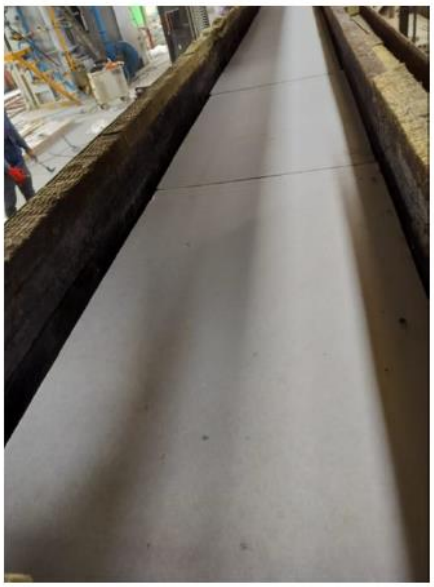
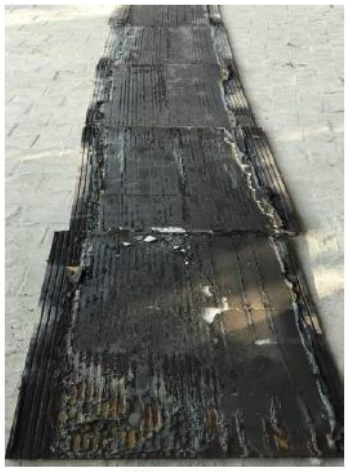
TEST REPORT

Photographs



Before test

During test



After test

TEST REPORT

Annexure A

Flame Spread Data

Time(minutes)	Distance (Feet)
1	1.5
2	3.5
3	4.9
4	5.8
5	6.5
6	7.2
7	7.9
8	8.9
9	9.6
10	10.5

Flame Spread data	
Calculated Flame Spread (CFS)	34.1
Flame Spread Index	**34**
Maximum Flame Spread (Ft)	10.5 Ft
Area under the Flame Spread Curve (Ft. Min)	66.3 ft. min.

Smoke Data	
Calculated Smoke Developed	997.6
Smoke Developed Index	**1000**
Area under the Smoke Curve (% Obsc. - Min)	755.25
Area under Heptane Curve (% Obsc. - Min)	75.71

The test duration was 10 minutes.

Analyst Signature

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TEST REPORT

Results and Discussion

Flame Spread Result	
Calculated Flame Spread (CFS)	34.1
Flame Spread Index	**34**
Smoke Developed Result	
Calculated Smoke Developed	997.5
Smoke Developed Index	**1000**

Classification Requirement as per IBC.

	Flame Spread Index	Smoke Development
Class 1 or A	0 – 25	450 Maximum
Class 2 or B	26 -75	450 Maximum
Class 3 or C	76 – 200	450 Maximum

Correction Factor

CORRECTION FACTOR FOR CALCULATING FLAME SPREAD INDEX

- If this total area (A_T) is less than or equal to 97.5 ft·min then
  The flame spread index shall be FSI = 0.515* A_T.
- If the total area (A_T) is greater than 97.5 ft·min then
  The flame spread index shall be FSI = 4900/ (195 - A_T).
  Here A_T represents Total Area i.e. $A_T = A_1 + A_2$
  A_1 = Area Under the curve where first peak is observed.
  A_2 = Area just above the curve in the line of First peak point.

CORRECTION FACTOR FOR CALCULATING SMOKE DEVELOPED INDEX

Smoke Developed (SD) is determined by dividing the total area under the obscuration curve by that of cement board and multiplying by 100. SD is then rounded to the nearest multiple of 5 if less than 200. SD values over 200 are rounded to the nearest multiple of 50.

Smoke Developed Index = $\frac{\text{Area under the Obscuration Curve}}{\text{Area under the Red Oak Curve}} \times 100$

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Report No. M231204012/M231204012-11

TEST REPORT

Discipline: Mechanical
Group: Building Materials

TEST REPORT FOR DETERMINING THE FLAME SPREAD INDEX AND SMOKE DEVELOPED INDEX

Test Sponsor:
SHINIL FRAME CO.LTD
Product Name:
POLYSTYRENE WALL PANELS WITH GYPSUM BOARD (Name given by test sponsor)

Test Standards:
ASTM E84-2021; Standard Test Method for Surface Burning Characteristics of Building Materials.

Testing Laboratory:
Spectro Analytical Labs Pvt. Ltd.
S-1 GNEPIP, Surajpur Industrial Area
Kasna, Greater Noida, Phase – V
Gautam Budha Nagar (U.P.)
Pin Code: 201308
Ph: 0120-2341251/52

Specimen Verification:

Length	**: 1000 mm**
Width	**: 600 mm**
Thickness	**: 19mm**

Sample Preparation: The sample was in sheet form having dimensions 19 mm in thickness and 600 mm in width and 1000 mm in length. A number of sheets were used to spread over the tunnel to form the requisite specimen length. During testing the sample was self-supporting

Analyst Signature

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