Test Report No. 7191247876-MEC20/04-JV
dated 04 Jan 2021

PSB Singapore

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SUBJECT:

Determination of the toxic fume generated by Brand: "Woven Image" Model: "Mura™" 100% Polyethylene Terephthalate (PET) (60% recycled) material submitted by Woven Image Singapore Pte Ltd on 09 November 2020.

TESTED FOR:

Woven Image Pty Ltd
37-39 Chard Road
Brookvale NSW 2100
Australia

DATE OF TEST:

09 Dec 2020

PURPOSE OF TEST:

To determine the toxic fume generated from materials or products of thickness not exceeding 25.4mm when mounted in the horizontal position and tested in according to test method references T11.01 of BS EN 45545-2 : 2013 +A1 : 2015 Annex C, Method 1 (smoke chamber).

This test was conducted in accordance with the procedures specified in BS EN 45545-2:2013 +A1 : 2015 Annex C and using the apparatus and procedures specified in ISO 5659-2 : 2017.

The test was conducted at TÜV SÜD PSB fire test laboratory located at No. 10 Tuas Avenue 10, Singapore 639134.

TÜV SÜD PSB

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DESCRIPTION OF SAMPLES:

Six pieces of specimen, said to be Brand: "Woven Image" Model: "Mura™" 100% Polyethylene Terephthalate (PET) (60% recycled) material each of nominal size 75mm x 75mm x 1.9mm thick were received. The area and bulk density of the specimen were measured to be 0.39 kg/m^2 and 188.7 kg/m^3 respectively.

Details of the product, as provided by the sponsor of test, are as follows:

Brand	Woven Image
Model reference	Mura™
Generic product name	Mura™
Material composition	100% PET (60% recycled)
Country of origin	Australia
Area Density	0.350 kg/m^2
Thickness	1.90mm
Fire retardant	N.A.

Photograph of specimen:

TEST PROCEDURES:

The test was conducted using the ISO 5659-2 smoke chamber (Asset No. 191010483) in conjunction with a FTIR Analyzer (Serial No. AFS-B2-C-1716) with their respective spreadsheets. Both systems, operating at the same time, were dedicated for the acquisition and analysis of opacity of the smoke and the qualitative and quantitative analysis of gases emitted during the test.

Prior to test, the specimens were prepared and conditioned in accordance to annex C.5 of BS EN 45545-2.

The test specimens were exposed to the specified test conditions according to Method T11.01 for the toxic fume for 10 minutes.

The gas data of the specimen were calculated according to annex C.9 and the CIT value was calculated according to annex C.16 of the standard.

TEST RESULTS:

Test Parameters	Specimen 1	Specimen 2	Specimen 3	Average
Time of ignition (sec)	60	55	50	55
Initial Mass (gm)	2.30	2.40	2.50	2.40
Final Mass (gm)	0.00	0.00	0.00	0.00
Mass Loss (gm)	2.30	2.40	2.50	2.40
Observations	1) Smoke emission started between 8 to 10 seconds of test for all specimens.			

The concentration of each gas sampled at 240s of test is as follows:

Gas		Specimen 1		Specimen 2		Specimen 3		Average	
		ppm	Kg/m^3	ppm	Kg/m^3	ppm	Kg/m^3	ppm	Kg/m^3
Carbon Dioxide (CO_2)		1592.48	0.00	2243.74	0.00	3430.97	0.01	2422.40	0.00
Carbon Monoxide (CO)		76.92	0.00	117.18	0.00	239.00	0.00	144.37	0.00
Nitrogen Oxide (NO_x)	NO	3.23	0.00	2.89	0.00	2.88	0.00	3.00	0.00
	NO2	ND	ND	ND	ND	ND	ND	ND	ND
Sulphur Dioxide (SO_2)		12.26	0.00	13.09	0.00	8.57	0.00	11.31	0.00
Hydrogen Chloride (HCl)		2.54	0.00	0.25	0.00	0.51	0.00	1.10	0.00
Hydrogen Bromide (HBr)		ND	ND	ND	ND	ND	ND	ND	ND
Hydrogen Fluoride (HF)		ND	ND	ND	ND	ND	ND	ND	ND
Hydrogen Cyanide (HCN)		ND	ND	ND	ND	ND	ND	ND	ND
CIT_G		0.00		0.00		0.00		0.00	

*ND – Not Detected

TEST RESULTS (cont'd):

The concentration of each gas sampled at 480s of test is as follows:

Gas		Specimen 1		Specimen 2		Specimen 3		Average	
		ppm	Kg/m^3	ppm	Kg/m^3	ppm	Kg/m^3	ppm	Kg/m^3
Carbon Dioxide (CO_2)		1823.08	0.00	2380.48	0.00	3840.08	0.01	2681.21	0.00
Carbon Monoxide (CO)		116.85	0.00	204.72	0.00	333.54	0.00	218.37	0.00
Nitrogen Oxide (NO_x)	NO	3.18	0.00	3.50	0.00	2.66	0.00	3.11	0.00
	NO2	ND	ND	ND	ND	ND	ND	ND	ND
Sulphur Dioxide (SO_2)		14.20	0.00	16.75	0.00	9.31	0.00	13.42	0.00
Hydrogen Chloride (HCl)		2.85	0.00	0.28	0.00	0.69	0.00	1.27	0.00
Hydrogen Bromide (HBr)		ND	ND	0.15	0.00	ND	ND	0.15	0.00
Hydrogen Fluoride (HF)		ND	ND	ND	ND	ND	ND	ND	ND
Hydrogen Cyanide (HCN)		ND	ND	ND	ND	ND	ND	ND	ND
CIT_G		0.00		0.00		0.00		0.00	

*ND – Not Detected

CONCLUSION:

In accordance to test method references T11.01 of BS EN 45545-2 : 2013 +A1 : 2015 Annex C, Method 1 (smoke chamber) method, **Brand: "Woven Image" Model: "Mura™" (1.90mm thick, 0.350 kg/m^2) 100% Polyethylene Terephthalate (PET) (60% recycled) material**, achieved the following average values:

CIT_G at 240 sec : 0.00
CIT_G at 480 sec : 0.00

REMARKS:

The test results relate only to the behaviour of the test specimens of the product under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Assistant Manager

Chan Lung Toa
Assistant Vice President
(Fire Property)
Mechanical

PSB Singapore

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Effective 01 January 2021