

**TEST REPORT ON VOC**

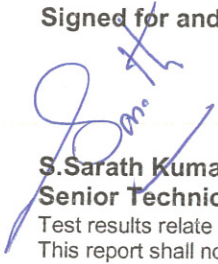
Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/18
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WLRP21-0069/7
Test Method	USEPA 24	Date Received	07/01/2021
Client's Reference	N.G	Date Test completed	16/01/2021
Test Temperature	23°C	Date Reported	17/01/2021
Relative Humidity	50%	Tested By	SU

Test Result

Test	Unit	Result
VOC	g/L	6.12

Remarks: None.

Signed for and on behalf of Wimpey Laboratories


S. Sarath Kumar
Senior Technician

Test results relate only to the samples tested

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**TEST REPORT ON HEAVY METALS**

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/18
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WLRP21-0069/7
Test Method	ICP-AES/IHP	Date Received	07/01/2021
Client's Reference	N.G	Date Test completed	16/01/2021
Test Temperature	23°C	Date Reported	17/01/2021
Relative Humidity	50%	Tested By	SU

Test Result

Test	Unit	Result
Lead (Pb)	ppm	<0.05
Cadmium (Cd)	ppm	<0.01
Mercury (Hg)	ppm	<0.1
Chromium (Cr)	ppm	<0.01
Antimony (Sb)	ppm	<0.1
Arsenic (As)	ppm	<0.1

Remarks: None.

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Senior Technician

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TEST REPORT ON CRACK BRIDGING ABILITY

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Project Name	N.G	Lab Report No.	WLRP21-0069/1
Sample Description	Weathercoat Flex Tex Medium	Sample No.	WSP21-0069/1
Source	Berger Paints Emirates LTD CO LLC	Date Received	07/01/2021
Test Method	ASTM C836/C836M-18	Casting Date	12/01/2021
Nature of Substrate	Concrete	Date Tested	02/02/2021
Substrate Dimension(mm)	50.8 x 25.4 x 25.4	Date Reported	08/03/2021
Sampling Conditioning	14 Days at room temperature followed by 7 days at 70°C	No. of coat & Method of application	2 Coat, Brush
Test Condition	Temperature: 23°C Relative Humidity: 50%	Tested By	SU

Test Results

Test	Crack width (mm)	Observation
Crack Bridging Ability	2.3	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

S. Sarath Kumar
Senior Technician

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TEST REPORT ON WATER VAPOUR TRANSMISSION

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/2
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WSP21-0069/1
Test Method	ISO 7783:2018	Date Received	07/01/2021
Temperature in Test Chamber	23°C	Date Tested	19/02/2021
Relative Humidity in Test Chamber	50%	Date Reported	08/03/2021
Test Area	33.18cm ²	Room Temperature	23°C
Total Cycles	Continues upto stable	Room Relative Humidity	50%
Method of Application	By Brush	Sample Brought in by	Wimpey Lab
Specimen Thickness	300 microns	Tested By	SU

Test Results

Test	Unit	Specimen 1	Specimen 2	Specimen 3	Average
Water Vapor Transmission	g/m ² /24hours	9.67	10.15	10.30	10.04
Equivalent Air layer thickness (s _d value)	m	2.11	2.01	1.98	2.03
Class as per DIN EN 1504-2	Class 1 (permeable to water vapour)				

Standard specification as per DIN EN 1052-2	
Class I (permeable to water vapour)	S _D < 5m
Class II	5 m ≤ S _D ≤ 50 m
Class III (Not permeable to water vapour)	S _D > 50m

Remarks: None

Signed for and on behalf of Wimpey Laboratories

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Senior Technician

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**TEST REPORT ON WATER ABSORPTION**

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/3
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WSP21-0069/1
Client's Ref.	N.G	Date Received	07/01/2021
Test Method	ASTM D570-18	Date Tested	19/01/2021
Conditioning Procedure	24 hours at 23°C	Date Reported	08/03/2021
Immersion Procedure	Water Immersion at 23°C	Dimension of Specimen	50x50 mm
Time of Immersion	24 hours	Tested By	SU

Test Results

Specimen Number	Unit	Water Absorption
1	%	4.75
2		5.09
3		4.83
Average		4.89
Visual Observation: No Surface damages observed		

Remarks: None.**Signed for and on behalf of Wimpey Laboratories****S. Sarath Kumar
Senior Technician**

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TEST REPORT ON IMPACT RESISTANCE

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/4
Sample Size	150 x 75 mm	Sample No.	WSP21-0069/1
Source	Berger Paints Emirates LTD CO LLC	Date Received	07/01/2021
Test Specification	BS EN ISO 1504-2:2004	Curing Time	7 days
Test Method	EN ISO 6272-1 : 2011	Date Tested	19/01/2021
Mass of Falling Weight	1 kg	Date Reported	08/03/2021
Height of test	1 m	Test Temperature	23°C
Method of Application	By Brush / Roller	Relative Humidity	50%
Substrate Used	Metal Panels as per ISO 1514:2016	Tested By	SU

Test Procedure

The test sample (paint) shall be applied to the suitable substrate and cured in ambient condition. After standard curing time recommended by client the samples are mounted to the test apparatus (coating side facing up). The standard weight is dropped from the recommended height, freely to the test surface. After completion of the test the test surface is examined by using lens. The test is repeated four more times at different positions to ensure the result. The test results are reported as per standard format.

Test Result

Test	Observation	Unit	Result
Impact Resistance	No cracking or delamination observed on the test sample.	Kgm	1

Remarks: None.

Signed for and on behalf of Wimpey Laboratories

S. Sarath Kumar
Senior Technician

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**TEST REPORT ON TENSILE STRENGTH & ELONGATION**

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/5
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WSP21-0069/1
Client's Ref.	N.G	Date Received	07/01/2021
Curing and test condition	Temperature: 23°C Relative Humidity: 50%	Casting Date	12/01/2021
Sampling Method	ASTM D412-16	Curing Time	7 Days
Test Method	ASTM D412-16	Date Tested	19/01/2021
Specimen Type	Test Method A – Die C	Date Reported	08/03/2021
Rate of Speed	500 mm/minute	Tested By	SU

Test Results

Specimen Number	Width (mm)	Thickness (mm)	Maximum Force (N)	Tensile Strength (N/mm ²)	Elongation (%)
1	6.0	0.90	9.13	1.69	166
2	6.0	0.88	9.40	1.78	168
3	6.0	0.81	7.53	1.55	167
4	6.0	0.95	9.23	1.62	167
5	6.0	0.90	9.23	1.71	166
Average				1.67	167

Remarks: Sample prepared by client.

Signed for and on behalf of Wimpey Laboratories

S. Sarath Kumar
Senior Technician

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**TEST REPORT ON CORROSION RESISTANCE
BY MEANS OF SALT SPRAY (FOG) APPARATUS**

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/6
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WSP21-0069/1
Client Reference	N.G	Date Received	07/01/2021
Test Method	ASTM B117-18	Cast Date	12/01/2021
Exposure Duration	500 Hours	Date Tested	19/01/2021- 09/02/2021
Coating Thickness	N.A	Date Reported	13/02/2021
Salt Solution Used	(5% NaCl+95% water) by mass	Room Temperature	23°C
Type and dimension of the specimen	150 x 75 mm	Relative Humidity	50%
Volume of salt solution collected	1.5 ml	Temperature of Exposure Zone	35°C
Specific gravity of salt solution	1.027	Support Angle	25°
pH of Solution	6.7	Sample brought in by	Wimpey Lab
Method of cleaning	By running cold water	Tested By	SU

Test Results

Sample Reference	Observation	Result
WSP21-0069/1	No Cracking, No Flaking, No Blistering, No spot rusting was observed.	Satisfactory

Remarks: None.

Signed for and on behalf of Wimpey Laboratories

S. Sarath Kumar
Senior Technician

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LABORATORY TEST REPORT ON ABRASION RESISTANCE

Information Provided to the Laboratory			
Customer Name	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE	Sample Description	Weathercoat Flex Tex Medium
Contractor	N.G	Sample Source	Berger Paints Emirates LTD 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.	WLRP21-0069/7
Test Method Variation	None	Sample No.	WSP21-0069/1
Specimen Thickness	0.3 mm	Date Received	07/01/2021
Wheel Reference	CS-10	Date Tested	19/01/2021
Mass Applied on each wheel	1000g	Date Reported	08/03/2021
Vacuum Opening Diameter	8mm	Test Temperature	23°C
No. of Revolution	1000	Relative Humidity	50%
Vacuum Nozzle Height	3mm	Conditioning Procedure	7 days at 23°C & 50% RH
Vacuum Suction Force	137 milli bar	Sampled by	Client
Tested By	SU	Sample Brought in by	Client

Test Results

Specimen Number	Unit	Weight Lost
1	mg	185
2		170
Average		177

Legends : N.G – Information Not Given

Remarks: None

Method Deviation: None

Signed for and on behalf of Wimpey Laboratories

S. Sarath Kumar
Senior Technician

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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 WEATHERING RESISTANCE

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/8
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WSP21-0069/1
Test Method	ASTM G154-16	Date Received	07/01/2021
Test Procedure	ASTM D151-10	Cast Date	12/01/2021
Evaluation Test Method	ASTM D714-02	Date Tested	19/012021-02/03/2021
Devise Type	Weathering Apparatus	Date Reported	18/03/2021
Light Source	UVA-340	Room Temperature	23°C
Cycle	8 hours UV at 60°C and 4 hours condensation at 50°C	Relative Humidity	50%
Exposure Duration	1000 Hours	Sample brought in by	Client
Client Reference	N.G	Tested By	SU

Test Results

Test	Observation
Artificial Weathering (1000 Hrs)	No cracking , No chalking, No flaking, No wrinkling No blistering or any other type of failure observed

Remarks: None

Signed for and on behalf of Wimpey Laboratories

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Senior Technician

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TEST REPORT ON CARBON DIOXIDE PERMEABILITY

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium coating system	Lab Report No.	WLRP21-0069/9
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WSP21-0069/1
Test Method	BS EN 1062-6:2002	Date Received	07/01/2021
Temperature in Test Chamber	23±2°C	Date Tested	19/01/2021-18/02/2021
Specimen Thickness	198 microns	Date Reported	08/03/2021
Room Relative Humidity	50±5%	Tested By	AP

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 brushed upon unglazed tile of area 100 cm², 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 BSEN 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 24hrs. 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. The diffusion coefficient for carbon dioxide (DCO₂) is calculated using Fick's law of Diffusion and Crank's equation.

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.

Test Results

Test	Method	Unit	Result
Specimen Thickness	BS EN 1062-6:2002 Method A	µm	198
Average Carbon dioxide permeability		g/m ² d	1.56
Diffusion equivalent air layer thickness in meters (SD)		m	158.97
Diffusion resistance number		-	8.03 × 10 ⁵
Carbon dioxide diffusion coefficient of the coating		cm ² s ⁻¹	1.86 × 10 ⁻⁷
Diffusion equivalent thickness of concrete (SC)		cm	39.74
Classification of coating material and coating system for exterior masonry and concrete	BS EN 1062-1:2004-08	-	C1

Remarks: None.

Signed for and on behalf of Wimpey Laboratories

S. Sarath Kumar
Senior Technician

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**TEST REPORT ON CHLORIDE PONDING TEST**

Client	Berger Paints Emirates LTD CO LLC PO Box: 27524 Dubai, UAE		
Sample Description	Weathercoat Flex Tex Medium	Lab Report No.	WLRP21-0069/10
Source	Berger Paints Emirates LTD CO LLC	Sample No.	WSP21-0069/1
Test Method	AASHTO T259	Date Received	07/01/2021
Temperature in Test Chamber	23±2°C	Date Tested	12/01/2021-13/03/2021
Sample Brought in by	Wimpey Lab	Date Reported	15/03/2021
Specimen Thickness	150 microns	Room Temperature	23±2°C
Room Relative Humidity	50±5%	Tested By	SP

Test Results

The determination of chloride ion penetration was carried out in accordance with AASHTO T259. The coating system consisted of one coat of Weathercoat Flex Tex Medium applied on a concrete slab. The concrete substrate is sealed on sides. The test specimens are moist cured for 14 days then stored in a drying room at 50% relative humidity for 28 days. After the conditioning period, a 3 percent NaCl solution is ponded on the top surface for 60 days, while the bottom face is left exposed to the drying environment. At the end of this time the slabs are removed from the drying environment.

Test	Observation	Result
Chloride Ponding Test	No Signs of chloride ion migration observed into concrete	Nil

Remarks: None**Method Deviation:** None**Signed for and on behalf of Wimpey Laboratories****S. Sarath Kumar**
Senior Technician

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**TEST REPORT**

Berger Paints Emirates LTD CO LLC
PO Box: 27524
Dubai, UAE

Report No: WSP21-0069/11
Sample No: WSP21-0069/1
Report Date: 18/03/2021

Sample Description : Weathercoat Flex Tex Medium
Sample Received : 07/01/2021
Test Date : 19/01/2021 – 18/02/2021

1.0 Introduction

Further to the requisition received from **Berger Paints Emirates LTD CO LLC** dated 07th January, 2021, the sample was tested for Resistance to growth of Mold.

2.0 Test method reference

In-house protocol: ASTM D 3273; Standard Test Method Resistance to Growth of Mold on the Surface of Interior Coatings in an Environment Chamber.

3.0 Methodology

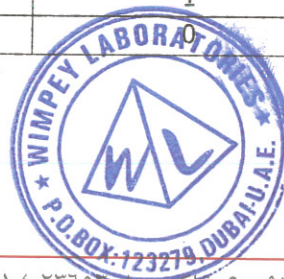
The test method describes a small environmental chamber and the operational conditions to evaluate the relative resistance of the sample material to surface mold fungi for a period of 4 weeks.

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: WSP21-0069/11

4.0 Test Results

Test Duration	Observation/Result	Rating
Week # 1	No Mold growth	10
Week # 2	No Mold growth	10
Week # 3	No Mold growth	10
Week # 4	No Mold growth	10
Final Rating as per ASTM D 3273		10

Remarks:

1. *Aspergillus niger*, *Aureobasidium pullulans* and *Penicillium species* are used as mold representatives
2. Facing of the sample is only assessed for the fungal growth under the controlled environmental conditions.
3. Controls were satisfactory, throughout the analysis period.

5.0 Conclusion

Final rating scale of 10 as per ASTM D3273, indicates, that the analyzed sample submitted by M/s **Berger Paints Emirates LTD CO LLC** is resistant to fungal growth under the required test conditions.

Signed for and on behalf of Wimpey Laboratories

S. Sarath Kumar
S. Sarath Kumar
Senior Technician

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Test Report on Electrical Indication of Concrete's Ability to Resist Chloride Ion Permeability

Customer : Berger Paints Emirates LTD CO LLC
Address : Dubai, UAE
Client : N.G
Consultant : N.G
Project : N.G
Sample Description : Weathercoat Flex Tex Medium
Source of Material : Berger Paints Emirates LTD CO LLC
Concrete Mix Grade : N.G
Client Reference : N.G
Mixcode : N.G
Date of Sampling : N.G
Sample Received Date : 07/01/2021
Curing / Storage (Lab) : 23°C at 7 Days
Test Method Variation : None
Specification Strength : N/A
Sample Preparation Method: ASTM C1202 Cl.8 & 9
Test Method : ASTM C1202-12

Report No. : WLRP21-0069/12
Request No. : WLP21-0069
Sample No. : WSP21-0069
Date Reported : 8/03/2021
Sampled by : Client
Date Test Completed : 19/01/2021
Sampling Method : N.G
Lot Size m³ : N/A
Lot No. : N/A
Slump Measure mm : N/A
Sample size mm : 100x50
Age at Test : 7 Day
Reqd. Test Age : 7 Day
Sample brought in by : Client
Tested by : SU

Test Results

Sample Reference	1	2
Client's Reference	Control Sample	Weathercoat Flex Tex Medium
Specimen diameter(mm)	100	100
Presence of reinforcement / location	None	None
Presence of overlay / thickness	None	None
Surface treatment / thickness	None	None
Removal of Surface treatment	N.A	N.A
Total Charge Passed in 6 hrs. (Coulombs)	1081	74.6
Chloride ion penetrability	Very Low	Very Low
Reduction in Chloride ion Penetration	93.1	

Remarks: None

Legends: N.A = Not applicable, N.G = Not Given

Signed for and on behalf of Wimpey Laboratories

S. Sarath Kumar
Senior Technician

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Dubai Central Laboratory

Engineering Materials Laboratory Section – Structural Unit

TEST REPORT

DETERMINATION OF SOLAR REFLECTANCE INDEX

REPORT NO. : 2014044963 DATE : 01/06/2014
WEB REQUEST NO. : DCL-13052014-0113
REQUEST NO. : 2014028626 SAMPLE NO. : 2014040345
PROJECT NO. : PS-1513
PROJECT NAME : TESTING SERVICE FOR BERGER PAINTS EMIRATES LTD CO.
CONSULTANT : NO SPECIFIC CONSULTANT
CONTRACTOR : NO SPECIFIC CONTRACTOR
LOCATION : FACTORY BERGER PAINTS EMIRATES LTD - DUBAI
SOURCE : BERGER PAINTS EMIRATES LTD.CO(L.L.C)- DUBAI
SAMPLE DESCRIPTION : COATING.
SAMPLE TYPE : WEATHER COAT FLEX TEX MEDIUM - WHITE
SURFACE TEXTURE : ROUGH

Date of Sampling : 13/05/2014 Time : 12:00 Lot No. : NG
Date of Receiving Sample : 13/05/2014 Time : 13:00 Lot Size : NG
Size of Sample : 3 Nos. Area No. : - Sender No. : NG

DATE SPECIMEN RECEIVED	13/05/2014
SPECIMEN THICKNESS (mm)	NG
TEST CONDITION	23±2°C, 50±5% RH
TEST START DATE	15/05/2014

SPECIMEN NO.	1, 2, 3
Solar Reflectance (%) as per ASTM C 1549 - 09	83.6
Emittance (ε) As Per ASTM C1371-04a	0.82
Standard Deviation of Reflectance	0.0010
Standard Deviation of Emittance	0.0044

Solar Reflectance Index (SRI) for Low Wind (0 to 2 m/s)	102.88
Solar Reflectance Index (SRI) for Medium Wind (2 to 6 m/s)	103.40
Solar Reflectance Index (SRI) for High Wind (6 to 10 m/s)	103.85

SAMPLED BY : DHIRENDRA (Mfr.) TESTED BY : JAI GOVIND
SAMPLES BROUGHT IN BY : DHIRENDRA (Mfr.)
TEST METHOD : ASTM E 1980:01
TEST METHOD VARIATION : NIL
REMARKS : THIS REPORT REPRESENTS THE SUBMITTED SAMPLES ONLY.
SOLAR REFLECTANCE MEASURED UNDER THE AIR MASS 1.5

AUTHORIZED BY
HEAD OF UNIT

This report is computer approved, it does not require any signature

