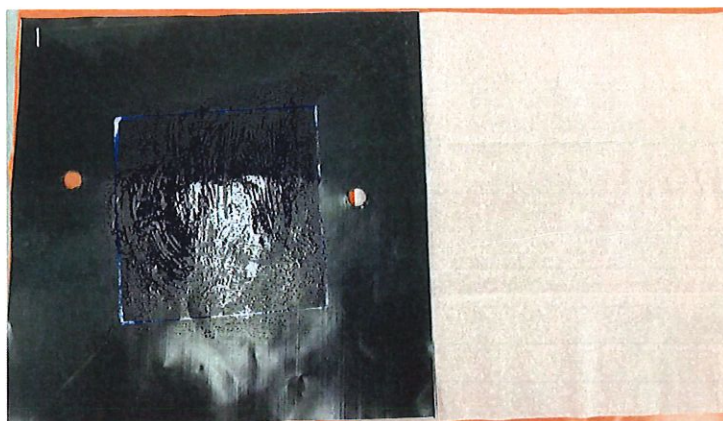


Figure 3

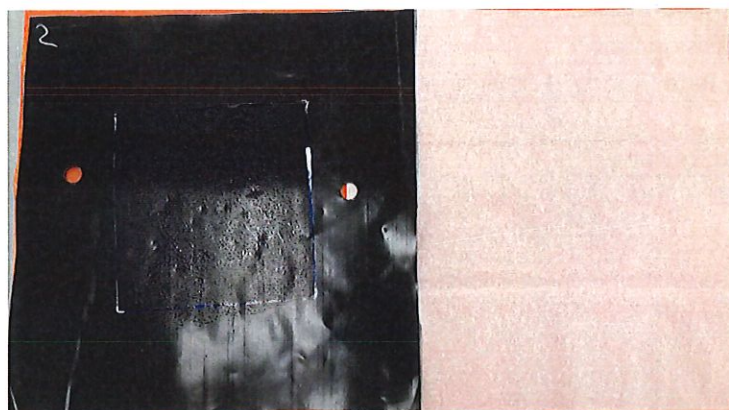


Figure 4



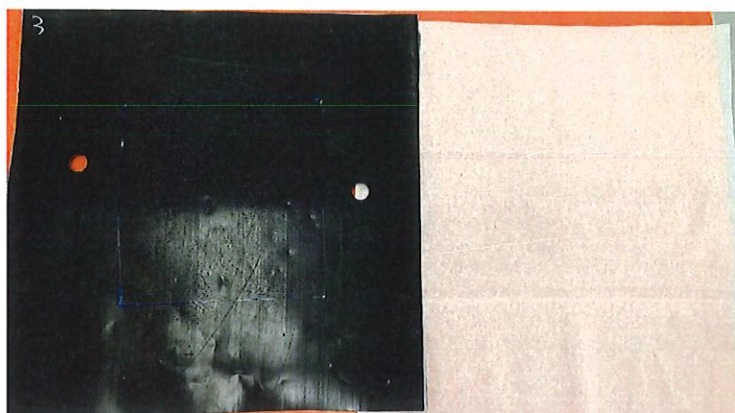


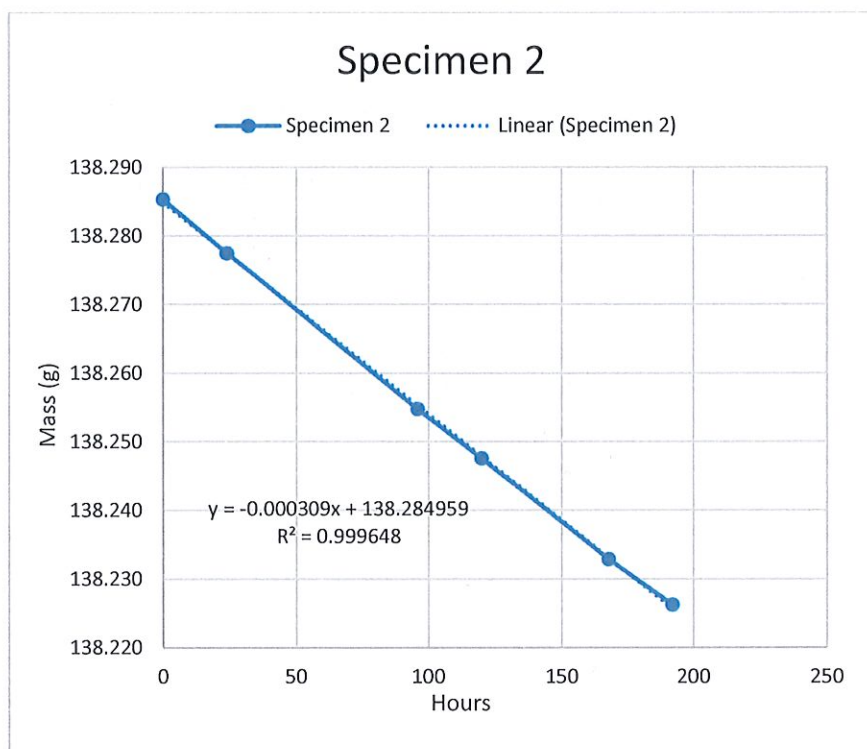
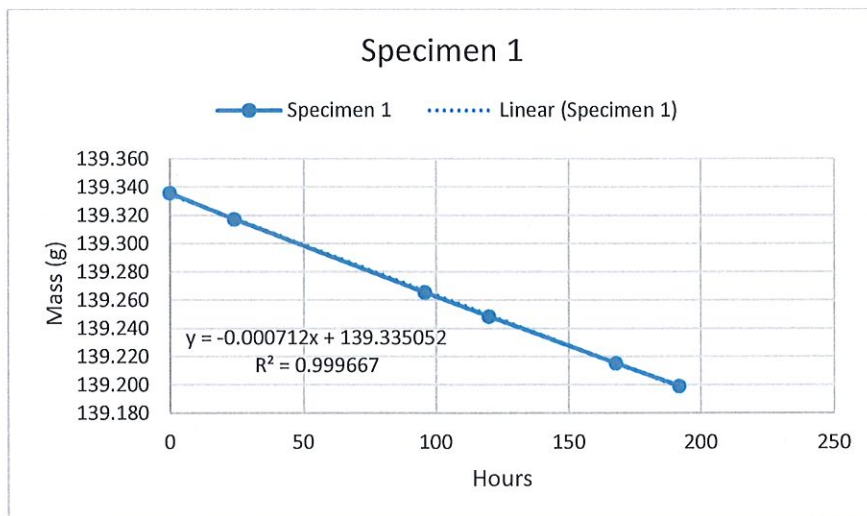
Figure 5

6.2 Water Vapour Permeance

Client:	
ExcelPlas Job Number:	# 11115
Sample Identification	Black builders' film
Sample Roll/Batch/Lot Number	N/A
Sample Thickness	0.202 mm
Test Method	Water method
Test Temperature	23 °C
Relative Humidity in the Test Chamber	57 % R.H.
Mean Water Vapour Transmission Rate*	0.2073 g/h.m2
Water Vapour Transmission Rate Standard Deviation*	0.1157 g/h.m2
Mean Vapour Permeance*	0.00071 mg/N.s
Vapour Permeance Standard Deviation*	0.0003976 mg/N.s

* Only results from specimens 1 and 2 were used as specimen 3 was an outlier and not suitable for inclusion.

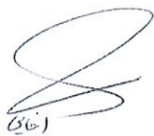




7. Specification

The water vapour permeance of the builder's film should be compliance with the following clause 5.3.3.3 (c) from AS 2870.

- (c) *Resistance to puncture and moisture penetration*—shall be determined using the CSIRO 'Method for determination of the penetration resistance of water vapour barriers to falling aggregate'. Vapour permeance following this test shall not exceed 0.02 mg/N.s with no punctures or rips in the film.

Prepared By	Reviewed By
	
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