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WIMPEY LABORATORIES L.L.C.

IAS ACCREDITED Testing Laboratory TL-564

TEST REPORT ON ABRASION RESISTANCE

*Information Provided to the Laboratory			
Customer Name	Berger Paints Emirates LTD Co LLC P.O Box: 27524 Dubai, UAE	Sample Description	Select Tartaruga Roughcast
Contractor	N.G	Sample Source	Berger Paints Emirates Co LLC
Consultant	N.G	Sample Identification	N.G
Client	N.G	Location (Structure Ref)	N.G
Project	N.G	Sampling Date/Time	N.G

Laboratory Information			
Test Method	ASTM D4060-19	Lab Report No.	WD-R-241115-0683/1
Test Method Variation	None	Sample No.	WD-S-241115-0157
Wheel Reference	CS-17	Request No.	WD-Q-241115-0039
Mass Applied on each wheel	1000 g	Date Received	15/11/2024
Vacuum Opening Diameter	8 mm	Date Test completed	27/11/2024
No. of Revolution	1000	Date Reported	29/11/2024
Vacuum Nozzle Height	6.2 mm	Test Temperature	23°C
Vacuum Suction Force	100 %	Relative Humidity	50 %
Sample Brought in by	N.G	Conditioning Procedure	23°C & 50% RH
Tested By	VIN	Wimpey Ref. No.	SH-037282

Test Results

Specimen No.	Unit	Result
1	mg	320
2		340
	Average	330

Legends: ***N.G*** *– Information Not Given*

Remarks: None.

Method Deviation: None

Signed for and on behalf of Wimpey Laboratories L.L.C.

S.Sarath Kumar
Head of Department

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*The information provided by the customer can affect the validity of result.
When the sample has been provided by the Customer, the results apply to the sample as received.

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TEST REPORT ON CRACK BRIDGING ABILITY

Client	Berger Paints Emirates LTD Co LLC P.O Box: 27524 Dubai, UAE		
Sample Description	Select Tartaruga Roughcast	Lab Report No.	WD-R-241115-0683/2
Sample Identification	N.G	Lab Request No.	WD-S-241115-0157
Source	N.G	Sample No.	WD-Q-241115-0039
Test Specification	EN 1062-1:2004	Wimpey Ref No.	SH-037282
Test Method	EN 1062-7:2004	Date Received	15/11/2024
Nature of Substrate	Concrete	Casting Date	N.A
Substrate Dimension(mm)	50 W x 75 L	Date Tested	27/11/2024
Test Condition	Temperature: 23°C Relative Humidity: 50%	Date Reported	29/11/2024
Tested By	VIN		

Test Results

Test	Crack Width (mm)	Observation
Crack Bridging Ability	2.5	No sign of cracks, loss of adhesion or any other type of failure was observed after completion of the up and down movement.

Remarks: None.

Signed for and on behalf of Wimpey Laboratories L.L.C

S.Sarath Kumar
Head of Department

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TEST REPORT ON WATER VAPOUR TRANSMISSION

Client	Berger Paints Emirates LTD Co LLC P.O Box: 27524 Dubai, UAE		
Sample Description	Select Tartaruga Roughcast	Lab Report No.	WD-R-241115-0683/3
Source	N.G	Request No.	WD-S-241115-0157
Test Method	ISO 7783:2018	Sample No.	WD-Q-241115-0039
Temperature in Test Chamber	23°C	Wimpey Ref No	SH-037282
Relative Humidity in Test Chamber	50%	Date Received	15/11/2024
Test Area	33.18 cm^2	Date Tested	10/12/2024
Total Cycles	Continuous mode up to constant	Date Reported	16/12/2024
Average Specimen Thickness	400 microns	Room Temperature	23°C
Age at Test	7 days	Room Relative Humidity	50%
Tested By	VIN		

Test Results

Test	Unit	Specimen 1	Specimen 2	Specimen 3	Average
Water Vapor Transmission (WVT)	g/m^2/24hours	119.35	118.64	118.38	118.79
Water Vapour Diff. Resistance Coeff (μ value)	-	427.25	429.75	430.75	429.25
Equivalent Air layer thickness (sd value)	m	0.1709	0.1719	0.1723	0.1717
Actual Dry Film Thickness	Microns	400	400	400	400

Standard specification as per BS EN 1062-1:2004		
Class	Water Vapour Transmission Rate V, (g/m^2/24 hours)	Equivalent Air Layer thickness in meter, Sd Value (m)
V_1 (High)	>150	<0.14
V_2 (Medium)	150 to 15	0.14 to 1.4
V_3 (Low)	<15	>1.4

Remarks: None.

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S.Sarath Kumar
Head of Department

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TEST REPORT ON IN WATER ABSORPTION

Customer Name	Berger Paints Emirates LTD Co LLC P.O Box: 27524 Dubai, UAE		
Sample Description	Select Tartaruga Roughcast	Lab Report No.	WD-R-241115-0683/4
Source	N.G	Request No.	WD-S-241115-0157
Test Method	ASTM C642-21	Sample No.	WD-Q-241115-0039
Conditioning Procedure	7 days @ 23°C & 50%	Date Received	15/11/2024
Immersion Procedure	Water Immersion at 23°C	Date Tested	03/12/2024 – 05/12/2024
Duration of Immersion	48 hours	Date Reported	07/12/2024
Wimpey Ref No.	SH-037282	Tested By	VIN

Test Results

Test	Sample Number	Test Method	Water absorption (Control Sample) (%)	Water absorption (Test Sample) (%)
Reduction in Water absorption	1	ASTM C642-21	1.68	0.031
	2		1.84	0.025
	3		1.72	0.029
Average			**1.75**	**0.028**
Reduction in Water absorption (%)			**98.4**	

Remarks: None.

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S.Sarath Kumar
Head of Department

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TEST REPORT ON PERMEABILITY TO WATER

Client	Berger Paints Emirates LTD Co LLC P.O Box: 27524 Dubai, UAE		
Sample Description	Select Tartaruga Roughcast	Lab Report No.	WD-R-241115-0683/5
Source	N.G	Sample No.	WD-S-241115-0157
Test Method	BS EN 1062-3:2008	Request No.	WD-Q-241115-0039
Room Condition	23°C & 50% R.H	Date Received	15/11/2024
Sample Brought in by	Wimpey Lab	Date Tested	05/12/2024
Wimpey Ref No.	SH-037282	Date Reported	09/12/2024
Tested By	VIN		

Permeability To Water

Sample Reference	Unit	Result
WD-S-241115-0157	$Kg/m^2\text{-}h^{0.5}$	0.0572

Remarks: None.

Signed for and on behalf of Wimpey Laboratories L.L.C

S.Sarath Kumar
Head of Department

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TEST REPORT

Berger Paints Emirates LTD CO (L.L.C.)
Dubai, UAE

Report No.: WD-R-241115-0156
Sample No.: WD-S-241115-0156
Date reported: 20/Jan/2025

Sample Description : Select Tartaruga Roughcast
Sample Received : 15/11/2024
Test Date : 15/11/2024 – 19/01/2025
Test Conducted By : AH

1.0 Introduction

Further to the requisition received from Berger Paints Emirates 15th November 2024, the sample of Select Tartaruga Roughcast was tested for Resistance to growth of Mold.

2.0 Test method reference

ASTM D 3273-21; Standard Test Method Resistance to Growth of Mold on the Surface of Coatings in an Environment Chamber.

3.0 Methodology

The test method describes a small environmental chamber and the operational conditions to evaluate the relative resistance of the sample material to surface mold fungi for a period of 4 weeks.
The prepared sample and the controls of the same substrate were exposed for a period of 4-weeks to sporulated mold, within the environmental chamber at specified temperature and relative humidity condition.
Observations were made on a weekly basis over a period of 4 weeks.
The result was reported by rating the panels for mold growth for a period of 4-weeks. Surface defacement was estimated on "0 to 10" rating scale, in such a way that the value of "10" is taken as no defacement and a value of "0" is completely defaced.

Observed Mold growth on test specimens	Rating
0 defacement	10
1 to 10% defacement	9
11 to 20% defacement	8
21 to 30% defacement	7
31 to 40% defacement	6
41 to 50% defacement	5
51 to 60% defacement	4
61 to 70% defacement	3
71 to 80% defacement	2
81 to 90% defacement	1
91 to 100% defacement	0

Report No.: **WD-R-241115-0156**

Remarks:

1. *Aspergillus niger, Aureobasidium pullulans and Penicillum species are used as mold representatives*
2. The facing of the sample is only assessed for fungal growth under the controlled environmental conditions.
3. Growth was observed around the surface of the control sample.

4.0 Test Results

	Test Duration	Observation/Result	Rating
Select Tartaruga Roughcast	Week # 1	0 defacement	10
	Week # 2	0 defacement	10
	Week # 3	0 defacement	10
	Week # 4	0 defacement	10
	Final Rating as per ASTM	**10**	

5.0 Conclusion

The final rating scale of 10, as per ASTM D3273-21, indicates that the Select Tartaruga Roughcast sample submitted by Berger Paints Emirates showed 0% defacement.

Signed for and on behalf of Wimpey Laboratories

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Parvathy Suresh
Laboratory Manager - Microbiology

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TEST CERTIFICATE

BERGER PAINTS EMIRATES LTD CO (L.L.C.)

Report No: WD-R-241115-0157(B) Rev01
Sample No: WD-S-241115-0157
Date of Report: 17/01/2025

Introduction: As per the request received from **M/s. BERGER PAINTS EMIRATES LTD CO (L.L.C.)** on 15th November 2024, the sample of Select Tartaruga Roughcast was tested for Chloride ion diffusion and the results are as follows.

Sample Type : Select Tartaruga Roughcast
Sample Request No. : WD-Q-241115-0039
Sample Received Date : 15/11/2024
Date of Test : 15/11/2024-16/12/2024
Tested By : NG

General Information
Name of the Product : Select Tartaruga Roughcast

Result of Analysis

Test	Method	Unit	Result
Chloride ion diffusion at 35-38 days	ASTM C 1556	Cm^2/S	Nil*

Note*: No Chloride ion diffusion observed after 35-38 days
Remarks: None

Signed for and on behalf of Wimpey Laboratories

Anandu VS
Section Incharge Chemistry-Specialty

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Form # WLRF 90 Issue No.1 Issued on : 29/05/2019

Test Report

Customer Details

Report No. WD-R-241115-0158

BERGER PAINTS EMIRATES LTD CO (L.L.C.)
P.O Box No: 27524 Al Qouz, Dubai, UAE CAF24 - 133

Request No. : WD-Q-241115-0039 Received Date : 15/11/2024 Sample No. : WD-S-241115-0158

Sampling Date	: 15/11/2024	Report Date.	: 17/12/2024
Analysis Start Date.	: 15/11/2024	Analysis End Date.	: 17/12/2024
Sample Location.	: Berger Paints Emirates LLC. Al Quoz - Dubai, UAE.	Sampled By	: Bentharage
Sample Description	: Select Tartaruga Roughcast	Sample Identification	: Select Tartaruga Roughcast
Source	: Berger Paints Emirates LLC. Al Quoz - Dubai, UAE.	Samplerrefno	: C1
Sampling Time	: 10:15 AM		

Parameters	Test Methods	Units	Results
VOC(#)	USEPA 24	g/L	<1*

Note : *LOD of the test method is 1 g/L. <1 is considered as 'Nil or Absent'

Remarks :None

Analyst	Reviewed By	Method Variation
NG	AY	None

Signed for and on behalf of Wimpey Laboratories

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Anandu VS
Section In-charge – Chemistry (Specialty)

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TEST CERTIFICATE

BERGER PAINTS EMIRATES LTD CO (L.L.C.)

Report No: WD-R-241115-0157(A) Rev01
Sample No: WD-S-241115-0157
Date of Report: 17/01/2025

Introduction: As per the request received from **M/s. BERGER PAINTS EMIRATES LTD CO (L.L.C.)** on 15th November 2024, the sample of paint was tested for Carbon Dioxide Permeability as per BS EN 1062-6:2002 Method A.

Sample Type	: Paint
Sample Request No.	: WD-Q-241115-0039
Sample Received Date	: 15/11/2024
Date of Test	: 15/11/2024 -23/12/2024
Tested By	: NG

General Information

Name of the Product : Select Tartaruga Roughcast

Carbon Dioxide Permeability

The determination of the carbon dioxide permeability was carried out in accordance with BS EN 1062-6:2002 Method A "Paints and varnishes – Coating materials and coating systems for exterior masonry and concrete – Part 6: Determination of Carbon dioxide permeability" via Gravimetric method (Method A).

The coating system was rolled upon unglazed tile of area 100cm^2, which is exposed to the measuring gas, and the diffused carbon dioxide is determined quantitatively. Three test specimens were prepared for determination. Store the test specimens in the standard atmosphere as defined in BS EN 23270 (23±2°C and 50±5%) was placed in a separate conditioning container for 7 days. Afterwards, condition the test specimen at a temperature of 70°C for 7 days and kept at standard atmosphere for 24 hrs. The test specimen seals with a test cell containing an absorbent for carbon dioxide so that the cell is gas-tight to the surroundings. The test cell is kept in a dry carbon dioxide atmosphere at 23±2°C and weighed at regular intervals. The carbon dioxide permeability was calculated from the increase of mass. The determination was completed when a steady state is reached.

For control purposes, a standard reference film of known diffusion resistance number was measured in each series of determinations. The test specimens have been tested until the mass increase of the test cell remains constant during two subsequent intervals.

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Report No: WD-R-241115-0157(A) Rev01

Test Results

Test	Method	Unit	Result
Specimen thickness	BS EN 1062-6:2002 Method A	µm	1500
Average carbon dioxide permeability		g/m^2d	0.02
Diffusion equivalent air layer thickness in meters (S_D) (R value)		m	12400
Diffusion resistance number (µ)		-	$8.2x10^6$
Carbon dioxide diffusion coefficient of the coating (D_{CO2})		cm^2s^{-1}	$1.81x10^{-8}$
Diffusion equivalent thickness of concrete (SC)		m	31
Classification of coating material and coating systems for exterior masonry and concrete	DIN EN 1062-1:2004-08	_	C1

Remarks: Carbon dioxide diffusion resistance: Class 1 (Classification in accordance with BS EN 1062-1:2004 & BS EN 1062-6:2002) and Klopfer criterion for effective anti-carbonation coating is SD greater than 50 meters).

Signed for and on behalf of Wimpey Laboratories LLC

Anandu VS
Section Incharge Chemistry-Specialty
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