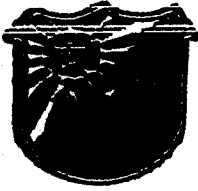


Product Test Certificates

Test Certificates

2004



Civil Engineering Testing Center
College of Engineering & Petroleum
Kuwait University
P.O. Box 5969 Safat, 13000 Kuwait
Tel/Fax: 488895

Report No. : CETC2290/11/2004
Date : 12/12/2004
Page:1/2

To : شركة النجم المراد الخصوصية
From : Civil Engineering Testing Center (CETC)
College of Engineering
Kuwait University

Dear Sir

We here by report the results requested by you according to the following information :

REPORT : CETC2290/11/2004
TEST : Membrane Shield Protection Board
STANDARD : As Enclosed
CLIENT NAME : شركة عوازل الكويت
TESTED FOR : شركة النجم المراد الخصوصية
PROJECT NAME : AVENUE
CONTRACT NO. : N.A
NO OF PAGES : 2

SAMPLES DELIVERED, STATE AND NUMBER:

One Membrane Shield Protection Board Sample in Good Condition.

INFORMATION PROVIDED BY SUPERVISION :

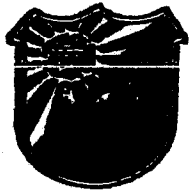
Source : شركة صناعة العزل المراد بالعمودية

Product : M.S.60

Best regards

Eng. Moh'd Rabi Morally
CETC Manager





Civil Engineering Testing Center
College of Engineering & Petroleum
Kuwait University
P.O. Box 5989 Safat, 13000 Kuwait
Tel/Fax : 4818495

Report No. : CETC2290/11/2004

Date : 12/12/2004

Page : 2/2

Test of Membrane Shield Protection Board

1- Mass per Unit Area (ASTM D146-04) : 6.945 kg/m²

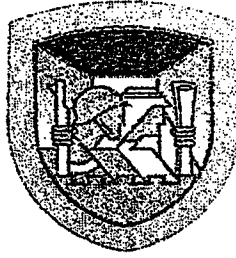
2- Thickness (DIN 52123-85):

Specimen #	Thickness (mm)
1	6.12
2	6.30
3	6.09
4	6.08
5	6.17
6	6.27
Avg.	6.17



Test Certificates

2007



STATE OF KUWAIT
MINISTRY OF DEFENCE
MILITARY ENGINEERING PROJECTS

دولة الكويت
وزارة الدفاع
هندسة المنشآت العسكرية

تقرير فحص
Test Report

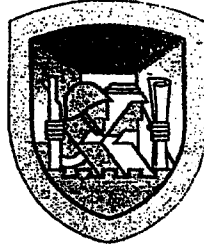
Serial Number	74210 PH 00033	رقم الإشارة
Date of Reporting	2007/04/11	تاريخ التقرير
Contractor/Client	شركة بيت البناء الكويتي	المتعهد / العميل
Project Name	جمعية الفحاحيل	اسم المشروع
Project Address	الفحاحيل	موقع المشروع
Contract No.	-	رقم العقد
Supervision Site	مكتب عبدالعزيز سعود الفليح	جهة الإشراف
Description & Identification / Condition of Sample(s)	لوحة عازل رطوبة (حماية) عدد (1) سماكة 6 ملم المصدر : شركة عوازل السعودية	وصف / تمييز العينة/ حالة العينة
	-	
	-	
	-	
Date of Test Request	2007/03/26	تاريخ الطلب
Request NO.	MOD - LABS - 1368/A	رقم الطلب
Total Number of Pages including this page	(2) صفحات	عدد صفحات التقرير بما فيها هذه الصفحة

Laboratory Controller

عاقب المخبرات

عماد يوسف الشطي





دولة الكويت
وزارة الدفاع
هندسة المنشآت العسكرية

74210 PH 00033	: الاشارة
2007/04/11	: تاريخ النتيجة
-	: رقم العقد
شركة بيت البناء الكويتي	: المتعهد
2007/03/26	: تاريخ الطلب

TEST OF MEMBRANE SHIELD

UEAtc August 1984

ID : MOD - LABS - 1368 / A

DESCRIPTION	TRIAL No.	TRIAL 1	TRIAL 2	TRIAL 3	AVERAGE	NOMINAL	TOLERANCE
OVERALL LENGTH	(m)	2.000	2.005	2.005	2.003	2	± 1% from nominal
OVERALL WIDTH	(m)	1.000	1.000	0.998	0.999	1	±1% from nominal
MASS PER UNIT AREA	(kg/m ²)	7.83	7.84	8.16	7.94	7.0	± 10% from nominal [§] ± 15% from nominal [#]
THICKNESS	(mm)	5.8				6.0	± 5% from nominal, max. deviation 0.2 mm

REMARKS :

[§] Tolerance for sheets without their own protection granules : ± 10% from the nominal.

[#] Tolerance for sheets with their own protection granules : ± 15% from the nominal.

Source : AWAZEL, Saudi Arabia

مراقب المختبرات
عماد يوسف الشطي

النتائج تمثل العينات المقدمة للفحص فقط



Test Certificates

2009



مركز الفحوصات الهندسية والمخبرية والمعايرة
Center of Engineering, Laboratory
Testing & Calibrations

Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمخبرية والمعايرة



Kuwait University
College of
Engineering & Petroleum

To : MPW
From : Center of Engineering, Laboratory Testing & Calibrations
College of Engineering & Petroleum
Kuwait University

Ref. : 14479
Report : CELTC 100757/10/2009
Date : 07/10/2009
Page : [1 / 2]

Dear Sir,

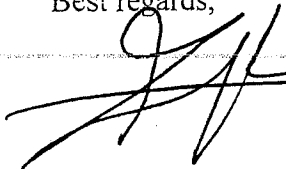
Please find attached the requested report according to the information below, and as per reporting department.

Report : CELTC 100757/10/2009
Test : Awazel Membrane Shield 60
Standard : As Enclosed
Client Name : Combined Group Contracting Co.
Tested For : MPW
Project Name: Airport Baxculvert
Contract No. : N.A
No. of Pages : 2

Sample Delivered, State & Number:
Awazel Membrane Shield 60 Sample in Good Condition.

Information Provided by Supervision:
N.A

Best regards,


Dr. Ammar Ben-Nakhi
CELTC Manager



I hereby certify that I have received & accepted all results as complete, and find this report to fulfill all requested services.

Name: _____ Signature: _____ Date: 14/10/09
No. of Pages: _____

(في حالة قيام المركز بعمل فحوصات لدى طرف ثالث، فإن الطرف الثالث يتحمل مسؤولية نتائج هذه الفحوصات)



مركز الفحوصات الهندسية والمخبرية والمعايرة
Center of Engineering, Laboratory
Testing & Calibrations

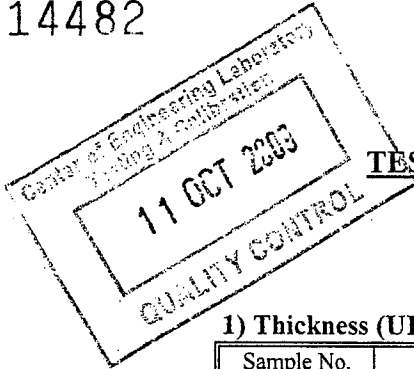
14482

Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمخبرية والمعايرة



Kuwait University
College of
Engineering & Petroleum



TEST OF AWAZEL MEMBRANE SHIELD 60 PROTECTION BOARD

Test No: T-57
Date: 8/10/2009
Page 2/2

1) Thickness (UEAtc M.O.A.T.30) :

Sample No.	Thickness (mm)
1	6.37
2	6.23
3	6.21
4	6.44
5	6.28
Average	6.31

2) Density (UEAtc M.O.A.T.30) :

Sample No.	Density (g/cm ³)
1	1.49
2	1.48
3	1.47
Average	1.48





مركز الهندسة والاختبار والقياس
Center of Engineering, Laboratory
Testing & Calibrations

Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمخبرية والمعايرة



Kuwait University
College of
Engineering & Petroleum

To : وزارة الأشغال العامة
From : Center of Engineering, Laboratory Testing & Calibrations
College of Engineering & Petroleum
Kuwait University

Ref. : 16936
Report : CELTC 122237/12/2009
Date : 28/12/2009
Page : [1 / 2]

Dear Sir,

Please find attached the requested report according to the information below, and as per reporting department

Report : CELTC 122237/12/2009
Test : Bituminous Protection Board Test
Standard : As Enclosed
Client Name : شركة بدر الملا واخوانه / شركة خاجه للمواد الخصوصيه
Tested For : وزارة الأشغال العامة
Project Name : العقيلة - قطعة 3 - مدرسه ثانويه بنون
Contract No. : 215/م.ا
No. of Pages : 2

Sample Delivered, State & Number:

Bituminous Protection Board Samples in Good Condition.

Information Provided by Supervision:

N.A

Best regards,

Dr. Ammar Ben-Nakhi
CELTC Manager



I hereby certify that I have received & accepted all results as complete, and find this report to fulfill all requested services.

Name: خاريف سعيد العيسى Signature: [Signature] Date: 20/1/2010
No. of Pages: 2

(في حالة قيام المركز بعمل فحوصات لدى طرف ثالث، فإن الطرف الثالث يتحمل مسؤولية نتائج هذه الفحوصات)



Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمخبرية والمعايرة



Kuwait University
College of
Engineering & Petroleum

مركز الفحوصات الهندسية والمخبرية والمعايرة
Center of Engineering, Laboratory
Testing & Calibrations

16936

Test on Awazel Bituminous Protection Board

27 DEC 2009

CONTROL

Test No: T-237
Date: 27/12/2009
Page: 2/2

1- Average thickness (UEATc M.O.A.T.30): 5.57 mm

2-Test on Board Size:

Specimen No	Length (mm)	Width (mm)
1	199.5	100.0
2	200.0	100.0
3	199.5	100.0
Avg.	199.7	100.0

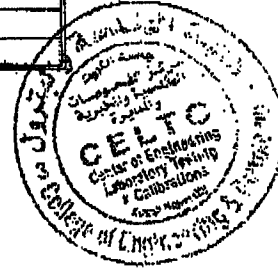
3-Density (UEATc M.O.A.T.30):

Specimen No	Dry Wt.(gm)	Wt. in Water(gm)	Density (g/cc)
1	10.46	2.60	1.33
2	10.06	2.29	1.29
3	10.35	2.25	1.28
Avg.	10.29	2.38	1.30

4- Mass per unit area (UEATc M.O.A.T.30): 5297 g/m²

5- Softening point (ASTM D-36):

Specimen No	Temperature °C
1	123.0
2	123.5
Avg.	123.3



Test Certificates

2010



**DEPARTMENT OF BUILDING AND ENERGY TECHNOLOGIES
KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH
P.O. Box 24885**

13109-Safat-Kuwait

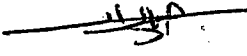
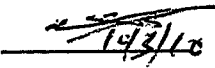
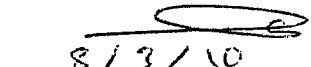
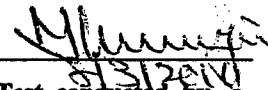
TEL: 24989101, 24989129, FAX: 24989099.

LABORATORY TESTING REPORT

TEST REPORT NO. 45/2010.

Client : Awazel Kuwait Co.
Sample : Water Proofing Membrane, MS 60; Product from Saudi Awazel Co.
Date : 8th March, 2010.
Tests Performed : - Board Thickness.
- Unit Weight of Board.
- Density.
- Puncture Resistance.

The results in this report relate to the samples
submitted by the client and to no other.

 <u>31-3-2010</u>	 <u>14/3/10</u>	 <u>8/3/10</u>	 <u>07/3/2010</u>
Approved by f/ DM/BET	Lab Supervisor Eng. Ali M. Ali	Checked and Verified by Mr. Amer Alarbeed	Test conducted by Mr. Tarun K. Mukherjee

No Liability

Neither Kuwait Institute for Scientific Research nor its employees give any warranty, expressed or implied, or assumes any legal liability for the accuracy and utility of any information, material, output, process or data disclosed. They do not suggest that its use would not infringe upon privately or publicly owned rights.



DEPARTMENT OF BUILDING AND ENERGY TECHNOLOGIES
KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH
LABORATORY TESTING RESULTS

Client : Awazel Kuwait Co.


Test : Board Thickness, UEATC M.O.A.T 30.

Sample : Water Proofing Membrane, MS 60; Product from Saudi Awazel Co.

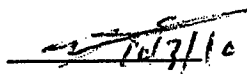
Procedure : Standard procedure of UEATC M.O.A.T 30 was applied on specimens cut out from the received sample.

Results :

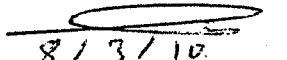
Thickness (mm)	
Readings	Average
6.20 – 6.10 – 6.30 – 6.20 – 6.20	6.00
5.90 – 5.80 – 5.80 – 6.10 – 5.90	
6.20 – 5.89 – 5.87 – 5.96 – 6.00	
6.01 – 5.93 – 5.86 – 5.87 – 5.88	


31.3.2010


f/ Approved by
DM/BET


16/3/10

Lab Supervisor
Eng. Ali M. Ali


8/3/10

Checked and Verified by
Mr. Amer Alarbeed


31/3/2010

Test conducted by
Mr. Tarun K. Mukherjee

No Liability


Neither Kuwait Institute for Scientific Research nor its employees give any warranty, expressed or implied, or assumes any legal liability for the accuracy and utility of any information, material, output, process or data disclosed. They do not suggest that its use would not infringe upon privately or publicly owned rights.





DEPARTMENT OF BUILDING AND ENERGY TECHNOLOGIES
KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH
LABORATORY TESTING RESULTS

Client : Awazel Kuwait Co.
Test : Unit Weight of Board, UEATC M.O.A.T 30.
Sample : Water Proofing Membrane, MS 60; Product from Saudi Awazel Co.
Procedure : Standard procedure of UEATC M.O.A.T 30 was applied on specimens cut out from the received sample.
Results :

Unit Weight of Board = 7.7 kg/m²


31. 2010
f/ Approved by
DM/BET


16/3/10
Lab Supervisor
Eng. Ali M. Ali


8/3/10
Checked and Verified by
Mr. Amer Alarbeed


8/3/2010
Test conducted by
Mr. Tarun K. Mukherjee

No Liability

Neither Kuwait Institute for Scientific Research nor its employees give any warranty, expressed or implied, or assumes any legal liability for the accuracy and utility of any information, material, output, process or data disclosed. They do not suggest that its use would not infringe upon privately or publicly owned rights.



DEPARTMENT OF BUILDING AND ENERGY TECHNOLOGIES
KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH
LABORATORY TESTING RESULTS

Client : Awazel Kuwait Co.

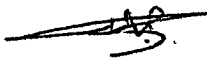
Tests : Density, UEATC M.O.A.T 30.

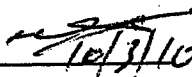
Sample : Water Proofing Membrane, MS 60; Product from Saudi Awazel Co.

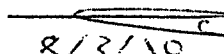
Procedure : Standard procedure of UEATC M.O.A.T 30 was applied on specimens cut out from the received sample.

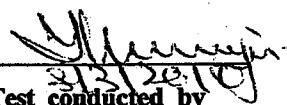
Results :

Specimen No.	Density (g/cc)
1	1.34
2	1.35
3	1.35
Average	1.35


31.3.2010
Approved by
f/ DM/BET


10/3/10
Lab Supervisor
Eng. Ali M. Ali


8/3/10
Checked and Verified by
Mr. Amer Alarbeed


31/3/2010
Test conducted by
Mr. Tarun K. Mukherjee

No Liability

Neither Kuwait Institute for Scientific Research nor its employees give any warranty, expressed or implied, or assumes any legal liability for the accuracy and utility of any information, material, output, process or data disclosed. They do not suggest that its use would not infringe upon privately or publicly owned rights.



DEPARTMENT OF BUILDING AND ENERGY TECHNOLOGIES
KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH
LABORATORY TESTING RESULTS

Client : Awazel Kuwait Co.

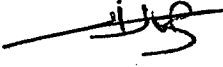
Tests : Puncture Resistance; ASTM E 154.

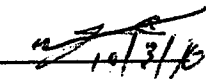
Sample : Water Proofing Membrane, MS 60; Product from Saudi Awazel Co.


Procedure : Standard procedure of ASTM E 154, was applied on specimens cut out from the original sheet submitted by client.

Results :

Specimen No.	Puncture Strength (N)	Deformation at Peak (mm)
1	680	19
2	700	19
Average	690	19


31.3.2010
Approved by
f/ DM/BET


10/3/10
Lab Supervisor
Eng. Ali M. Ali


8/3/10
Checked and Verified by
Mr. Amer Alarbeed


31/3/2010
Test conducted by
Mr. Tarun K. Mukherjee

No Liability

Neither Kuwait Institute for Scientific Research nor its employees give any warranty, expressed or implied, or assumes any legal liability for the accuracy and utility of any information, material, output, process or data disclosed. They do not suggest that its use would not infringe upon privately or publicly owned rights.

To : المؤسسة العامة للرعاية السكنية
From : Center of Engineering, Laboratory Testing & Calibrations
College of Engineering & Petroleum
Kuwait University

Ref. : 16488
Report : CELTC 022110192
Date : 15/03/2010
Page : [1 / 2]

Dear Sir,

إدارة ضبط الجودة
صادر / / ٢٠
نتائج

إدارة ضبط الجودة
وارد / ٣ / ٢٠١٠
نتائج

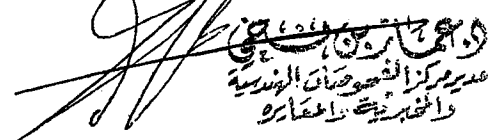
Please find attached the requested report according to the information below, and as per reporting department.

Report : CELTC 022110192
Test : Bituminous Protection Board Test
Standard : As Enclosed
Client Name : شركة عوازل الكويت
Tested For : المؤسسة العامة للرعاية السكنية
Project Name : جابر الاحمد
Contract No. : 1137/2009-2010
No. of Pages : 2

Sample Delivered, State & Number:
One Bituminous Protection Board Sample in Good Condition.

Information Provided by Supervision:
N.A

Best regards,


مدير مركز الفحوصات الهندسية
والمخبرية والمعايرة

Dr. Arimar Ben-Nakhi
CELTC Manager





مركز القياسات الهندسية والمخبرية و
Center of Engineering, Laboratory
Testing & Calibrations

Center of Engineering, Laboratory Testing & Calibrations

مركز القياسات الهندسية والمخبرية والمعايرة



Kuwait University
College of
Engineering & Petroleum

Test of Bituminous protection board

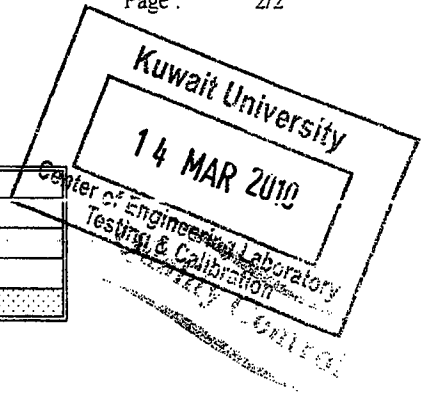
16488

Test No : T-192
Date : 14/03/2010
Page : 2/2

- 1- Average thickness (UEAtc M.O.A.T.30) : 5.97 mm
- 2- Mass per unit area (UEAtc M.O.A.T.30) : 7668 g/m²
- 3- Board size(UEAtc M.O.A.T.30) : Length=199 cm
Width =100 cm

4- Density (UEAtc M.O.A.T.30) :

Specimen No	Density(gm/cm ³)
1	1.312
2	1.356
3	1.347
Avg.	1.338



5- Softening point (ASTM D-36) :

Specimen No	Temperature °C
1	153.0
2	153.5
Avg.	153.3





مركز الهندسة والاختبار والمعايرة
Center of Engineering, Laboratory
Testing & Calibrations

Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمخبرية والمعايرة



Kuwait University
College of
Engineering & Petroleum

To : دار مازن الصانع للاستشارات الهندسية
From : Center of Engineering, Laboratory Testing & Calibrations
College of Engineering & Petroleum
Kuwait University

Ref. : 28368
Report : CELTC 080110009
Date : 05/08/2010
Page : [1 / 2]

Dear Sir,

Please find attached the requested report according to the information below, and as per reporting department.

Report : CELTC 080110009
Test : Bituminous Production Boards
Standard : As Enclosed
Client Name : شركة الدار للهندسة والإنشاءات
Tested For : دار مازن الصانع للاستشارات الهندسية
Project Name : امغره الصناعيه - جابر الاحمد
Contract No. : RA/155
No. of Pages : 2

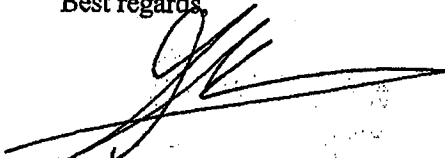
Sample Delivered, State & Number:

Bituminous Production Boards (MS60, KSA) Sample in Good Condition.


Information Provided by Supervision:

N.A

Best regards,


Dr. Ammar Ben-Nakhi
CELTC Manager



انتهت صحت




مركز الفحوصات الهندسية والمخبرية والمعايرة
Center of Engineering, Laboratory
Testing & Calibrations

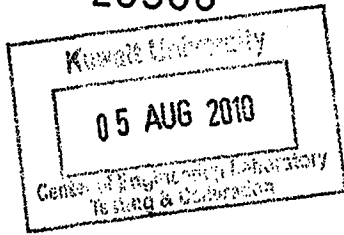
Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمخبرية والمعايرة



Kuwait University
College of
Engineering & Petroleum

28368



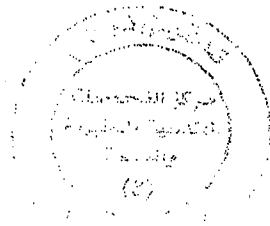
Test of Bituminous Production Boards

Membrane Shield 60 (MS60)

Test No : T-09
Date : 04/08/2010
Page : 2 / 2

1- Thickness (DIN 52123) :

Specimen No	Thickness (mm)
1	6.730
2	6.190
3	6.030
4	6.360
5	5.900
6	6.090
7	6.010
8	6.060
9	6.220
10	6.040
Avg.	6.163



Test Certificates

2011



مركز الفحوصات الهندسية والمخبرية والمعايرة
Center of Engineering, Laboratory
Testing & Calibrations

Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمخبرية والمعايرة



Kuwait University
College of
Engineering & Petroleum

To : مكتب دار الاستشارات الفنية
From : Center of Engineering, Laboratory Testing & Calibrations
College of Engineering & Petroleum
Kuwait University

Ref. : 27686
Report : CELTC 022111070
Date : 08/03/2011
Page : [1 / 2]

Dear Sir,

Please find attached the requested report according to the information below, and as per reporting department.

Report : CELTC 022111070

Test : Awazel Protection Board

Standard : As Enclosed

Client Name : شركة عوازل الكويت

Tested For : مكتب دار الاستشارات الفنية

Project Name : مشروع بيت التمويل

Contract No. : N.A

No. of Pages : 2

Sample Delivered, State & Number:

Awazel Protection Board (MS60) in Good Condition.

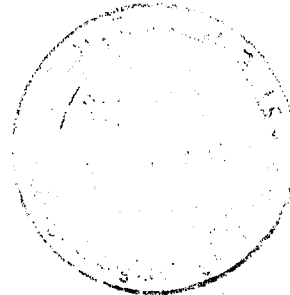
Information Provided by Supervision:

N.A.

Best regards,

AbdulAzim H. Falah, PH.D.
Manager
Center of Engineering, Laboratory
Testing & Calibration

Dr. Abdulazim H. Falah
CELTC Manager





27686

Test of AWAZEL
PROTECTION BOARD MS60

Test No : T -70
Date : 2/03/2011
Page : 2/2



1- Average thickness (UEATC M.O.A.T 30) 6.34 mm

2- Mass per unit area (UEATC M.O.A.T 30) 9324 g/m²

3- Board size (UEATC M.O.A.T 30): 1.96 m x 1.0 m

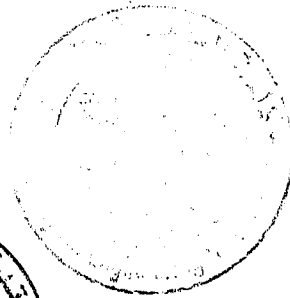
4- Density, g/cc (UEATC M.O.A.T 30) :

Specimen No	Density
1	1.47
2	1.49
3	1.48
4	1.49
Avg.	1.4825

5- Puncture resisane (ASTM E-154)

Specimen No.	Max Load(N)
1	585.5
2	620.5
Avg.	603

Quality Control





مركز الهندسة والمختبرات والمعايرة
Center of Engineering, Laboratory
Testing & Calibrations

Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمختبرات والمعايرة



Kuwait University
College of
Engineering & Petroleum

Received
Al-Enma'a Real State Co.
Wubarak Al-Kabeer Police Headquarter/CPA 230
11 MAY 2011
Time: 1:30 Pm
Rec. By: [Signature]

[Signature]

To : وزارة الأشغال العامة
From : Center of Engineering, Laboratory Testing & Calibrations
College of Engineering & Petroleum
Kuwait University

Ref. : 27242
Report : CELTC 050211013
Date : 10/05/2011
Page : [1 / 2]

Dear Sir,

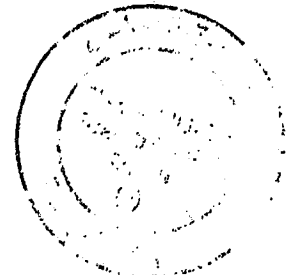
Please find attached the requested report according to the information below, and as per reporting department.

Report : CELTC 050211013
Test : Test of Protection Board.
Standard : As Enclosed
Client Name : شركة الإنماء العقارية
Tested For : وزارة الأشغال العامة
Project Name: القرين - مبارك الكبير
Contract No. : 250 / أ
No. of Pages : 2

Sample Delivered, State & Number:
Protection Board Sample in Good Condition.

Information Provided by Supervision:
N.A.

Best regards,
AbdulAzim H. Falah, PH.D.
Manager
Center of Engineering, Laboratory
Testing & Calibration
Dr. Abdulazim H. Falah
CELTC Manager



Document Controller

Date: 11/05/2011



مركز الفحوصات الهندسية والمخبرية والقياسية
Center of Engineering, Laboratory
Testing & Calibrations

Center of Engineering, Laboratory Testing & Calibrations

مركز الفحوصات الهندسية والمخبرية والقياسية



Kuwait University
College of
Engineering & Petroleum

27242

TEST OF PROTECTION BOARD

Test No : T-13
Date : 8/5/2011
Page : 2/2

10 MAY 2011
Quality Control

1- Average thickness (UEAtc M.O.A.T.30) :

6.11 mm

2- Water absorption (ASTM D-570) :

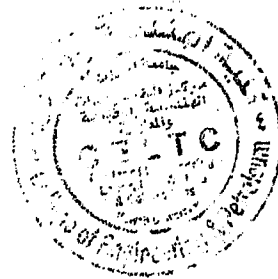
Specimen No	Water Absorption (%)
1	0.154
2	0.165
3	0.133
Avg.	0.151

3- Asphalt content (ASTM D-2172) :

Specimen No.	Original wt. (gm)	polyster wt. (gm)	Asphalt content (%)
1	84.251	2.074	97.538
2	84.366	2.286	97.290
Avg.	84.309	2.180	97.414

4- Puncture resistance (ASTM E-154) :

Specimen No.	Puncture resistance (N)
1	589.0
2	589.5
Avg.	589.3



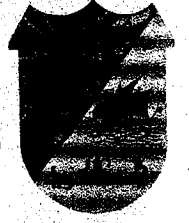
Test Certificates

2012



Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمخبرية والمعايرة



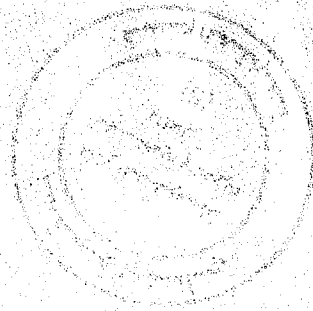
Test of Awazel Membrane Shield 30

Client Name : Al-Hamra Kuwait Company
Test For : Al-Hamra Kuwait Company
Project Name : The Avenues Phase III
Contract No. : N.A.

Report No. : 120512028
Date : 18/12/2012
Page : [1 / 1]

Sample Description : Awazel Membrane Shield 30 Sample in Good Condition.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
- Thickness:	mm	3.17	3.18	3.26	3.14	3.12	3.17	UEAtc, M.O.A.T 30
- Unit Weight:	kg/m ²	3.55	-	-	-	-	3.55	
- Puncture Resistance:	N	530.00	460.00	-	-	-	495.00	ASTM D154



Dr. Ammar Ben-Nakhi
CELTC Manager

Dr. Ammar E. Ben-Nakhi
Manager

Center of Engineering
Laboratories For Testing & Calibrations

Kuwait University will not be held liable for consequent action based upon the results so obtained in this report

www.celtc.eng.kuniv.edu - Tel.: (965) 2498 7357 - 2498 5975 - Fax: (965) 2481 8495 - P.O.Box: 5969 Safat 13060 Kuwait

000400



Test Certificates

2013



Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمخبرية والمعايرة



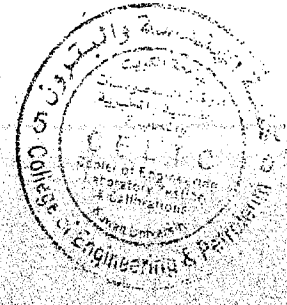
Test of Membrane Shield MS-60

Client Name : شركة الامراء للتجاره العامه والمقاولات
Test For : وزارة الاشغال العامه - مشروع تعريب العلوم
Project Name : مركز تعريب العلوم
Contract No. : 264 هـ م أ

Report No. : 021313071
Date : 04/03/2013
Page : [1 / 1]

Sample Description : Membrane Shield MS-60 Samples in Good Condition.
الواح حماية من منتج شركة عوازل السعوديه

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
- Thickness:	mm	6.60	6.49	6.22	5.86	5.98	6.23	UEAtc M.O.A.T.30
- Unit Weight:	kg/m ²	7.14	-	-	-	-	7.14	
- Density:	g/cc	1.19	1.21	1.21	1.21	-	1.21	
Softening Point (R&B)	°C	85.00	86.00	-	-	-	85.50	ASTM D-36
- Puncture Resistance:	N	590.00	582.00	-	-	-	586.00	ASTM E-154



Dr. Ammar Ben-Nakhi
CELTC Manager

Dr. Ammar E. Ben-Nakhi

001149





Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمخبرية والمعايرة



إدارة ضبط الجودة
صادر / / ٢٠١٣
نتائج

Test of Bituminous Protection Board MS-60

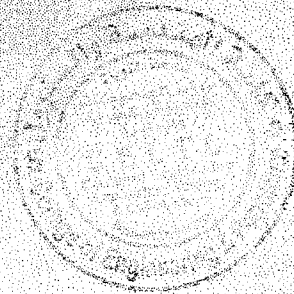
إدارة ضبط الجودة
وارد / ٨ / ٢٠١٣
نتائج

Client Name : شركة الراية للإنشاءات
Test For : المؤسسة العامة للرعاية السكنية
Project Name : مشروع شمال غرب الصليبخات
Contract No. : م.ع.ز.س. / ع/ 1193-2013-2012

Report No. : 072313107
Date : 04/08/2013
Page : [1 / 1]

Sample Description : Bituminous Protection Board Sample in Good Condition.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
- Thickness:	mm	6.05	5.91	5.97	6.26	6.10	6.06	UEAtc M.O.A.T.30
- Unit Weight:	kg/m ²	7.22	7.23	7.11	-	-	7.19	
- Density:	gm/cc	1.23	1.21	1.25	-	-	1.23	
- Puncture Resistance:	N	1009	952	-	-	-	980	ASTM E-154



Dr. Ammar Ben-Nakhi
CELTC Manager

Dr. Ammar E/ Ben-Nakhi

Manager
Center of Engineering
Laboratories for Testing & Calibrations

003178



Kuwait University will not be held liable for consequent action based upon the results so obtained in this report

www.celtc.eng.kuniv.edu - Tel.: (965) 2498 7357 - 2498 5975 - Fax: (965) 2481 8495 - P.O.Box: 5969 Safat 13060 Kuwait

**STATE OF KUWAIT
MINISTRY OF DEFENCE
MILITARY ENGINEERING PROJECTS**



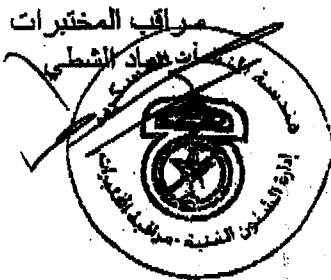
**دولة الكويت
وزارة الدفاع
هندسة المنشآت العسكرية**

تقرير فحص

Test Report

Serial Number	BS/PL - 13682911	رقم الإثارة
Date of Reporting	2013/09/04	تاريخ التقرير
Contractor/Client	شركة سديم الكويت للتجارة العامة والمقاولات	المتعهد / العميل
Project Name	مركز ضاحية أبو فطيرة	اسم المشروع
Project Address	أبو فطيرة	موقع المشروع
Contract No.	(م م أ / 265)	رقم العقد
Supervision Site	وزارة الأشغال	جهة الإشراف
Description & Identification / Condition of Sample(s)	عدد 1 لوح حماية نوع صوالح 6 ملم الاسم التجاري : MS60 المصدر : سعودي	وصف / تمييز العينة/حالة العينة
Date of Test Request	2013/08/29	تاريخ الطلب
Request NO.	R 13082911	رقم الطلب
Total Number of Pages including this page	(2)	عدد صفحات التقرير بما فيها هذه الصفحة

Laboratory Controller



Page 1 of 2

Test reports shall not reproduced except in full, without written approval of the laboratory.



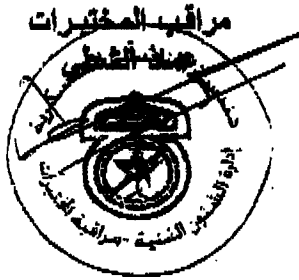
BS/PL 13082911	: الاشارة
2013/08/04	: تاريخ النتيجة
265 / أ	: رقم الطلب
	: المتعهد : شركة سديم الكويت للتجارة العامة
2013/08/29	: تاريخ الطلب

MEMBRANE SHIELD TEST

ID:R 13082911

Properties	Typical Results					Technical Data Results for MS 60
	R1	R2	R3	R4	R5	
Board Thickness (mm)	6.1	6.0	6.1	6.1	6.2	6.0
Unit Weight of Board(kg/m ²)	6.7	6.8	6.8	6.7	6.7	6.7
Board size (Standard)	1.98 x 1.01					2 x 1
Density (g /cm ³)	1.11					1.10-1.20

REMARKS:



النتائج تمثل العينات المقامة للفحص فقط





Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمخبرية والمعايرة



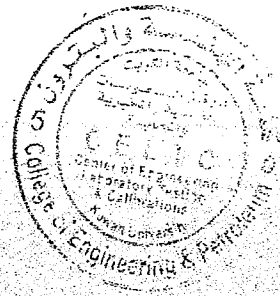
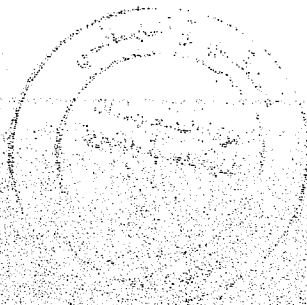
Test of Membrane Shield MS-60

Client Name : شركة الامراء للتجارة العامة والمقاولات
Test For : وزارة الاشغال العامة - مشروع تعريب العلوم
Project Name : مركز تعريب العلوم
Contract No. : هـ م أ 264

Report No. : 021313071
Date : 04/03/2013
Page : [1 / 1]

Sample Description : Membrane Shield MS-60 Samples in Good Condition.
ألواح حماية من منتج شركة عوازل السعودية

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
- Thickness:	mm	6.60	6.49	6.22	5.86	5.98	6.23	UEAtc M.O.A.T.30
- Unit Weight:	kg/m ²	7.14	-	-	-	-	7.14	
- Density:	g/cc	1.19	1.21	1.21	1.21	-	1.21	
Softening Point (R&B)	°C	85.00	86.00	-	-	-	85.50	ASTM D-36
- Puncture Resistance:	N	590.00	582.00	-	-	-	586.00	ASTM E-154



Dr. Ammar Ben-Nakhi
CELTC Manager

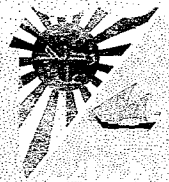
Dr. Ammar Ben-Nakhi

001149



Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمخبرية والمهارة



إدارة ضبط الجودة
صادر / / ٢٠١٣
نتائج

Test of Bituminous Protection Board MS-60

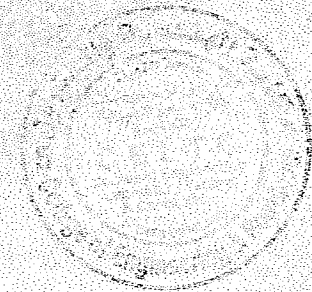
إدارة ضبط الجودة
وارد / ٨ / ٢٠١٣
نتائج

Client Name : شركة الراية للإنشاءات
Test For : المؤسسة العامة للرعاية السكنية
Project Name : مشروع شمال غرب الصليبخات
Contract No. : م.ع.ر.س/ع/1193-2012/2013

Report No. : 072313107
Date : 04/08/2013
Page : [1/1]

Sample Description : Bituminous Protection Board Sample in Good Condition.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
- Thickness:	mm	6.05	5.91	5.97	6.26	6.10	6.06	UEAtc M.O.A.T.30
- Unit Weight:	kg/m ²	7.22	7.23	7.11	-	-	7.19	
- Density:	gm/cc	1.23	1.21	1.25	-	-	1.23	
- Puncture Resistance:	N	1009	952	-	-	-	980	ASTME-154



Dr. Ammar Ben-Nakhi
CELTC Manager

Dr. Ammar E. Ben-Nakhi

Manager
Center of Engineering
Laboratories For Testing & Calibrations

003178

**STATE OF KUWAIT
MINISTRY OF DEFENCE
MILITARY ENGINEERING PROJECTS**



**دولة الكويت
وزارة الدفاع
هندسة المنشآت العسكرية**

تقرير فحص

Test Report

Serial Number	BS/PL - 13082911	رقم الإشارة
Date of Reporting	2013/09/04	تاريخ التقرير
Contractor/Client	شركة سديم الكويت للتجارة العامة والمقاولات	المتعهد / العميل
Project Name	مركز ضاحية أبو فطيرة	اسم المشروع
Project Address	أبو فطيرة	موقع المشروع
Contract No.	(م م / 265)	رقم العقد
Supervision Site	وزارة الأشغال	جهة الإشراف
Description & Identification / Condition of Sample(s)	عدد 1 لوح حماية نوع عوالم 6 ملم الاسم التجاري : MS60 المصدر : سعودي	وصف / تمييز العينة/حالة العينة
Date of Test Request	2013/08/29	تاريخ الطلب
Request NO.	R 13082911	رقم الطلب
Total Number of Pages including this page	(2)	عدد صفحات التقرير بما فيها هذه الصفحة

Laboratory Controller





دولة الكويت
وزارة الدفاع
هندسة المنشآت العسكرية

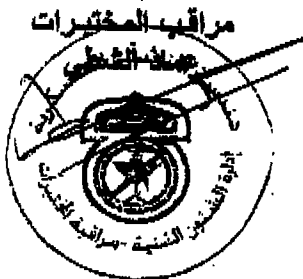
الإشارة : BS/PL 13082911
تاريخ النتيجة : 2013/09/04
رقم العقد : 265 / أ
المعهد : شركة مديم الكويت للتجارة العامة
تاريخ الطلب : 2013/08/29

MEMBRANE SHIELD TEST

ID:R 13082911

Properties	Typical Results					Technical Data Results for MS 60
	R1	R2	R3	R4	R5	
Board Thickness (mm)	6.1	6.0	6.1	6.1	6.2	6.0
Unit Weight of Board(kg/m ²)	6.7	6.8	6.8	6.7	6.7	6.7
Board size (Standard)	1.98 x 1.01					2 x 1
Density (g /cm ³)	1.11					1.10-1.20

REMARKS:



النتائج تمثل المعينات المقامة للفحص فقط





Test of Awazel Protection Board

Client Name : شركة المجموعة المشتركة
 Test For : وزارة الأشغال العامة
 Project Name : تقاطعات وخدمات على الجزء الأوسط من طريق الجهراء
 Contract No. : RA/212

Report No. : 100113004
 Date : 10/10/2013
 Page : [1 / 1]

Sample Description : Awazel Protection Board Sample in Good Condition.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
Thickness:	mm	6.03	6.05	6.03	6.07	6.18	6.07	ASTM D5147
Softening Point:	°C	115.00	116.00				115.50	ASTM D36
Puncture Resistance:	N	520.00	530.00				525.00	ASTM E154
Water Absorption:	%	0.562	0.519	0.547			0.543	ASTM D994
Asphalt Content:	%	96.53	96.40				96.46	ASTM D545

Handwritten signature



Dr. Ammar Ben-Nakhi

CELTC Manager

Dr. Ammar Ben-Nakhi

Manager

Center of Engineering Laboratories For Testing & Calibrations




Client	: AWAZEL
Project	: Riyadh
Sample ID.	: AWAZEL MS 60 6 mm thick Bituminous Protection Board, complies with ASTM D 6506, Type III, Class B
Test Method Ref.	: ASTM D / ASTM E

Date Sample Received	: N/A
Date Sample Tested	: 05 January 2014
Testing Witnessed by	: GG Reyes
Testing Conducted at	: @ Site (Awazel Lab.)
Test Method Variation	: Nil

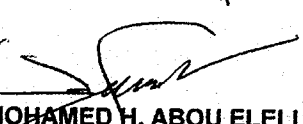
Property Tested	Test Method	Result	Specification	Remarks
Thickness, mm	ASTM D 5147	6.212	5.6 – 7.1	Passed
Puncture Resistance, N	ASTM E 154	435	365	Passed
Water Absorption, %	ASTM D 994	2.162	< 10 %	Passed
Asphalt Compound, %	ASTM D 545	>40	>40	Passed
Resistance to Decay	ASTM E 154	Meets the Puncture Requirement	Meets the Puncture Requirement	Passed
Appearance	ASTM D 6506 Visual Inspection	The surface is free from defects	The surface shall be free from defects	Passed
Softening Point, °C	ASTM D 36	112	---	---

NOTE:

Al Hoty Stanger Ltd Co. was requested only for witnessing of test and does not take any responsibilities for the efficiency of testing procedure, calibration of test apparatus and other aspect of testing.


TEOFILO D. CABAL JR.
Regional Manager - Central Region
For AL HOTY-STANGER LTD.




MOHAMED H. ABOU ELELLA
Senior Regional Engineer
For AL HOTY-STANGER LTD.

This report relates only to the sample tested and shall only be used in full with the written approval of Al Hoty Stanger Ltd. Co. Laboratory

AL HOTY STANGER LTD.CO.

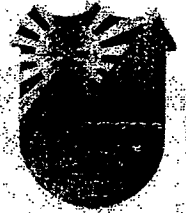
INDEPENDENT LABORATORIES & MATERIALS TESTING

P.O.BOX 1122 AL-KHOBAR 31952 - TEL: (013) 8691000 (11 LINES) / 8980958 / 8642539 Fax : (013) 8981466
Jubail Tel:(013) 341 - 6791 - Hofuf Tel: (013) 586 - 3210 - Riyadh Tel: (011) 478-4292 - Jeddah Tel: (012) 660-1924 - Yanbu Tel: (014) 322-5495 - Abu Dhabi Tel: (02) 5542234 - Dubai Tel: (04)3472201 - Jebel Ali Tel: (04) 8818451



Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمضربية والمطابقة



Test of Bituminous Protection Board

Client Name : **Riham for General Trading & Contracting Co.**
 Test For : **Amiri Diwan**
 Project Name : **Sheikh Abdullah Al Salem Cultural Centre**
 Contract No. : **N.A.**

Report No. : **061114065**
 Date : **16/06/2014**
 Page : **[1 / 1]**

Sample Description : **Bituminous Protection Board (Awazel Membrane Shield 60) Sample in Good Condition.**

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
Thickness:	mm	6.02	6.08	6.15	6.17	6.22	6.13	UEAtc M.O.A.T.30
Puncture Resistance:	N	620.00	690.00				655.00	ASTM E154



Dr. Ammar Ben-Nakhi
 CELTC Manager

Dr. Ammar Ben-Nakhi
 Manager
 Center of Engineering
 Laboratories For Testing & Calibrations



Test of Awazel Membrane Shield -MS40

Client Name : **Riham General Trading & Contracting Co.**
Test For : **Diwan Amiri**
Project Name : **Court Complex**
Contract No. : **N.A**

Report No: **063014170**
Date : **02/07/2014**
Page : **[1 / 3]**

Sample Description : **3 Awazel Membrane Shield 40 Samples in Good Condition.**

Sample 1:

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
- Thickness:	mm	4.27	4.32	4.63	4.44	4.34	4.40	UEAtc M.O.A.T.30
- Puncture Resistance:	N	640.0	580.0	-	-	-	610.0	ASTM E154





Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمخبرية والمعايرة

Test of Protection Board AWAZEL MEMBRANE

Client Name : شركة البحر وبرنويل للمواد الخصوصية
 Test For : المكتب العربي للإستشارات الهندسية
 Project Name : مشروع الأبنوز المرحلة الرابعة
 Contract No. : N.A

Report No. 021715142
 Date 04/03/2015
 Page [1 / 1]

Sample Description : Protection Board MS 40 Sample was Submitted by Client in Good Condition.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
- Thickness:	mm	4.21	3.92	4.12	4.10	3.84	4.04	UEAtc M.O.A.T. 30
-Density:	g/cc	1.210	1.220	1.190	1.250	1.240	1.222	
- Softening Point:	°C	108.00	107.00	-	-	-	107.50	ASTM D-36
-Puncture Resistance:	N	480.0	510.0	-	-	-	495.0	ASTM E-154

Dr. Abdulrahman Alsulaili
 CELTC Manager

د. عبدالرحمن السليبي
 مدير مركز الفحوصات الهندسية والمخبرية والمعايرة
 كلية الهندسة والبنية التحتية
 جامعة الكويت

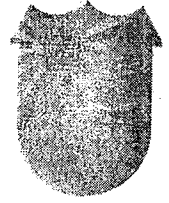


011033



Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمخبرية والمعايرة



Test on Protection Board

Awazel MS-60

Client Name : Alghanim International Gen. Trad. & Cont. Co. W.L.L
Test For : MOH / TROJB - SQC
Project Name : Kuwait Cancer Center
Contract No. : 28-2012/2011/17

Report No. : 031316077
Date : 21/03/2016
Page : [1 / 1]

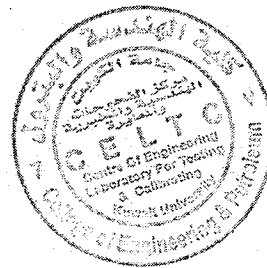
Sample Description : Protection Board (Awazel MS 60) Sample was Submitted by Client in Good Condition.
Manufacturer: Awazel, Saudi Arabia.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
- Thickness:	mm	6.01	6.11	6.03	6.05	6.19	6.08	UEAtc M.O.A.T.30
- Density:	g/cc	1.38	1.39	1.34	1.36	1.37	1.37	
- Unit Weight:	kg/m ²	7.23	7.80	-	-	-	7.52	
- Water Absorption:	%	0.48	0.46	0.44	-	-	0.46	ASTM D-570
- Asphalt Content:	%	97.89	97.96	-	-	-	97.93	ASTM D-4
- Softening Point :	°C	106.00	106.50	-	-	-	106.25	ASTM D-36
- Puncture Resistance:	N	422.59	431.13	-	-	-	426.86	ASTM E-154

Alwan

Dr. Ziad Abdelsalam
CELTC Manager

Dr. Ziad Abdelsalam
Manager
Center of Engineering Laboratory
for Testing & Calibrating
College of Engineering & Petroleum
Kuwait University



017395



Kuwait University will not be held liable for consequent action based upon the results so obtained in this report

www.celtc.eng.kuniv.edu - Tel.: (965) 2498 7357 - 2498 5975 - Fax: (965) 2481 8495 - P.O.Box: 5969 Safat 13060 Kuwait