EPS INDUSTRIES SDN. BHD
RESEARCH AND DEVELOPMENT (R&D) AND TECHNICAL DEPARTMENT

QUV Accelerated Weathering Test Report

TEST NO: MRD - 008

REFERENCE NO: QUV/1010602-001

DATE: June 2, 2015

DATE EXPOSED: May 2, 2015

DURATION: 700 hours

TYPE: Accelerated Weathering

SPECIMENS: 11 EPDM granules cast slab glued to panels

NOTES: Please refer to the attached legend for an explanation of the numerical ratings used in this report

Yellowing/darkening of glue used to adhere granules

Inspected by:	Approved by:
(Jimmy Ho) Polymer Technologist	(Mr. Aaron Cheong) Operations Manager

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Test No: MRD – 008 Ref No: QUV/1010602-001 Date: Jun 2, 2015

Product Type: ☐ Granules ☒ Cast Slab ☐ Slab

No	Product Code	Color	Duration (hrs)			Comments
			700			
			Visual Color	Gray scale	Chalk	
1	01	RED	10 F	4	9	No fading, very slight chalking
2	02	GREEN	9 F	4	9	Very slight fading
3	03	L. GREEN	8 F	4	9	Slight fading, no chalking
4	04	BLUE	9 F	4	9	Very slight fading
5	05	L. BLUE	8 Y	3	9	Slight yellowing, no fading
6	06	ORANGE	9 F	4	9	Very slight fading
7	07	YELLOW	9 F	4	9	Very slight fading
8	11	GREY	8 F	4	8	Slight fading
9	12	L.GREY	8 Y	4	8	Slight yellowing
10	14	PINK	8 F	4	8	Slight fading
11	15	VIOLET	8 D	4	9	Slight darkening, no chalking

LEGEND

Inspection and Reporting Standard
Commonly used standard methods for determining degradation effects.

Effects	Standard
Chalking	ASTM D4214
Color (Visual)	ASTM D1729
Grey Scale	ASTM D2616

Numerical Scales
Numerical scales are used to depict the degree of effect being reported.

No	Quality	Change
10	Excellent	No effect
9	------	Very Slight
8	Very Good	Slight
6	Good	Moderate
4	Fair	Pronounced
2	Poor	Severe
0	Very Poor	Very Severe

Numerical Scales are used for wide variety of defects included in the report such as: general appearance, chalk, color, etc. Odd numbers are used when the degree is obviously intermediate.

Visual Color Change
Subjective appearance evaluation under standard illumination with 10 to 0 scale. Added to the color rating to indicate direction of change.

F	Fading	
D	Darkening	Ex: 9F = Very Slight Fading
BL	Bleaching	
Y	Yellowing	
DC	Discoloration	

Grey Scale
The effect of alternating cycles of UV light and condensation in the product causes accelerates color change, which is measured on a standard Grey Scale.

A reading of 5 on the scale represents no change and 1 represents significant change. Reading 3 is the minimum for acceptable performance.

COLOR

01	Red
02	Green
03	L. Green
04	Blue
05	L. Blue
06	Orange
07	Yellow
08	Golden Yellow
09	Brown
10	L. Brown
11	Grey
12	L. Grey
13	Ivory
14	Pink
15	Violet
16	White
17	Grass Green
18	Navy Blue

APPENDIX

THE CHANGES OF COLOUR AND APPEARANCE AFTER 700 HOURS EXPOSE TO ACCELERATED

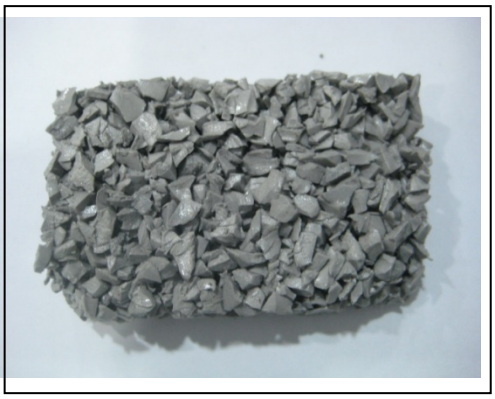
WEATHERING/UV

GREY (11)

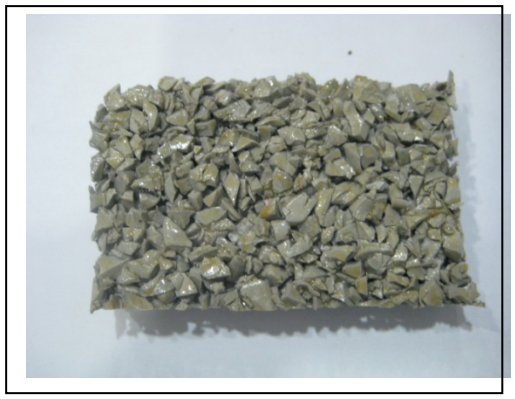
BEFORE

AFTER

LIGHT GREY (12)



BEFORE



AFTER

PINK (14)

BEFORE

AFTER

VIOLET (15)

BEFORE

AFTER

YELLOW (07)

BEFORE

AFTER

ORANGE (06)

BEFORE

AFTER

GREEN (02)

BEFORE

AFTER

LIGHT GREEN (03)

BEFORE

AFTER

BLUE (04)

BEFORE

AFTER

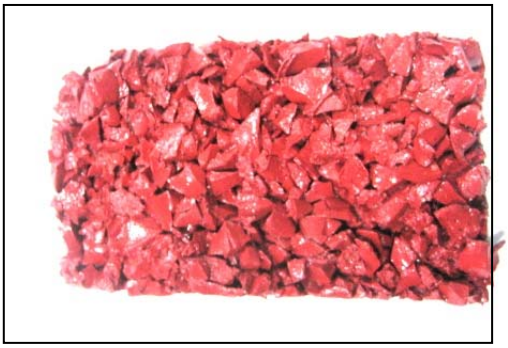
LIGHT BLUE (05)

BEFORE

AFTER

RED (01)

BEFORE



AFTER

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