Test Report No. 7191054408-MEC13/2-JV
dated 29 Apr 2013

PSB Singapore

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SUBJECT:

Ignitability of product when subjected to direct flame impingement test on "Greenlam Laminates" High Pressure Laminate material submitted by Greenlam Asia Pacific Pte Ltd on 21 Mar 2013.

TESTED FOR:

Greenlam Asia Pacific Pte Ltd
11 Sungei Kadut Crescent
Singapore 728683

DATE OF TEST:

01 Apr 2013

PURPOSE OF TEST:

To determine the ignitability of the product when subjected to direct impingement of flame according to EN ISO 11925-2 : 2010 Part 2: Single-flame source test (BS EN ISO 11925-2:2010).

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 SPECIMEN:

Twenty pieces of specimen, said to be "Greenlam Laminates" High Pressure Laminate material, of nominal size 250mm x 90mm x 0.8mm thick, were received. The specimen was prepared by bonding it onto calcium silicate board using water based adhesive. The nominal thickness and bulk density of the board were found to be 1mm and 1433kg/m^3 respectively.

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

Product manufactured / supplied by : Company Address	 Greenply Industries Ltd Vill. Panjehra , Teh.Nalagarh , Distt. Solan H.P Nalagarh, Himachal Pradesh - 174101
Brand	Greenlam Laminates
Model reference	-
Generic product name	High Pressure Laminate
Material composition	87% Paper, 13% resin
Nominal density (kg/m^3)	1.40 g/cm^3
Nominal mass per unit area (kg/m^2)	1.12 kg/sqm
Nominal thickness (mm)	0.8 mm
Color reference	Various
Fire retardant	Ethanol Amine Group- Phosphoric

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

Exterior facing: Generic name – Material – Manufacturer – Thickness – Mass per unit area – Color reference – Fire retardant –	Decorative Side Decorative side Paper Greenply Industries Ltd 0.8mm 1.12 kg/sqm Various Ethanol Amine Group – Phosphoric Acid
Interior facing: Generic name – Material – Manufacturer – Thickness – Mass per unit area – Color reference – Fire retardant –	Brown side Backer side Paper Greenply Industries Ltd 0.8mm 1.12 kg/sqm Brown Ethanol Amine Group – Phosphoric Acid
Core material: Generic name – Material – Manufacturer – Thickness – Mass per unit area – Color reference – *Fire retardant –	Brown side Backer side Paper Greenply Industries Ltd 0.8mm 1.12 kg/sqm Brown Ethanol Amine Group – Phosphoric Acid
Adhesive: Generic name – Material – Manufacturer – Thickness – Mass per unit area – Color reference – Fire retardant –	Melamine Resin, Phenolic Resin

TEST PROCEDURE:

Prior to test, the specimens were prepared in accordance with clause 5 of the standard and conditioned at a temperature of (23 ±2)°C and relative humidity of (50 ±5)% for a minimum period of 48 hours.

The apparatus was constructed in accordance to clause 4 of the standard.

The specimens were subjected to the test environment as described in clause 4.1 and tested according to clause 7 of the standard.

The test results are shown in Table 1.

TEST RESULTS:

Table 1: Test Flame Surface Application Position

Temperature (°C)	23.5		R.H (%)	62		
Specimen thickness (mm)	1.0		Flame application time (sec)	30		
Specimen no.	1	2	3	4	5	6
Airflow velocity (m/s)	0.62	0.63	0.62	0.60	0.69	0.63
Ignition (Y/N)	Y	Y	Y	Y	Y	Y
Maximum flame spread (mm)	26	39	30	35	47	54
Time for flame tip to reach 150mm (sec)	N.A	N.A	N.A	N.A	N.A	N.A
Flaming droplets presence (Y/N)	N	N	N	N	N	N

Observations:

1. No afterflame was observed on the specimen.

REMARKS:

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

Leong Gene-Jhou
Senior Associate Engineer

Joseph Chng
Assistant Vice President
(Fire Property)
Mechanical Centre

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July 2011