



REPORT ON TENSILE STRENGTH AND ELONGATION OF SELF ADHESIVE WATERPROOFING MEMBRANE (FILM)

Page 1 of 8

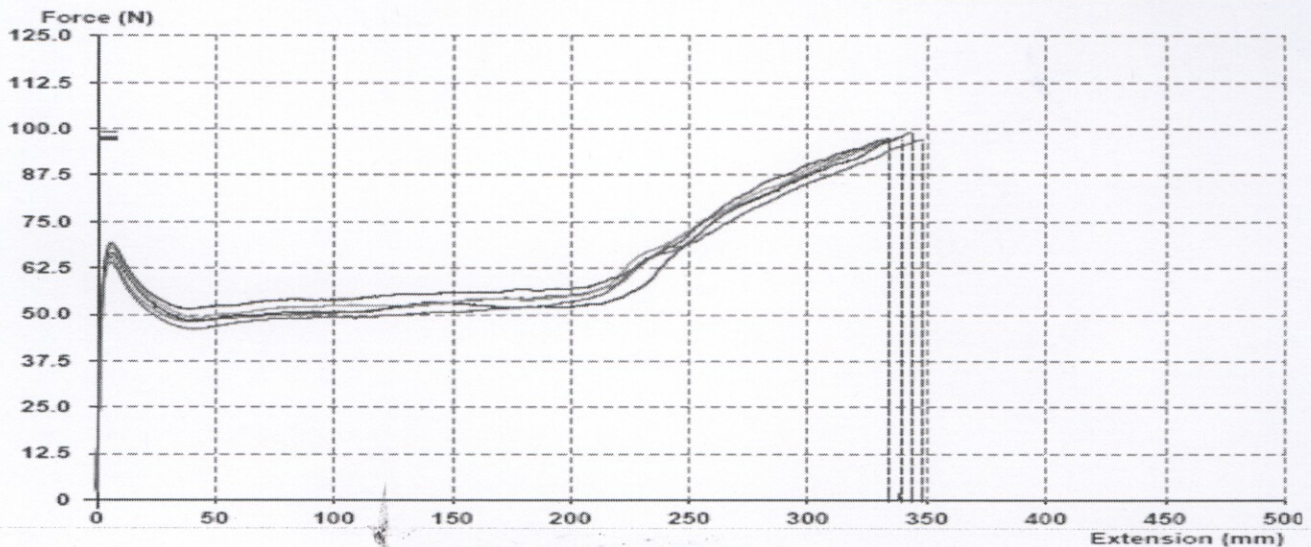
Client : Bitumat Company Limited
Address : P.O.Box 7487, Dammam ,Saudi Arabia
Contractor : NP
Consultant : NP
Project name : NP
Sample Description : **Self Adhesive Waterproofing Membrane (Film)**
Sample Name : **Bituseal 1500 CLX (Film)**
Supplier/Source : Client
Size of Sample : 1 x 2 m
Sampling Date : NP

Report No : **WPR-170416/187/1**
Lab Project No : **P-2156**
Sample No : WPQ-170416/061
Sample brought in by : Client
Date Sample Received : 10/04/2017
Date test started : 17/04/2017
Date test completed : 17/04/2017
Report Date : 18/04/2017
Sampled by : Client
Tested by : JR

Gauge Length : 50 mm
Speed of Testing : 500 mm/ min.
Direction of test : **Longitudinal**
Specimen Type : Straight Specimen
Testing Room Temperature : $23 \pm 2^\circ\text{C}$
Relative humidity : 50%

Test Data

Specimen No.	Length of Specimen (mm)	Average Thickness (mm)	Width of Specimen (mm)	Maximum Load (N)	Tensile Strength (MPa)	Elongation at Break (%)
WPQ-170415/061/1	150	0.10	25.00	99	39.68	686
WPQ-170415/061/2	150	0.10	25.00	98	39.16	678
WPQ-170415/061/3	150	0.10	25.00	97	38.92	668
WPQ-170415/061/4	150	0.10	25.00	97	38.96	668
WPQ-170415/061/5	150	0.10	25.00	97	38.88	696
Average =					39.12	679



Test Method : **ASTM D 638-14 / ASTM D 882-97**
Conditioning of specimen : **ASTM D 882 Cls. 9.1**
Method variation : None
Remarks : This test was carried out using a computerized universal testing machine (UTM-2).



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Page 2 of 8

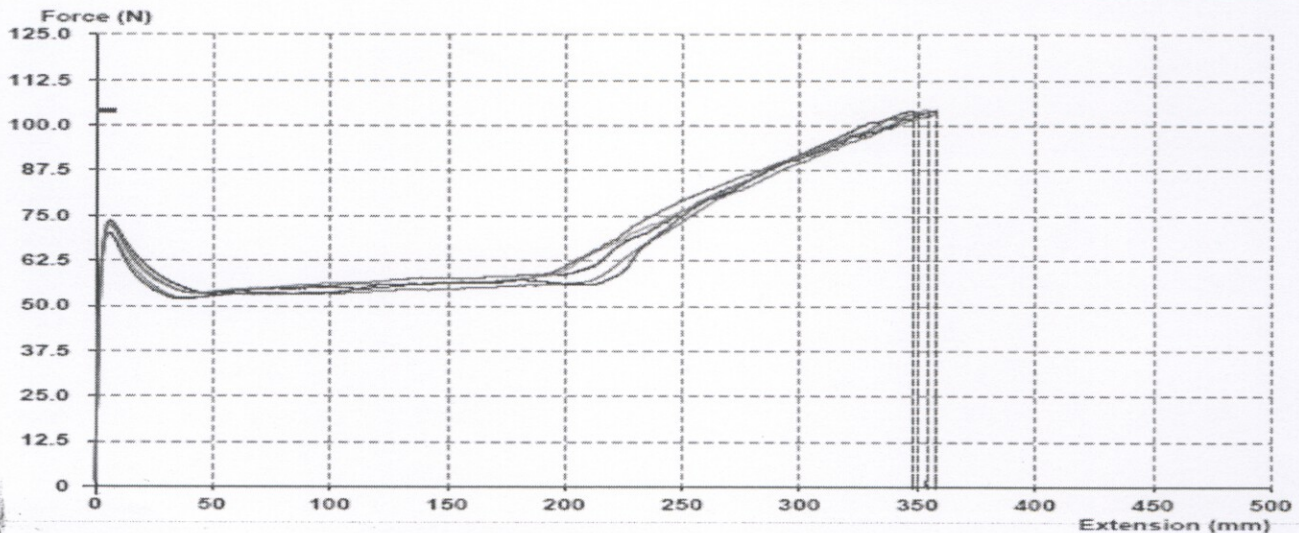
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Address : P.O.Box 7487, Dammam ,Saudi Arabia
Contractor : NP
Consultant : NP
Project name : NP
Sample Description : **Self Adhesive Waterproofing Membrane (Film)**
Sample Name : **Bituseal 1500 CLX (Film)**
Supplier/Source : Client
Size of Sample : 1 x 2 m
Sampling Date : NP

Report No : **WPR-170416/187/2**
Lab Project No : **P-2156**
Sample No : **WPQ-170416/061**
Sample brought in by : Client
Date Sample Received : 10/04/2017
Date test started : 17/04/2017
Date test completed : 17/04/2017
Report Date : 18/04/2017
Sampled by : Client
Tested by : JR

Gauge Length : 50 mm
Speed of Testing : 500 mm/ min.
Direction of test : **Transversal**
Specimen Type : Straight Specimen
Testing Room Temperature : $23 \pm 2^{\circ}\text{C}$
Relative humidity : 50%

Test Data

Specimen No.	Length of Specimen (mm)	Average Thickness (mm)	Width of Specimen (mm)	Maximum Load (N)	Tensile Strength (MPa)	Elongation at Break (%)
WPQ-170415/061/1	150	0.10	25.00	104	41.50	716
WPQ-170415/061/2	150	0.10	25.00	104	41.70	696
WPQ-170415/061/3	150	0.10	25.00	105	41.85	708
WPQ-170415/061/4	150	0.10	25.00	104	41.75	716
WPQ-170415/061/5	150	0.10	25.00	104	41.65	700
Average =					41.69	707



Test Method : **ASTM D 638-14 / ASTM D 882-97**
Conditioning of specimen : **ASTM D 882 Cls. 9.1**
Method variation : None
Remarks : This test was carried out using a computerized universal testing machine (UTM-2).



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REPORT ON TEAR STRENGTH OF MODIFIED BITUMINOUS SHEET MATERIAL

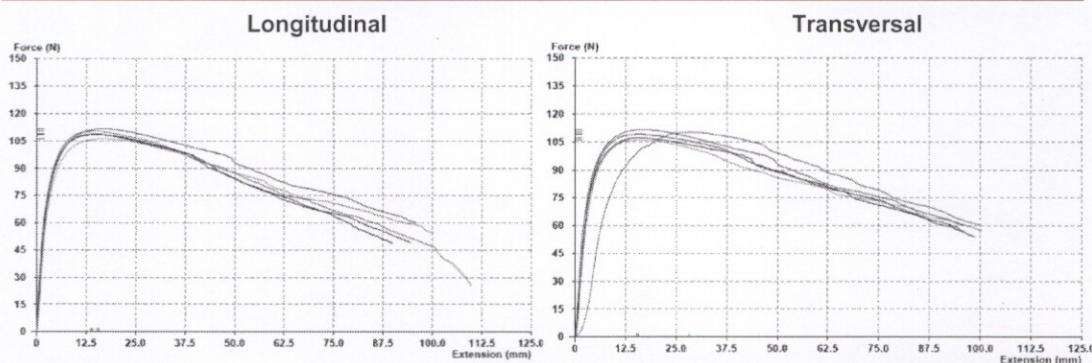
Client : Bitumat Company Limited
Address : P.O.Box 7487, Dammam ,Saudi Arabia
Contractor : NP
Consultant : NP
Project Name : NP
Size of Sample : 1 x 2 m
Sample Description : **Self Adhesive Waterproofing Membrane**
Sample Name : **Bituseal 1500 CLX**
Manufacturer/Source : Client
Supplier : Client
Client ref No. : NP
Speed of Testing : 50.0 mm/minute

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Report No : **WPR-170416/186/2**
Lab Project No : **P-2156**
Lab Sample No : WPQ-170416/061
Sampling date : NP
Sampled by : Client
Sample brought in by : Client
Date sample received : 10/04/2017
Date test started : 18/04/2017
Date test completed : 18/04/2017
Report Date : 18/04/2017
Test Temperature : 23°C
Tested by : JR

Test Data

Lab sample No.	Width (mm)	Thickness (mm)	Tear Strength (N)	
			Longitudinal	Transversal
WPQ-170416/061/1	50.0	1.60	110.3	110.3
WPQ-170416/061/2	50.0	1.60	108.6	107.4
WPQ-170416/061/3	50.0	1.60	106.1	106.1
WPQ-170416/061/4	50.0	1.60	108.9	109.3
WPQ-170416/061/5	50.0	1.60	111.6	111.5
Average =			109.1	108.9
Standard Deviation=			2.06	2.18



Test Method : ASTM D5147/D5147M-14 Section 7, ASTM D4073-06 (Reapproved 2013)
Sampling method : ASTM D 146
Conditioning of specimen : ASTM D5147/D5147M-14 Section 5
Method variation : None
Remarks : None

Note: This test is accredited by Dubai Accreditation Department.

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REPORT ON TEAR STRENGTH OF SELF ADHESIVE WATERPROOFING MEMBRANE (FILM)

Client : Bitumat Company Limited
Address : P.O.Box 7487, Dammam ,Saudi Arabia
Contractor : NP
Consultant : NP
Project Name : NP
Sample Description : Self-Adhesive Waterproofing Membrane (Film)
Sample Name : Bituseal 1500 CLX (Film)
Source of sample : Client
Sample brought in by : Client
Type of Machine used : Universal Testing Machine
Size of Sample : 1 x 2 m
Client Ref No. : NP

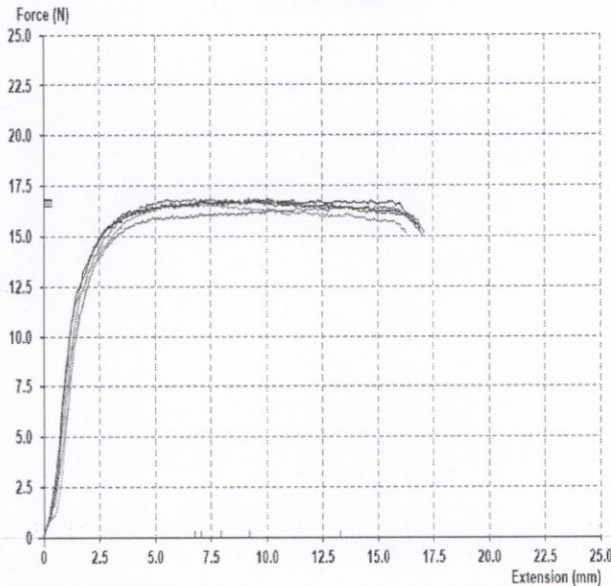
Page 4 of 8

Report No : WPR-170416/186/1
Lab Project No : P-2156
Lab. Ref. No : WPQ-170416/061
Date of Sampling : NP
Date sample received : 10/04/2017
Date test started : 17/04/2017
Date test completed : 17/04/2017
Report Date : 18/04/2017
Sampled by : Client
Room Temperature : 24°C
Relative humidity : 50%
Tested by : JR

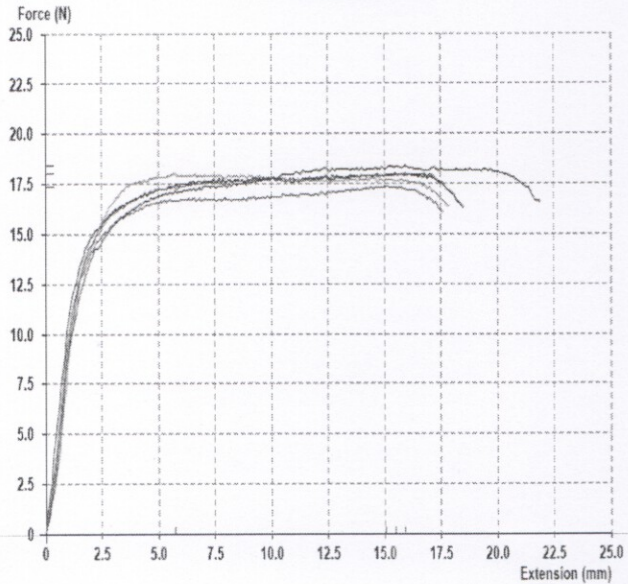
Test Data

Lab. Ref. No	Width (mm)	Thickness Longitudinal (mm)	Thickness Transversal (mm)	Tear Strength thickness (N/mm)	
				Longitudinal (N/mm)Thickness	Transversal (N/mm)Thickness
WPQ-170415/061/1	15	0.10	0.10	165	174
WPQ-170415/061/2	15	0.10	0.10	169	180
WPQ-170415/061/3	15	0.10	0.10	166	180
WPQ-170415/061/4	15	0.10	0.10	168	184
WPQ-170415/061/5	15	0.10	0.10	169	180
Average =				167	180
Standard Deviation=				1.59	3.83

Longitudinal



Transversal



Tear Strength Test Method : ASTM D 1004- 94a
Conditioning of specimen : ASTM D 1004- 94a Cls. 6.1
Method variation : None
Remarks : None



Authorized Signatory
Raja Kumar
Deputy Tech. Manager

Certificate Number: SNR 30362926/4/Q



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REPORT ON WATER ABSORPTION OF PLASTICS

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Client	:	Bitumat Company Limited	Report No.	:	WPR-170416/184
Address	:	P.O.Box 7487, Dammam ,Saudi Arabia	Lab. Project No	:	P-2156
Contractor	:	NP	Lab Reff. No.	:	WPQ-170416/061
Consultant	:	NP	Sampled by	:	Client
Project	:	NP	Date of Sampling	:	NP
Lot No. & Size	:	1 x 2 m	Sample brought in by	:	Client
Sample Description	:	Self Adhesive Waterproofing Membrane	Date sample received	:	10/04/2017
			Date test started	:	12/04/2017
Sample Name	:	Bituseal 1500 CLX(1.6 mm)	Date test completed	:	13/04/2017
Marking on sample	:	NP	Report Date	:	18/04/2017
Manufacturer/Source	:	Client	Average dimension of specimen (mm)	:	76 x 25
Supplier	:	Client	Conditioning Temperature	:	23°
Client Ref. No.	:	NP	Time of immersion	:	24 hours
Conditioning time	:	24 Hours	Tested by	:	JR
Solvent Used	:	Distiled water			

Test Data:

Lab Ref. No.	WPQ-170416/061/1	WPQ-170416/061/2	WPQ-170416/061/3
Water Absorption (%)	0.07	0.07	0.07
Average Water Absorption (%)	0.07		

Test Method	: ASTM D570-98 (Reapproved 2010)
Immersion Procedure	: ASTM D570-98 (Reapproved 2010) Cl. 7.1
Method variation	: None
Remarks	: Specimens were conditioned at 24 hours @ 23°C.

Note: This test is accredited by Dubai Accreditation Department.

Authorized Signatory

012
Raja Kumar
Deputy Tech Manager

R-WA-P-01

Issued on:08/02/2016

Issue 01

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LB-008-TEST

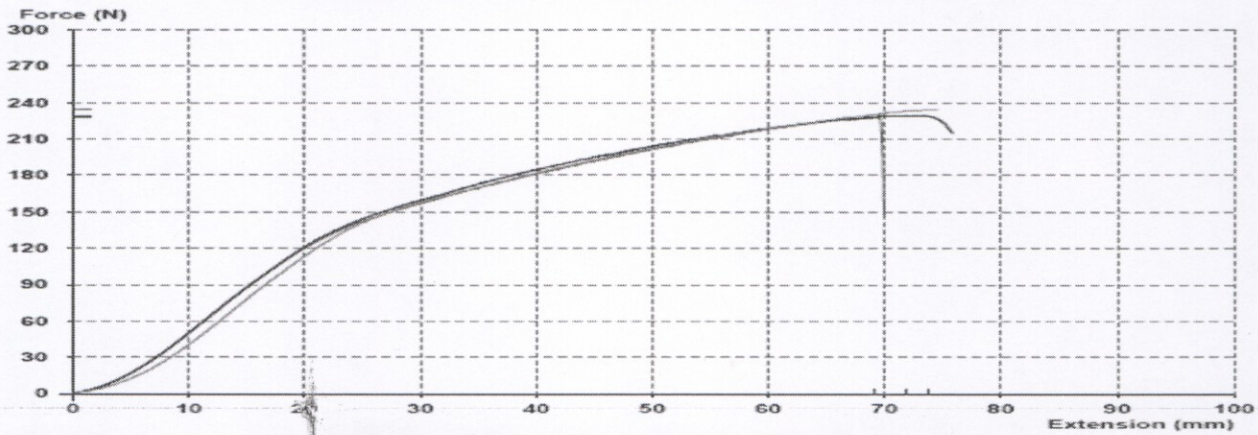
REPORT OF RESISTANCE TO PUNCTURE OF WATER VAPOUR RETARDERS USED CONTACT WITH EARTH UNDER CONCRETE SLABS, ON WALLS, OR AS GROUND COVER

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Client	: Bitumat Company Limited	Report No	: WPR-170416/185
Address	: P.O.Box 7487, Dammam ,Saudi Arabia	Lab Project No	: P-2156
Contractor	: NP	Lab Sample No	: WPQ-170416/061
Consultant	: NP	Date of sampling	: NP
Project Name	: NP	Date Sample Received	: 10/04/2017
Project No.	: NP	Date test started	: 11/04/2017
Size of Sample	: 1 x 2 m	Date test completed	: 11/04/2017
Sample Description	: Self Adhesive Waterproofing Membrane	Report Date	: 18/04/2017
Sample Name	: Bituseal 1500 CLX(1.6 mm)	Conditioning temperature	: 23±1°C
Manufacturer/Source	: Client	Relative humidity	: 50±5°C
Supplier	: Client	Testing room temperature	: 23°C
Marking on sample	: NP	Size of Specimen	: 254 x 254 mm
Sampled by	: Client	Speed of Testing	: 6.0mm/min
Type of Machine Used	: Universal Testing Machine (UTM-2)	Diameter of Plunger	: 25.0 mm
Client Ref. No.	: NP	Tested by	: JR

Test Results Data:

Lab Sample No.	Maximum Load (N)	Deflection at maximum Load (mm)	Type of failure of the sheet
WPQ-170416/061/1	228	69.0	Satisfactory
WPQ-170416/061/2	230	71.8	Satisfactory
WPQ-170416/061/3	235	73.8	Satisfactory
Average =	231	71.5	



Test Method : ASTM E 154/E154M-08a (Reapproved 2013): Section 10
Method variation : None
Remarks : None



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LB-008-TEST

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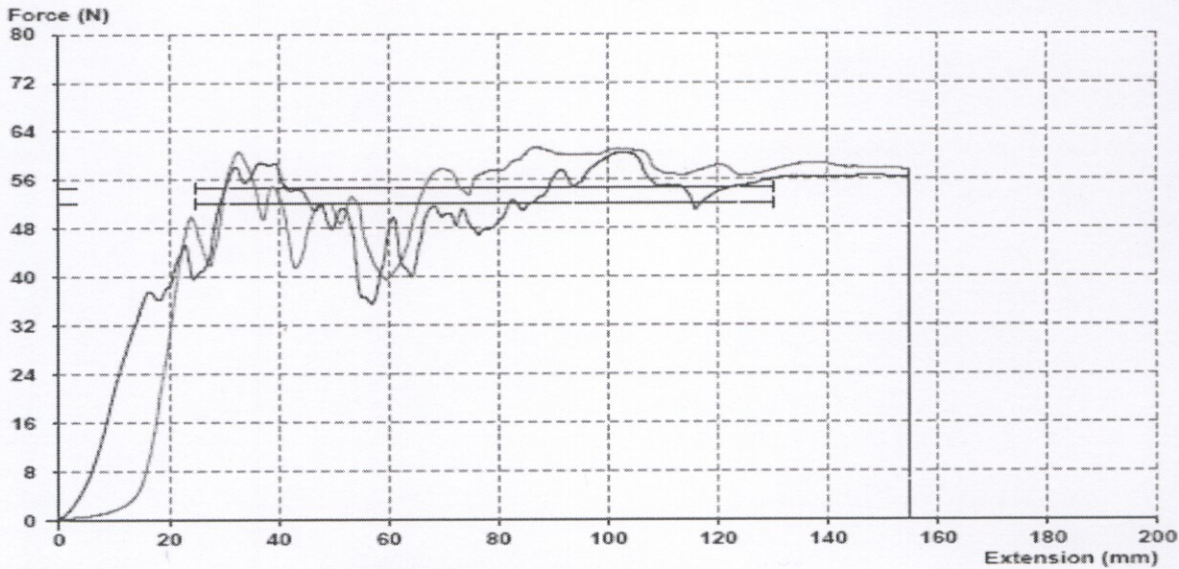
REPORT ON ADHESION STRENGTH OF SELF ADHESIVE WATERPROOFING MEMBRANE
TO PRIMED CONCRETE

Page 7 of 8

Client : Bitumat Company Limited
Address : P.O.Box 7487, Dammam ,Saudi Arabia
Project Client : NP
Contractor : NP
Consultant : NP
Project Name : NP
Project No. : NP
Sample Description : **Self Adhesive Waterproofing Membrane**
Sample Name : **Bituseal 1500 CLX(1.6 mm)**
Sender's Ref No. : NP
Source of sample : Client
Machine Used : Universal Testing Machine
Report No. : **WPR-170416/183**
Lab. Project No. : **P-2156**
Sample No : WPQ-170416/061
Date Sample Received : 10/04/2017
Date test started : 13/04/2017
Date test completed : 13/04/2017
Report Date : 18/04/2017
Speed of machine : 300 mm/min
Sample Brought in by : Client
Sampled by : Client
Tested by : JR

Test Data :

Specimen ID.	Length of Bonded Area (mm)	Width of Bonded Area (mm)	Thickness (mm)	Maximum Load (N)	Adhesion Strength (N/mm)
WPQ-170416/061/1	100	25	1.60	54.73	2.19
WPQ-170416/061/2	100	25	1.60	53.25	2.09
Average=				53.99	2.14
Maximum=				54.73	2.19
Minimum=				53.25	2.09



Test Method : ASTM D 1000: Section 46-50: 1999
Test Method Variation : None
Remarks : None



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REPORT ON DETERMINATION OF WATER VAPOUR TRANSMISSION OF SELF ADHESIVE WATERPROOFING MEMBRANE

Page 8 of 8

Client : Bitumat Company Limited Report No : WPR-170416/188
Address : P.O.Box 7487, Dammam ,Saudi Arabia Lab Project No : P-2156
Contractor : NP Sample No : WPQ-170416/061
Consultant : NP Date of Sampling : NP
Project Name : NP Date sample received : 10/04/2017
Project No. : NP Date test started : 11/04/2017
Sample Description : Date test completed : 15/04/2017
Self Adhesive Waterproofing Membrane Report Date : 18/04/2017
Sample Name : Bituseal 1500 CLX(1.6 mm) Batch No : NP
Sample Size : 1 x 2 m Manufacturing Date: NP
Source of Sample : Client Diameter of Test Dish : 100 mm
Temp. & R.H : 32 °C & 50% Tested by : JR
Sender's Ref No : NP

Test Data :

Test Name	Unit	Result
Water Vapour Transmission	g/m ² /24 Hrs	0.14

Test Method : ASTM E 96-95 (Water Method)
Method Variation : None.
Remarks : None.



Authorized Signatory
012
ر. ك. ك. ك.
Raja Kumar
Deputy Tech. Manager

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