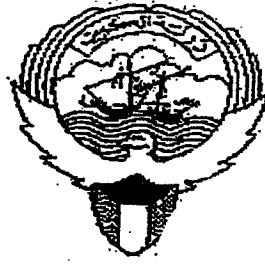


# Product Test Certificates

# Test Certificates

**2005**

Ministry of Public Works  
Center For Testing & Laboratories  
Roads Department  
Saddam - Kuwait  
47 - 4840381 (1330)  
Fax: 4841931



وزارة الأشغال العامة  
المركز الحكومي للفحوصات والمختبرات  
إدارة مختبرات الإنشاءات  
كيفان - الكويت  
تليفون : 4834847 - 4840381 (1330)  
فاكس : 4841931

## Test of Primer AWAZEL PRIMER

Application No : 3079/2005

Date : 4/5/2005

Applicant : MPW/ Construction Project Eng.

On : 20/4/2005

Contract : C.P.A / 81

Lab No : 141/2005

Specification as per ASTM D-41-94

Distillation as per Test Method D-402-76 (Reapproved 1994)

	ASTM Requirements	Results (%)
Distillation, volume % of the primer		
1-up to 225°C	Not less than 35	35
2-up to 360°C	Not more than 65	50

Solubility in Trichloroethylene as per test method D-2042-81  
( Reapproved 1993 )

% Soluble matter in Trichloroethylene :

ASTM Requirements	Results
Not less than 99%	99.96%

C- Water in Petroleum products and Bituminous material as per test method  
D 95-83 (Reapproved 1990).

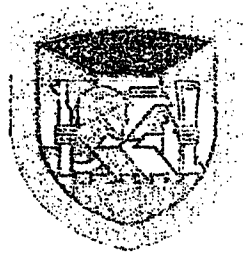
% water in the sample = Nil . %

REMARKS : 1- Results represent only the sample submitted for test

DIRECTOR, CONST LABS DEPARTMENT

# Test Certificates

**2007**



تقرير فحص  
Test Report

Serial Number	74210 PA 00004	رقم الإشارة
Date of Reporting	2007 / 04 / 29	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 الفليج وأحمد مشهور	جهة الإشراف
Description & Identification / Condition of Sample(s)	مادة عزل برايمر (Bitumen) المصدر: شركة صناعة العزل العربية المتحدة (عازل)	وصف / تمييز العينة/حالة العينة
Date of Test Request	2007 / 03 / 26	تاريخ الطلب
Request NO.	MOD - LABS - 1363 / A	رقم الطلب
Notes	-	ملاحظات

Total Number of Pages including this page (2) صفحات عدد صفحات التقرير بما فيها هذه الصفحة

Laboratory Controller

مراقب المختبرات

عماد محمد الشطي

وبه نستعين



دولة الكويت  
وزارة الدفاع  
هندسة المنشآت العسكرية

74210 PA 00004	الاشارة:
2007/04/29	تاريخ النتيجة:
-	رقم العقد:
شركة بيت البناء الكويتي	المتعهد:
2007/03/26	تاريخ الوارد:

## TEST OF BITUMEN-BASED COATINGS FOR COLD APPLICATION

BS 6949:1991 Amendment No. 1

CLASSIFICATION : Type 1 (without filler)

ID:MOD-LABS- 1363/A

TEST	RESULT	SPECIFICATION
FLASH POINT	56 °C	Class A & C : min, 32 °C Class B : min, 21 °C
OVER-COATING TIME	Not affected	Film shall show no cissing, crawling, sinking, lifting or wrinkling during application or after 24 hrs. drying time.
SURFACE FINISH	Not affected	Film shall be smooth, opaque and free from sags or runs or other surface imperfections.
RESISTANCE TO TAP WATER	Film shows Rating: 2(S2)	Film shall remain completely adherent to the substrate and any blistering shall not exceed rating 2 (S3). The surface of exposed metal revealed shall show no visible rust or pitting.
RESISTANCE TO ARTIFICIAL SEA WATER	Film shows Rating: 2(S2)	Film shall show no signs of breakdown and any blistering shall not exceed rating 2 (S3). The surface of exposed metal revealed shall show no visible rust or pitting.
BEND RESISTANCE	Not affected	Film shall show no signs of cracking or of becoming detached from the substrate.

REMARKS :-

مراقب المختبرات  
عماد بن يوسف الشطي

النتائج تمثل العينات المقدمة للفحص فقط

# Test Certificates

2011

27365

## Awazel Bituminous Primer

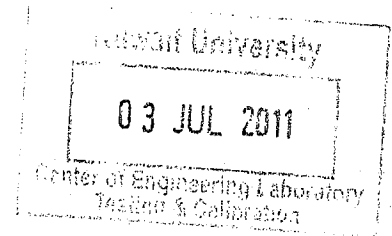
(As per ASTM D-41)

Test No. : T-69  
 Date : 23/6/2011  
 Page:3/3

(5) **Penetration**

Sample temperature = 25°C

Specimen No	Penetration (0.1mm)	Test Method
1	9.2	ASTM D-5
2	9	
3	8.8	
<b>Avg.</b>	<b>9.0</b>	



(6) **Solubility in Trichloroethylene**

Description	Specimen #1	Specimen #2	Test Method
Weight of sample (gm)	2.380	2.232	ASTM D -2042
Weight of filterpaper + crucible (Before filtration) (gm)	232.729	232.839	
Weight of filterpaper + crucible (After filtration) (gm)	232.734	232.849	
Solubility	99.79%	99.55%	
<b>Average Solubility</b>	<b>99.67%</b>		







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 - LBG / PACE  
From : Center of Engineering, Laboratory Testing & Calibrations  
College of Engineering & Petroleum  
Kuwait University

Ref. : 27364  
Report : CELTC 061611069  
Date : 3/07/2011  
Page : [1 / 2]

Dear Sir,

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

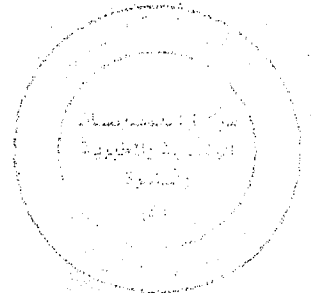
Report : CELTC 061611069  
Test : Awazel Bituminous Primer  
Standard : As Enclosed  
Client Name : Arab Contractor  
Tested For : MPW - LBG / PACE  
Project Name: Jahra Road  
Contract No. : RA/166  
No. of Pages : 2

Sample Delivered, State & Number:  
Awazel Pime - D 41 in Good Condition.

Information Provided by Supervision:  
Supplier: Khajah Co.

Best regards.

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



27364

**Awazel Bituminous Primer**
  
 (As per ASTM D-41)

Test No. : T-69
   
 Date : 23/6/2011
   
 Page:2/3

(A) Tests on original sample

- (1) Saybolt Furol Viscosity  
Sample temperature = 25 °C

Specimen No	SFS (sec)	Test Method
1	72.00	ASTM D-88
2	69.00	
Avg.	70.50	



(2) Distillation

Sample volume = 200 ml

Temperature (°C)	190	225	260	316	360	Test Method
Collected Volume (ml)	17	63	87	98	105	ASTM D-402
% Of total volume	8.5%	31.5%	43.5%	49.0%	52.5%	
% Of total distillate	16.2%	60.0%	82.9%	93.3%	100.0%	

Residue from Distillation @ 360°C =  $((200 - TD) / 200) * 100 =$

47.5% **Not Less than 35%**

Total Distillate =  $(TD/200) * 100 =$

52.5% **Not More than 65%**

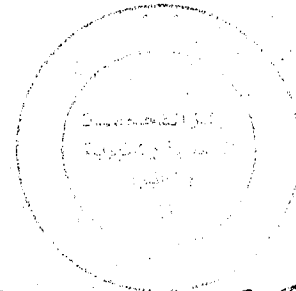
(3) Water Content

Sample weight	50.60	Test Method
Volume of water (ml)	0	ASTM
Water content	0.0%	D-95

(4) Solid Content

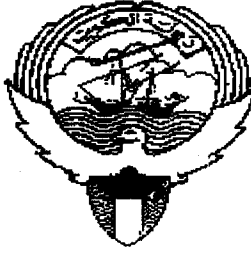
According to BS 3900 Part- B2

Description	Sample-1	Sample-2	Remarks
Wt. of dish+stirring rod (gm)	15.822	15.646	-
Wt. of dish+stirring rod+sample (gm) (before heating)	18.092	17.976	-
Wt. of dish+stirring rod+sample (gm) (after heating)	17.044	16.902	3 h heating @ 105°C
Wt. of wet sample (gm)	2.27	2.33	-
Wt. of dry sample (gm)	1.222	1.256	-
Percent of non-volatile matter (solid)	53.83%	53.91%	-
Average % of solids	53.87%		-



0
   
 R- on 04/07/2011
   
 تلفون : ٥٩٧٥ ٢٤٩٨ - ٥٢٨٨ ٢٤٩٨ (٩٦٥) - فاكس : ٢٤٨١ ٨٤٩٥ (٩٦٥) - ص.ب: ٥٩٦٩ الصفاة ١٣٠٦٠ الكويت
   
 Tel.: (965) 2498 5388 - 2498 5975 - Fax: (965) 2481 8495 - P.O.Box: 5969 Safat 13060 Kuwait

Ministry of Public Works  
Govt. Center For Testing & Laboratories  
Cons. Labs. Department  
Kaifan - Kuwait  
Tel: 4834847 - 4840381 (1330)  
Fax: 4841931



وزارة الأشغال العامة  
المركز الحكومي للفحوصات والمختبرات  
إدارة مختبرات الإنشاءات  
كايفان - الكويت  
تليفون : 4834847 - 4840381 (1330)  
فاكس : 4841931

## Test of Asphalt Primer

Application No : 3453/2011-B  
Applicant : MPW/Costruction Projects Eng..  
Contract : C.P.E/247

Date : 3/1/2012  
On : 22/12/2011  
Lab.No: 739/2011

Specification as per ASTM D-41-94

### A- Distillation as per Test Method D-402-76 (Reapproved 1994)

Distillation, volume % of the primer	ASTM Requirements	Results (%)
1-up to 225°C	Not less than 35	42
2-up to 360°C	Not more than 65	50

### B- Solubility in Trichloroethylene as per test method D-2042-81 (Reproved 1993).

% Soluble matter in Trichloroethylene :

ASTM Requirements	Results
Not less than 99%	99.99%

### C- Water in Petroleum products and Bituminous material as per test method D 95-83 (Reproved 1990).

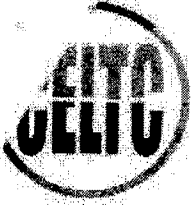
% water in the sample = Nil .

REMARKS : 1- Results represent only the sample submitted for test

  
م. مسعود عبدالمعز الجاهم  
مدير إدارة مختبرات الإنشاءات  
DIRECTOR, CONST LABS. DEPARTMENT

# Test Certificates

**2012**



# Center of Engineering Laboratories for Testing & Calibration

## مركز الفحوصات الهندسية والمخبرية والمعايرة



### Test of Awazel Bituminous Primer

Client Name : شركة ذاكونتر اكتور للمقاولات  
Test For : وزارة الأشغال العامة  
Project Name : العارضية  
Contract No. : 251 / ا م

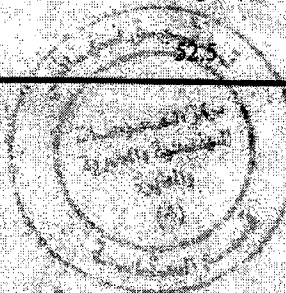
Report No. : 031212048  
Date : 28/03/2012  
Page : [ 1 / 1 ]

Sample Description : Awazel Bituminous Primer - D41 Sample in Good Condition.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
Saybolt viscosity @ 25 °C	sec	53.1	55.4	-	-	-	54.27	ASTM D88
Water content	%	0.000	0.000	-	-	-	0.0	ASTM D95
Distillation Residue from distillation @ 225 °C	%	55					55	ASTM D402
@ 360 °C		47.5					47.5	
Total distillate: @ 225 °C	%	45					45	
@ 360 °C		52.5					52.5	

AbdulAzim H. Falah, Ph.D.  
Center of Engineering Laboratories for Testing & Calibration

Dr. Abdulazim H. Falah  
CELTC Manager



# Test Certificates

**2013**



### Test of Bituminous Primer (ASTMD-41)

Client Name : شركة التقنية الدولية  
Test For : وزارة الاشغال  
Project Name : انشاء وانجاز وصيانة مبنى مديرية امن محافظة الفروانية  
Contract No. : ه.م.أ / 261

Report No. : 120313034  
Date : 15/08/2013  
Page : [ 1 / 1 ]

Sample Description : Bituminous Primer Sample in Good Condition.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
-Saybolt viscosity@25°C	sec	49.50	51.75	-	-	-	50.63	ASTM D-88
-Water content:	%	0.00	0.00	-	-	-	0.00	ASTM D-95

Dr. Ammar Ben-Nakhi  
CELTC Manager

Dr. Ammar E. Ben-Nakhi

Center of Engineering  
Laboratories For Testing & Calibrations



005059



# Test Certificates

**2014**





# Center of Engineering Laboratories For Testing & Calibration

مركز الفحوصات الهندسية والمخبرية والمعايرة

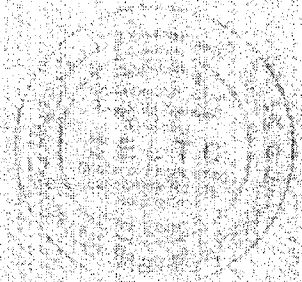
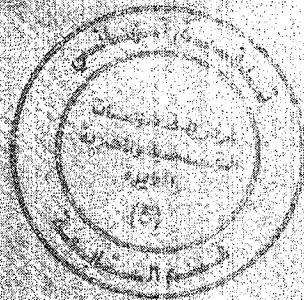


## Test of Awazel Bituminous Primer D-41

Client Name : KUWAIT ARAB CONTRACTORS / KHAJA CO Report No. : 012914172  
Test For : M.E.W Date : 12/02/2014  
Project Name : 4 X 1600 mm D. 1 Pipe Page : [ 1 / 1 ]  
Contract No. : MEW-4494-2012/2013

Sample Description : Awazel Bituminous Primer D-41 Sample in Good Condition.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
Distillation								
Total Distillate								
@225°C	%	29	-	-	-	-	29	ASTM D-402
@360°C		52.5	-	-	-	-	52.5	
Asphalt Residue								
@360°C		47.5	-	-	-	-	47.5	
Saybolt viscosity @25°C	sec	26.29	26.33	-	-	-	26.31	ASTM D-88



Dr. Ammar Ben-Nakhi  
CELTC Manager

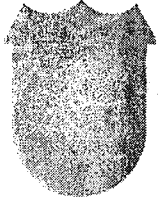
Dr. Ammar Ben-Nakhi

005948



# Center of Engineering Laboratories For Testing & Calibration

## مركز الفحوصات الهندسية والمخبرية والمعايرة



### Test of Awazel Primer ASTM D-41

Client Name : Alghanim International Gen. Trad. & Cont. Co. W.L.L. Report No. : 031316075  
 Test For : MOH / TROJB - SQC Date : 21/03/2016  
 Project Name : Kuwait Cancer Center Page : [ 1 / 1 ]  
 Contract No. : 28-2012/2011/17

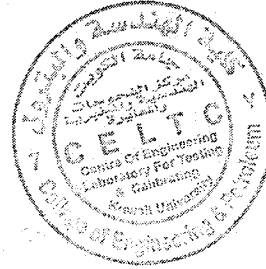
Sample Description : Awazel Primer - D-41 Sample was Submitted by Client in Good Condition.  
 Manufacturer: Awazel, Saudi Arabia.

Test Name	Units	Results					Average	Standard
		1	2	3	4	5		
-Distillation:								
Asphalt Residue@225°C:	%	64.5	-	-	-	-	64.5	ASTM D-402
Asphalt Residue@360°C:		48.5	-	-	-	-	48.5	
Total distillate @225°C:		35.5	-	-	-	-	35.5	
Total distillate @360°C:		51.5	-	-	-	-	51.5	
-Solubility:	%	99.56	99.79	-	-	-	99.68	ASTM D-2042
-Specific Gravity @25°C	-	0.886	0.897	-	-	-	0.89	ASTM D-1475
-Water content:	%	0.00	-	-	-	-	0.00	ASTM D-95

*Awazel*

Dr. Ziad Abdelsalam  
CELTC Manager

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



017396



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