



Industrial Research Services

Materials Science & Engineering, 37 Graham Road (PO Box 56), Highett, Victoria 3190, Australia
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CSIRO

6 December 2013

Our Ref: EN13 / 1135 03/0211

TEST REPORT No. 6844

Requested by: Wet-seal
On (date): 1 October 2013
Product Descriptions: Wet Seal Fibrecoat Waterproof Membrane

Manufacturer: Wet-seal

Sampling Details

Date: 1 October 2013
How (methods): Delivered to Highett

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This test report consists of 6 pages.

SUMMARY OF ASSESSMENTS REPORTED

AS/NZS 4858:2004	Appendix A, Durability of waterproof membranes	Pass
AS/NZS 4858:2004	Appendix B, Resistance of Waterproofing Membranes to Cyclic Movement	Pass
AS 3558.-1999	Water Absorption	0.91%
ASTM E96	Moisture Vapour Transmission	Pass

TERM OF VALIDITY

This CSIRO wet area membrane report will lapse three years after the initial date of issue and assessment unless revalidation has been requested and granted.

The validity date for report 6844 is 6 December 2016



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SUMMARY OF RESULTS

AS4858:2004 Wet Area Membranes

Appendix A: Assessment of Durability of waterproof membranes

The sample requires an elongation at break strain percentage greater than 5% at 56 days.

Note: (5% equates to 50% of control elongation at break strain percentage).

Durability of membranes: Elongation to break	Report 6844 Strain %	Report 5457(October 2010) Strain %	
Control	9%	10%	Class I
Water Immersion		6%	PASS
Detergent Immersion	8%		PASS
Bleach Immersion		5%	PASS
Heat Ageing - 50 °C		11%	PASS

WET-SEAL test sample, Wet Seal Fibrecoat Waterproof Membrane achieves the performance requirements of AS/NZS 4858: 2004 Durability of Membranes for Class I membrane installation.

Appendix B: Assessment of resistance of waterproofing membranes to cyclic movement

Class I type membrane: 2mm gauge length for a 0.025mm extension, repeated 50 cycles.

Requirement: No fatigue cracking exhibited.

Result: **PASS**

The Water Vapour Transmission (WVT) in accordance to ASTM E96: 0.04g/m²/24h

Appendix C: Suitability of waterproofing membranes when used over particle board

Appendix C will not be required as the Wet Seal Fibrecoat Waterproof Membrane has a water vapour transmission below 8g/m²/24h.

AS 3558.1 Methods of testing plastics & composite materials sanitary plumbing fixtures:

Method 1: Determination of water absorption characteristics

Water absorption:	Sample 1	0.91%	
	Sample 2	0.75%	
	Sample 3	0.74%	Maximum 0.91%

Conclusion: Wet Seal Fibrecoat Waterproof Membrane does not require a 'Suitability over particleboard' to pass the requirements of AS/NZS 4858 Wet area membranes.



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TEST CARRIED OUT IN ACCORDANCE WITH
AS4858:2004 Wet Area Membranes
Appendix A: Assessment of Durability of waterproof membranes

Test Date: 15 October 2013

RESULTS: Location: Ceramic Tile Laboratory
Conditions: 7 days at 23°C 55%RH
Sample Number: 6844 - 1 (Numbered 1 to 5)
Samples: Average of 5 samples
Load rate: 150mm/min

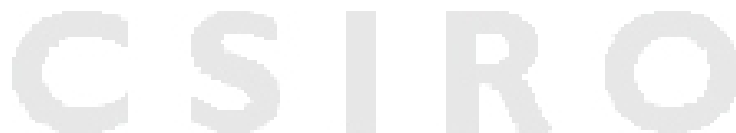
Elongation at Break

CONTROL SET

Sample Number	Sample Thickness Mean (mm)	Maximum Load (N)	Maximum Extension (mm)	Maximum Stress MPa	Maximum Strain %
6844 – 1 1 to 5	1.16	1306.86	2.94	58.28	9

Requirement for Class I: The specimens have an average percentage strain of $\geq 60\%$.

Classification: Class I (High extensibility)





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TEST CARRIED OUT IN ACCORDANCE WITH AS4858:2004 Wet Area Membranes
Appendix A: Assessment of Durability of waterproof membranes

Test Date: 3 December 2013

RESULTS: Location: Ceramic Tile Laboratory
Conditions: 7 days at 23°C 55%RH
Sample Number: 6844 - 4 (Numbered 1 to 9)
Samples: Average of 3 samples
Load rate: 150mm/min
Solution: 1L of 2% solution N8 detergent

Elongation at Break

DETERGENT IMMERSION

Period & Sample Number	Sample Thickness Mean (mm)	Maximum Load (N)	Maximum Extension (mm)	Maximum Stress MPa	Maximum Strain %
7 Days 6844 - 4 1 to 3	1.07	975.56	2.57	48.78	8
28 Days 6844 - 4 4 to 6	1.17	1110.95	2.82	47.39	9
56 Days 6844 - 4 7 to 9	1.22	1105.15	2.71	45.29	8

Requirement: The sample requires an elongation at break strain greater than 5% at 56 days without additional bond relief. Between 5% and 2.5% additional bond strength is required. Less than 2.5% - fail.

Result: 8% **PASS**



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TEST CARRIED OUT IN ACCORDANCE WITH
AS 3558.-1999: Water Absorption

Test Date: 6 December 2013

RESULTS: Location: Ceramic Tile Laboratory
Test Period: 24 hours
Conditions: 23°C / RH 50%

Sample	Thickness (mm)	Water Absorption		
		Mass (m1)	Mass (m2)	% Mass Difference
Specimen 1	1.03	9.85	9.94	0.91
Specimen 2	1.09	10.62	10.70	0.75
Specimen 3	1.10	10.74	10.82	0.74
Mean	1.07	10.40	10.49	0.80

Requirement: Determine maximum water absorption as mean difference %

Result: **0.91%**

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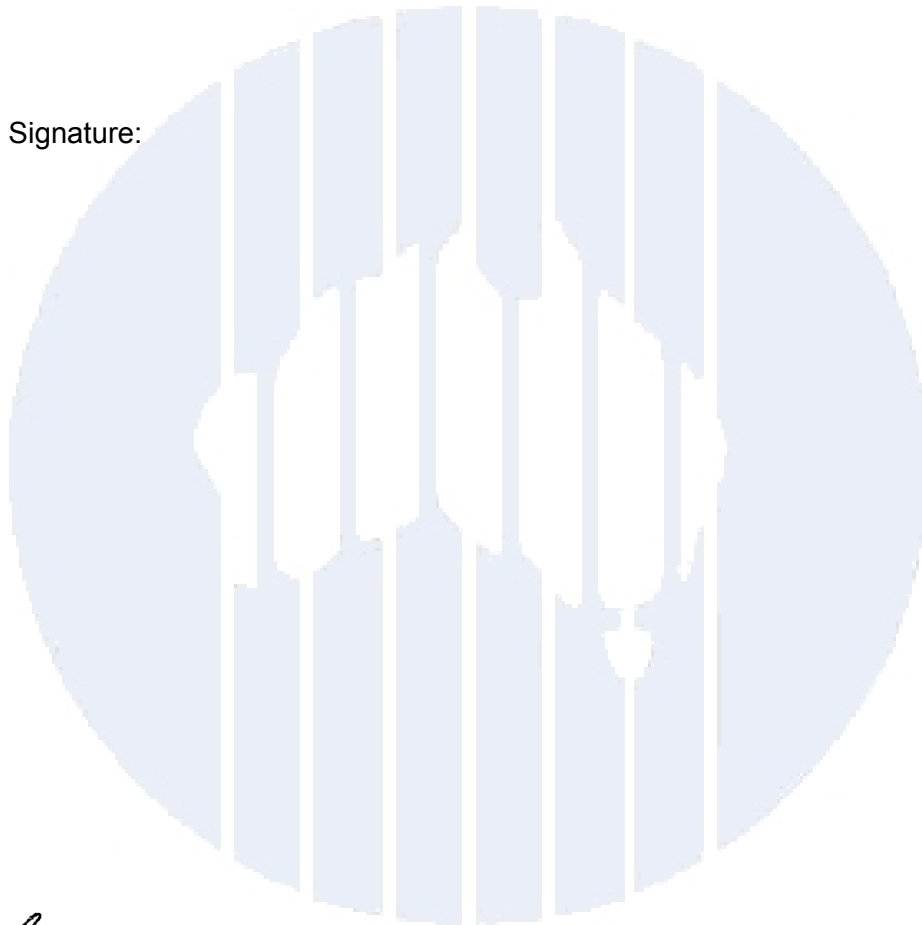
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Date and Place 6 December 2013 Highett, Vic

Name, Title and Signature:



ANDY GIANG
TECHNICAL OFFICER

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