תעודת סיווג מס' 7413222502
בהתאם לסעיף 12 לחוק התקנים תשי"ג - 1953

פרטי ההזמנה

שם המזמין : הכט אפרים 2002 בע"מ

מענו : התעשיה 13 נשר 0036888

תאריך ההזמנה : 24/11/2024

תאור המוצר

לוח ALUMINIUM COMPOSITE PANEL (ACP) דגם EMIRATES PANEL FR עובי 4.2 מ"מ מסה ליחידת שטח 0.5±835 קג"מ"ר בצבע אפור מצד אחד ובצבע צהוב מצד שני (הפירוט המלא בסעיף 4) תוצרת EMIRATES PANEL MANUFACTURE LLC, אמירויות.

פרטי הנטילה

הדוגמה ניטלה בתאריך : 24/11/2024

הדוגמה נבחרה ע"י בא כוח : המזמין

מקום הנטילה : אין מידע

מהות הבדיקה

סיווג המוצר בשרפה לפי תקן ישראלי ת"י 755 " סיווג בשרפה של מוצרי בנייה ואלמנטי בניין – סיווג לפי נתוני בדיקות של תגובות בשרפה" (נובמבר 2023) זהה לתקן אירופי EN 13501-1:2018.

מסמך זה מכיל דף אחד ונספח של 13 דפים ואין להשתמש בו אלא במלואו	**תוצאות הבדיקה במסמך זה מתייחסות רק לפריט שנבדק**	

סיכום

על בסיס תעודת סיווג מס' I241017004-1 מתאריך 13.11.2024 של מעבדה IGNITO FIRE TESTING LAB (הודו) המצורפת בזאת, לוח ALUMINIUM COMPOSITE PANEL (ACP) דגם EMIRATES PANEL FR עובי 4.2 מ"מ מסה ליחידת שטח 0.5±835 ק"ג/מ"ר בצבע אפור מצד אחד ובצבע צהוב מצד שני (הפירוט המלא בסעיף 4) תוצרת EMIRATES PANEL MANUFACTURE LLC (אמירויות) כמפורט בתיאור המוצר,
סווגה לפי תגובתה בשרפה **B-s1, d0**.
הסיווג תקף עבור המוצר בהתאם לסעיפים 4 ו-5, עם חיבורים לאורך ולרוחב, מרווח אוויר של 40 מ"מ, צד אפור חשוף לאש בלבד.

(פרטים ראה בגוף התעודה)

מסמך זה אינו היתר לסימון המוצר בתו תקן

שם החותם: מיכאל גנקין
תפקידו : מהנדס בכיר

שם החותם: דודו ארום
תפקידו : ראש ענף חלונות מערכות מיגון ובטיחות אש

תאריך: 24/11/2024

Test Report Issue To:
Emirates Panel Manufacture LLC
P.O.Box 3998. Industrial Area 1, Umm Al Quwain
United Arab Emirates (UAE)

Test Report No : I241017004-1
Date of Issue: 13/11/2024
Sample Booking/Receipt : 17/10/2024
Date of Start of Testing: 07/11/2024
Date of Completion of Test: 07/11/2024

Customer Relationship Number : A1120592

Sample Description :
Emirates Panel FR

Kind Attention: Mr. Satish Hadole
E-Mail: satish.epmuae@gmail.com
Contact No: 9999999999

Customer Reference Number :

Sample Drawn By : Test Sponsor

Laboratory certified by CERTIFER

TC-10383

ULR No: TC103832400000497F

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Kaushal Kumar Thakur
Reviewed & Authorized By

This is Digitally Signed Report and hence doesn't require Physical Signature

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Sandeep Kumar Yadav
(Tested By)

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Kaushal Kumar Thakur
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1. INTRODUCTION

Determination of the compliance of **Aluminium Composite Panel (ACP)** for **B S1 D0** classification according to **EN 13501-1:2018;** Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests.

2. TEST METHODS & REFERENCES

EN 13501-1:2018; Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests.

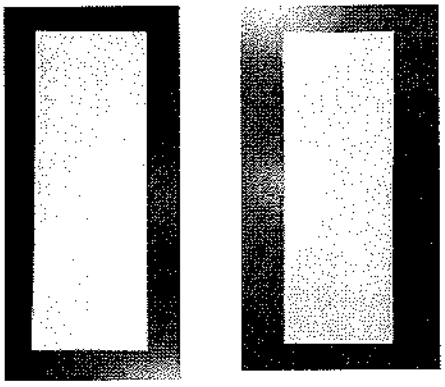
BS EN 13823:2020+A12022; Reaction to fire tests for building products. Building products excluding floorings exposed to the thermal attack by a single burning item.

BS EN 13238:2010; Reaction to fire tests for building products. Conditioning procedures and general rules for selection of substrates.

ISO 11925-2: 2020; Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Part 2: Single-flame source test.

3. DATE OF TEST

Specimen Installation Date	07.11.2024
Installed By	Test Laboratory
Testing Date	07.11.2024



3.1 Specimen Preparation:

Specimens of required size has been supplied by the sponsor of test.

Specimen size and number supplied by test sponsor	200X495mm-3 pcs, 795X495mm-3 pcs, 995X795mm-3 pcs, 200X995mm-3 pcs, 1000X1500mm-3 pcs, 90X250mm-12 pcs

4. SPECIMEN DETAIL

All details given in this clause are declared by test sponsor. Only thickness was verified by the laboratory.

Specimen Detail	
Product Type	**Aluminium Composite Panel (ACP)**
Manufacturer Name and address	Emirates Panel Manufacture LLC
Generic Name	Fire Retardant Class B
Product Name	Emirates Panel FR
Grade	4mm, 0.50-0.50mm AL Skin

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Thickness	4.2 mm
Mass Per Unit Area (Panel)	8.2 ± 0.5 Kg/m²
Density	Core – 1.8 gm/cc
Color	Grey on one side and Yellow on other side
Exposed Face	Both faces were not similar, one face was of yellow color and other face was of grey color. Grey face was exposed to fire
Form of Construction of Specimen	Sheet
Substrate Used & Method of fixing to substrate	No substrate used

Details of layer	**Top Skin**	Coating Details	Type: **PVDF** Thickness: 25 ± 2 microns Specific gravity: 1.1 to 1.2
		Description	Aluminum Coil
		Coil Manufacturer	Guane Xi BaiSe XingHe Aluminium Industry Co. Ltd.
		Thickness	0.50mm
		Area Weight	1.4 Kg/m²
		Details of adhesive	Type: **Polyethylene** Manufacturer: Emirates Panel Plastics Industries Density: 0.936 g/cm³
	Core	Description	Mineral-filled core
		Manufacturer	Jiashan Rixin New Material Co. Ltd.
		Thickness	3mm
		Area weight	5.3 Kg/m²
	Bottom Skin	Details of Adhesive	Type: **Polyethylene** Manufacturer: Emirates Panel Plastics Industries Density: 0.936 g/cm³
		Description	Aluminum Coil
		Coil Manufacturer	Guane Xi BaiSe XingHe Aluminium Industry Co. Ltd.
		Thickness	0.50mm
		Area weight	1.4 Kg/m²
		Back coat details	Type: **Polyester** Thickness: 8 ± 2 microns Specific gravity: 1.1 to 1.2

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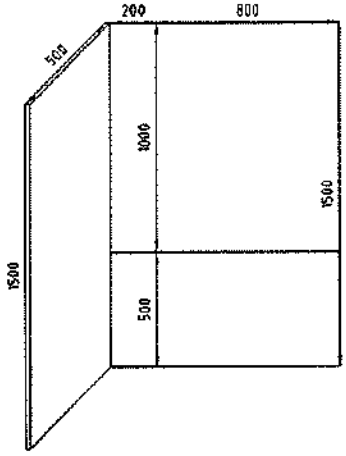
5. SPECIMEN INSTALLATION

Test specimen has been installed and mounted by the team deputed by test sponsor, Installation and mounting is done as per clause 5.2.1 of EN 13823 as decided by test sponsor. Laboratory was not involved in installation and mounting of specimen.

Mounting of specimen (*Mounting as in end use application as per clause 5.2.1 of EN 13823/standard mounting as per clause 5.2.2 of EN 13823*)	Mounting as in end use application as per clause 5.2.1 of EN 13823 as decided by test sponsor
Any product specification/standard followed for installation of test specimen (Yes/No), *if yes please specify*	No
Vertical Joint simulated in test (Yes/No)	Yes
Horizontal joint simulated in test (Yes/No)	Yes

Test specimens of size 495mm in width and 1500mm in length for short wing and 995mm (200mm + 795mm) in width and 1500mm in length for long wing were supplied by test sponsor. Test specimen was installed in the test rig as shown in Figure 1.

Screw: GI Self taping 400mm Center to center
Panel to Panel joint: No seal used
Air Gap: 40mm
Supporting structure: 25X25mm box pipe of Aluminium, 1mm thick



6. PRE-TEST PROCEDURE

6.1. Verification of the Test Specimen

Ignito Labs was not involved in the selection or sampling of the specimen. Test specimen was supplied by the sponsor of test.

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6.2. Conditioning & Test Conditions

Conditioning: The specimens were conditioned till constant mass for 48 hours at a temperature of 23±2°C and relative humidity of 50±5%.
Test conditions: The test was performed at a temperature of 23.4°C and relative humidity of 50%.

7. FIRE TEST PROCEDURE

7.1 Parameter: FIGRA0.2MJ, FIGRA0.4MJ, SMOGRA, TSP600s, THR600s

Test Method: BS EN 13823:2020+A12022
3 samples were tested, formed from two wings i.e, short wing and long wing of overall dimensions approx. 500 mm x 1500 mm and 1000 mm x 1500 mm respectively.

The tests were performed in the equipment called SBI (Single Burning Item), which consists of a test chamber, a test trolley and the smoke extraction system.
The test principle is to expose the two wings of the test material in a vertical position in right angle to a burner located in the lower corner (main burner). The flames are obtained by combustion of propane gas, injected through a sand bed with an output power (30.7 ± 2.0) kW.

The behavior of the sample is evaluated over a period of 20 minutes, determining performance parameter such as heat emission, smoke production, lateral spread of flame and drop inflamed particles.
A short time before the main burner ignition is used to quantify heat and smoke produced only by the burner, using an identical burner away from the sample and called auxiliary burner. Measurements are taken automatically and by visual observation. The extraction pipe is equipped with sensors for measuring the temperature, attenuation of light, the molar fraction of oxygen and carbon dioxide, and the flow induced by the pressure difference. These parameters are recorded automatically and used to calculate the volume flow, the energy release (HRR) and smoke production rate (SPR).

Parameters recorded

- **$FIGRA_{0.2MJ}$** (W/s): Maximum value of coefficient of heat release rate for the sample and the moment is started, using a threshold THR (amount of heat evolved) of 0.2 MJ.
- **$FIGRA_{0.4MJ}$** (W/s): Maximum value of coefficient of heat release rate for the sample and the moment is started, using a threshold THR (amount of heat evolved) of 0.4 MJ.
- **THR_{600s}** (MJ): Total amount of heat released from the sample in the first 600 seconds of the start of exposure by main burner.
- LSF edge: Lateral flame spread along the long wing of the sample.
- Droplets or flamed particles with inflammation times higher or lower than 10 seconds.
- **SMOGRA** (m^2/s^2): The rate at which smoke production increases during the full 20-minute exposure period.
- **TSP_{600s}** (m^2): Total smoke production during the first 600 s of the start of exposure by main burner.

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7.2 Parameter: Ignitability

Test Method: ISO 11925-2:2020

This test determines the ignitability of a vertically oriented test specimen when exposed to a small flame for 30seconds, at the edge or the surface of the specimen. The burning behavior of the specimen is observed for flame spread, the occurrence of burning particles and droplets.

8. OBSERVATIONS

8.1. Pre -Test Observations

The specimen was found satisfactory and fit to be tested.

8.2. Test Observations

8.2.1 Observations of Single Burning Items test as per EN 13823

Parameters	Specimen			Mean
	S-1	S-2	S-3	
Mass of Assembled Panel, in kg	19.1	19.1	19.1	-
$FIGRA_{0.2MJ}$ (W/s)	0	0	0	**0**
$FIGRA_{0.4MJ}$ (W/s)	0	0	0	**0**
THR_{600s} (MJ)	0.66	0.40	0.60	**0.55**
SMOGRA (m^2/s^2)	0	0	0	**0**
TSP_{600s}	1.73	4.77	2.20	**2.9**
LFS to edge	No	No	No	-
Flaming Droplet/ Particles ≥10s within the first 600 seconds (Yes/No)	No	No	No	-
Flaming Droplet/ Particles ≤10s within the first 600 seconds (Yes/No)	No	No	No	-
Time of Flaming, s	NA	NA	NA	-
Occurrence of a surface flash (Yes/No)	No	No	No	-
Smoke not entering the hood during test, but flowing out of the trolley into the surrounding testing room (Yes/No)	No	No	No	-
Falling of parts of the specimen (Yes/No)	No	No	No	-
Development of gap in the corner (Failure of mutual fixing of backing boards) (Yes/No)	No	No	No	-
Early termination of test (Yes/No), if yes then specify reason	No	No	No	-
Occurrence of distortion or collapse of the specimen	No	No	No	-

8.2.2 Observations of Ignitability test as per ISO 11925-2

a. **Surface Flame Attack**

Flame Time: 30 seconds

Parameters	Lengthwise Specimen			Crosswise Specimen		
	S-1	S-2	S-3	S-4	S-5	S-6
Ignition of test specimen(Y/N)	N	N	N	N	N	N
Time to reach 150mm Mark, S	-	-	-	-	-	-
Ignition of Filter Paper(Y/N)	N	N	N	N	N	N

*Y- Ignition Occurred, N- No ignition

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b. Edge Flame Attack
Flame Time: 30 seconds

Parameters	Lengthwise Specimen			Crosswise Specimen		
	S-1	S-2	S-3	S-4	S-5	S-6
Ignition of test specimen(Y/N)	N	N	N	N	N	N
Time to reach 150mm Mark, S	-	-	-	-	-	-
Ignition of Filter Paper(Y/N)	N	N	N	N	N	N

*Y- Ignition Occurred, N- No Ignition

9. CONFORMITY

Specimen has been tested as per **EN 13823** and **EN ISO 11925-2** and evaluated in accordance with **EN 13501-1** for **B S1 D0** classification. Tested specimen is meeting the requirements of **B S1 D0** as per **EN 13501-1:2018 only for installation method given in clause 5.**

Parameter	Requirements of B S1 D0 Class of EN 13501-1:2018	Observed Results	Conformity (Confirms/Do not Confirms)
A. Single Burning Item Test			
$FIGRA_{0.2MJ}$ (W/s)	≤120W/s	0	Confirms
THR_{600}(MJ)	≤7.5MJ	0.55	Confirms
SMOGRA (m^2/s^2)	≤30m^2/s^2	0	Confirms
TSP_{600s}	≤50m^2	2.9	Confirms
LFS to edge	No LFS to edge	No	Confirms
Flaming Droplet/ Particles ≥10s within the first 600 seconds	No	No	Confirms
B. Ignitability Test			
Flame to reach 150mm Mark	No Flame should reach 150mm mark	No Flame reached 150mm mark	Confirms

Fire behaviour		Smoke Production			Flaming Droplets	
B	-	s	1	,	d	0

Reaction to fire classification: B-s1, d0

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10. CLASSFICIATION CRITERIA

Classes of reaction to fire performance for construction products excluding floorings and linear pipe thermal insulation products are given below

Class	Test method(s)		Classification criteria	Additional classification
A1	EN ISO 1182 [a] and		ΔT 30°C, and, Δm 50%, and tf=0(i.e. no sustained flaming)	
	EN ISO 1716		*PCS* 2.0MJ/kg [a] and *PCS* 2.0MJ/kg [b c] and *PCS* 1.4MJ/m^2 [d] and *PCS* 2.0MJ/kg [e]	
A2	EN ISO 1182 [a] or	and	ΔT 50°C, and, Δm 50%, and tf 20 s	
	EN ISO 1716		*PCS* 3.0MJ/kg [a] and *PCS* 4.0MJ/m^2 [b] and *PCS* 4.0MJ/m^2 [d] and *PCS* 3.0MJ/kg [e]	
	EN 13823		*FIGRA* 120W/s and *LFS*<edge of specimen and *THR*600s 7.5MJ	Smoke production [f] and Flaming droplets/particles [g]
B	EN 13823 and		FIGRA 120W/s and LFS<edge of specimen and THR600s 7.5MJ	Smoke production f and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure =30s		Fs 150mm within 60 s	
C	EN 13823 and		FIGRA 250W/s and LFS<edge of specimen and THR600s 15MJ	Smoke production f and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure=30s		Fs 150mm within 60 s	
D	EN 13823 and		FIGRA 750W/s	Smoke production f and Flaming droplets/particles [g]
	EN ISO 11925-2 [i] Exposure=30s		Fs 150mm within 60 s	
E	EN ISO 11925-2 [i] Exposure =15s		Fs 150mm within 20 s	flaming droplets/particles [h]
F	No performance determined			

[a] For homogeneous products and substantial components of non-homogeneous products.

[b] For any external non-substantial component of non-homogeneous products.

[c] Alternatively, any external non-substantial component having a PCS 2,0 MJ/m^2, provided that the product satisfies the following criteria of EN 13823: FIGRA 20 W/s, and LFS < edge of specimen, and THR600s 4,0 MJ, and s1, and d0.

[d] For any internal non-substantial component of non-homogeneous products.

[e] For the product as a whole. [f] In the last phase of the development of the test procedure, modifications of the smoke measurement system have been introduced, the effect of which needs further investigation. This may result in a modification of the limit values and/or parameters for the evaluation of the smoke production. s1 = SMOGRA 30m^2/s^2 and TSP600s 50m^2 ; s2 = SMOGRA 180m^2/s^2 and TSP600s 200m^2; s3= not s1 or s2.

[g] d0 = No flaming droplets/ particles in EN 13823 within 600 s; d1 = no flaming droplets/ particles persisting longer than 10 s in EN 13823 within 600 s; d2 = not d0 or d1. Ignition of the paper in EN ISO 11925-2 results in a d2 classification.

[h] Pass = no ignition of the paper (no classification); Fail = ignition of the paper (d2 classification). [i] Under conditions of surface flame attack and, if appropriate to the end–use application of the product, edge flame attack.

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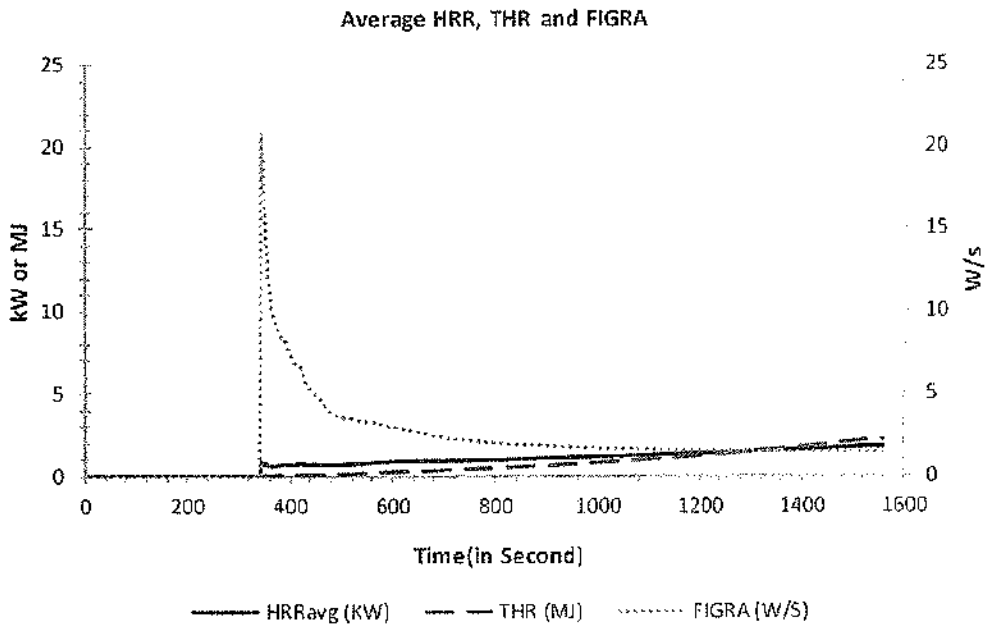
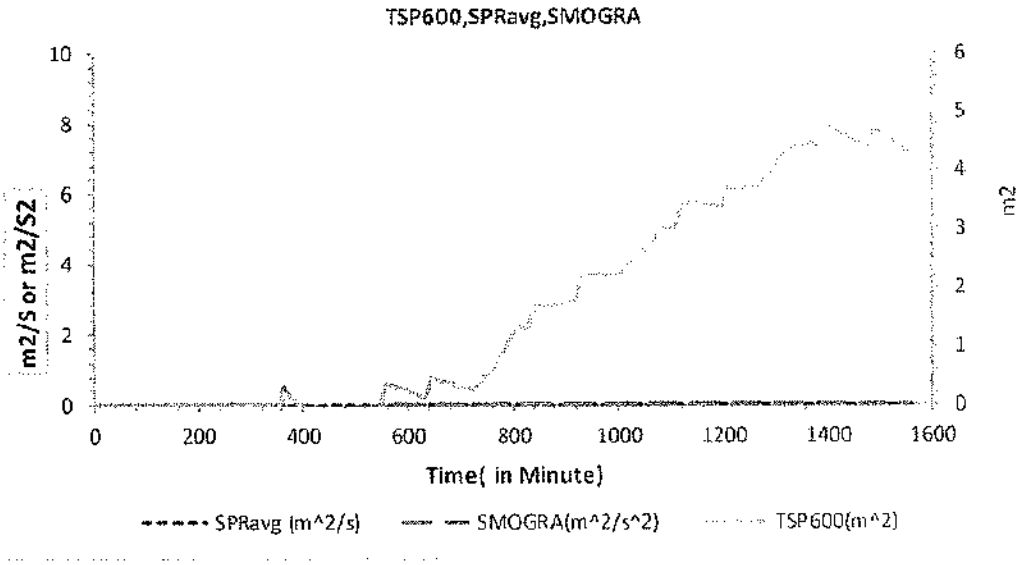
11. GRAPHS





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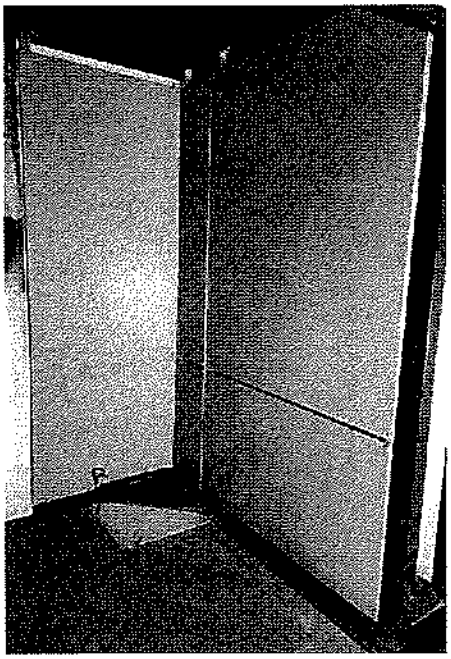
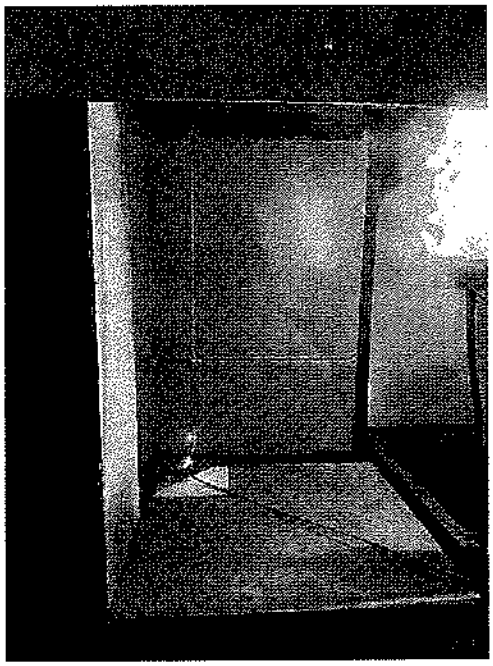
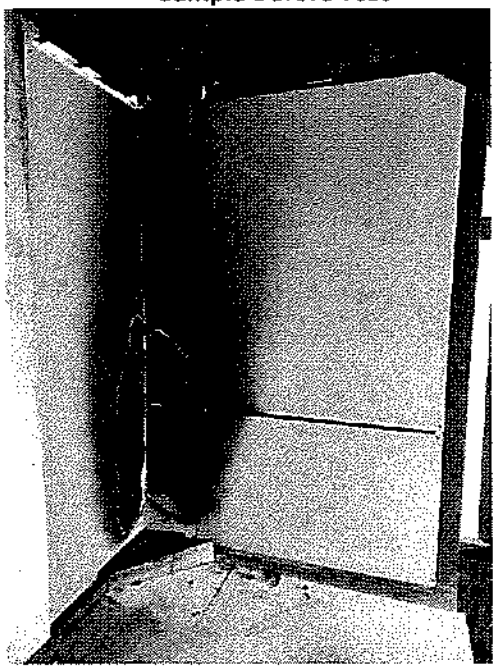
12. PHOTOS



Sample Before Test



Sample Before Test



Sample After Test

Sample After Test

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13. LIMITATION

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 the sole criterion for assessing the potential fire hazard of the product in use .

----------End of Test Report----------

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Terms & Condition:

- The results are related only to the items Tested
- Total Liability of our Laboratory is limited to the invoiced Amount. No Liability will be accepted after Sample is taken back
- The Sample Description is given "As desired by the customers". Sample not drawn by us & Analysis Conducted on Received sample unless specified otherwise.
- Retained sample will be destroyed after 30 days from the date of issue of the test report unless instructed otherwise.
- Any Complaints or Retest request should be communicated within 15 days from the issue of the Test report.
- Test Report shall not be reproduced except in full, without Written approval of the Laboratory
- The Test report is not to be reproduced wholly or in parts & cannot be used as an evidence in a court of law & shall not be used in advertising media without our permission in writing.

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