

REPORT OF TESTS

Description	Sample of waterproofing material AQUAFIN - 2K/M		
Tested for	Schomburg GmbH & Co. KG, Aquafinstrasse 2-8, D-32760 Detmold, Germany		
Lab Ref. No.	WR07-35861 B (Page 1 of 1)	Request No.	WQ07-06541
Date Received	19.04.2007	Date Reported	18.07.2007

Client's reference : Requisition dated 19.04.2007

1.0 **Introduction**

Further to the test work instructions received from M/s. Schomburg GmbH & Co., KG, dated 19.04.2007, one sample of waterproofing material provided has been tested for the following by Al Futtaim Bodycote Testing LLC;

2.0 **Sample Reference**

Sample reference	Waterproofing material AQUAFIN-2K/M Mixing Ratio – Part A: 2.5 g / Part B=1g + 1% Water Application rate = 1.25 – 1.5 kg per layer =1mm Total dry layer thickness = 2mm (2 Layer)
Origin	Federal Republic of Germany
AFBT Sample No.	W07-006541/1

3.0 **Crack Bridging Capacity**

Test Method : In general accordance with ASTM C 836: 95

The concrete test block assembly was coated with supplied sample and air cured @ 23±2°C for 28 days. After curing, the assembly was fixed on an extension and compression machine by means of suitable clamps. The blocks were pulled apart at a rate of 3.2mm/hr until the space between is 2.59mm. Then the open space was closed at the same rate. After this movement, the test assembly was examined for any kind of cracks, loss of adhesion or any other type of failure

Test		Observation
Crack Bridging Capacity	@ 2.59 mm	No sign of cracks, loss of adhesion or any other type of failure was observed after completion of the up and down movement.

For and on behalf of Al Futtaim Bodycote Testing (L.L.C.)

Tested by: PK/LV Date tested: 27.05.2007-28.06.2007

Sampled by the client, certificate of sampling was not given.

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#### 1.0 Introduction

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AFBT Sample No.	W07-006541/1

#### 3.0 Tensile Strength & Elongation

Test Method: Test specimens were prepared with supplied material and cured at a temperature of  $23 \pm 2^{\circ}$  C. After curing, the test was carried out in accordance with ASTM D 412-98a.

Test Ref. *	Area (mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)
1	7.32	4.1	85
2	7.44	4.0	143
3	7.05	4.5	116
<b>Average</b>		<b>4.2</b>	<b>115</b>

For and on behalf of Al Futtaim Bodycote Testing (L.L.C)

Date tested: 27.05.2007-24.06.2007

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\* Test was subcontracted to BMTS group laboratory.

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Lab Ref. No.	WR07-35861 D (Page 1 of 1)	Request No.	WQ07-06541
Date Received	19.04.2007	Date Reported	20.12.2007

Client's reference : Requisition dated 19.04.2007

#### 1.0 Introduction

Further to the test work instructions received from M/s. Schomburg GmbH & Co., KG, dated 19.04.2007, one sample of waterproofing material provided has been tested for the following by Al Futtaim Bodycote Testing LLC;

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Origin	Federal Republic of Germany
AFBT Sample No.	W07-006541/1

#### 3.0 Water Permeability

Test Method : Test was carried out in general accordance with BS EN 12390 Part 8 : 2000.

The test specimen was prepared by applying the supplied sample on the surface of a 40N concrete substrate and air cured for 28days @ 23±2° C. After the curing, the test specimen was subjected to water penetration test at 5 Bar pressure as per the standard requirement, applied to the face with the paint, As per BS EN 12390 Part 8 : 2000, one uncoated concrete specimen of the same batch was also tested for comparison.

#### Comparison of tests result (Control Specimen & Test Specimen)

Test	Maximum depth of water penetration (mm)	
	Control Specimen (Uncoated)	Test Specimen (Coated with sample)
Depth of water penetration (@ 5 Bar Pressure)	10	Nil

For and on behalf of Al Futtaim Bodycote Testing (L.L.C.)

Tested by: AVS/SMM Date tested: 09.11.2007-12.11.2007

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Date Received	19.04.2007	Date Reported	18.07.2007

Client's reference : Requisition dated 19.04.2007

1.0 **Introduction**

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AFBT Sample No.	W07-006541/1

3.0 **Abrasion Resistance**

Machine used : Teledyne Taber 5150 Abraser  
Abrasive wheels : CS-17  
Total weight used : 1000 gms  
No of cycles : 1000  
Test condition : 23±2°C & 50±5% Relative Humidity  
Test method : ASTM D 4060 :01

Test specimen* No.	Weight Loss after 1000 cycles (mg)	Average Weight Loss after 1000 cycles (mg)	Standard Deviation
1	106	109	4
2	112		

For and on behalf of Al Futtaim Bodycote Testing (L.L.C)

Date tested: 27.05.2007-12.07.2007

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Client's reference : Requisition dated 19.04.2007

**1.0 Introduction**

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Origin	Federal Republic of Germany
AFBT Sample No.	W07-006541/1

**3.0 Shore 'A' Hardness**

Test Method: ASTM D 2240 : 05

Test	Results	Average
Shore 'A' Hardness	85, 82, 80, 82, 84	A/83/1

  
For and on behalf of Al Futtaim Bodycote Testing (L.L.C)  
Tested by: PK/LV Date tested: 27.05.2007-28.06.2007  
Sampled by the client, certificate of sampling was not given.

  
باديكوت تيسينغ (ل.ل.ك.)  
TESTING (L.L.C.)  
P.O. Box: 34924 - DUBAI - U.A.E.

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Lab Ref. No.	WR07-35861 F (Page 1 of 1)	Request No.	WQ07-06541
Date Received	19.04.2007	Date Reported	18.07.2007

Client's reference : Requisition dated 19.04.2007

1.0 **Introduction**

Further to the test work instructions received from M/s. Schomburg GmbH & Co., KG, dated 19.04.2007, one sample of waterproofing material provided has been tested for the following by Al Futtaim Bodycote Testing LLC;

2.0 **Sample Reference**

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Origin	Federal Republic of Germany
AFBT Sample No.	W07-006541/1

3.0 **Initial Surface Absorption**

Test Method : The test was conducted in general accordance with BS 1881 Part 208:96

The test specimen was prepared by applying the supplied sample on the surface of a 40N concrete substrate and air cured for 28days @ 23 ± 2° C. After the curing, the test specimen was subjected to initial surface absorption test and one uncoated concrete specimen of the same batch was also tested for comparison.

Comparison of tests result (Control Specimen & Test Specimen)

Test Reference		Control Specimen (Uncoated)			Test Specimen (Coated with System)		
		10 min	30 min	1 hour	10 min	30 min	1 hour
Initial Surface Absorption (ml/m <sup>2</sup> . s)	As Obtained	0.24	0.12	0.08	Nil	*	*
	Corrected to equivalent 20°C Values	0.24	0.12	0.08	Nil	*	*

Remarks: \* Concrete too impermeable to be sensitive to a longer term test.

For and on behalf of Al Futtaim Bodycote Testing (L.L.C)

Tested by: PK/AVS Date tested: 27.05.2007-27.06.2007

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Date Received	19.04.2007	Date Reported	18.07.2007

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### 1.0 Introduction

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### 2.0 Sample Reference

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Origin	Federal Republic of Germany
AFBT Sample No.	W07-006541/1

### 3.0 Rapid Chloride Permeability

Test Method : The test was conducted in general accordance with ASTM C 1202. 97

The test specimen was prepared by applying the supplied sample on the surface of a 40N concrete substrate and air cured for 28days @ 23 ± 2° C. After the curing, the test specimen was subjected to chloride penetration test and one uncoated concrete specimen of the same batch was also tested for comparison.

#### Comparison of tests result (Control Specimen & Test Specimen)

Test	Chloride Penetration (Coulombs)	
	Control Specimen (Uncoated)	Test Specimen (Coated with sample)
Rapid Chloride Permeability	3750	509
Percentage Reduction	86 %	

For and on behalf of Al Futtaim Bodycote Testing (L.L.C.)

Tested by: PK/AMM Date tested: 27.05.2007-26.06.2007

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Tested for	Schomburg GmbH & Co. KG, Aquafinstrasse 2-8, D-32760 Detmold, Germany		
Lab Ref. No.	WR07-35861 G (Page 1 of 1)	Request No.	WQ07-06541
Date Received	19.04.2007	Date Reported	25.09.2007

Client's reference : Requisition dated 19.04.2007

**1.0 Introduction**

Further to the test work instructions received from M/s. Schomburg GmbH & Co., KG, dated 19.04.2007, one sample of waterproofing material provided has been tested for the following by Al Futtaim Bodycote Testing LLC;

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AFBT Sample No.	W07-006541/1

**3.0 Chemical Resistance**

Test Method : Test was carried in general accordance with ASTM D 543 : 87

Test Solution : Solutions were prepared from analytical grade chemicals

Test Duration : Test solutions were applied on the surface for 48 hours (spot test)

Test Reference	Visual Observation
Sewage Water	Slight discolouration was observed
Sea Water	No change was observed
Marsh Water	No change was observed
Hydraulic Oil	No change was observed
Diesel	No change was observed
Alkali Solution (pH 11.5)	Slight discolouration was observed
Acid Solution (pH 2.5)	Slight discolouration was observed
Solvent (90% Acetone)	Slight discolouration was observed

For and on behalf of Al Futtaim Bodycote Testing (L.L.C)

Tested by: SG Date tested: 27.05.2007-19.09.2007

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## REPORT OF TESTS

Description	Sample of waterproofing material AQUAFIN-2K/M		
Tested for	Schomburg GmbH & Co. KG, Aquafinstrasse 2-8, D-32760 Detmold, Germany		
Lab Ref. No.	WR08-10759 (Page 1 of 1)	Request No.	WQ08-02693
Date Received	10.02.2008	Date Reported	13.03.2008

Client's reference : Requisition dated 10.02.2008

### 1.0 Introduction

Further to the test work instructions received from M/s. Schomburg GmbH & Co., KG, dated 10.02.2008, one prepared sample of waterproofing material provided has been tested for the following by Al Futtaim Bodycote Testing LLC;

### 2.0 Sample Reference

Sample reference	Waterproofing material AQUAFIN-2K/M Mixing Ratio – Part A: 2.5 g / Part B=1g + 1% Water Application rate = 1.25 – 1.5 kg per layer =1mm Total dry layer thickness = 2mm (2 Layer)
Origin	Federal Republic of Germany
Sample preparation	Schomburg GmbH & Co. KG
AFBT Sample No.	W08-002693/3

### 3.0 Adhesion Strength

Test Method : The test was carried out in general accordance with ASTM D 4541 : 2002 using a portable adhesion tester.

The test procedure involved fixing a circular dolly over the test area using a single component adhesive. A partial depth circumferential cut was made over the test area.

After the adhesive had cured sufficiently the test was performed using the portable adhesion tester until failure occurred.

Test Ref. No.	1	2	3
Test position	Vertical	Vertical	Vertical
Pull off strength (N/mm <sup>2</sup> )	1.0	1.0	1.0
Failure mode	Failure occurred within the system		

For and on behalf of Al Futtaim Bodycote Testing (L.L.C)

Tested by: PK Date tested: 14.02.2008

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