

# **Spectro**

### **TEST REPORT**

#### **Test Report Issued To:**

**GREENPANEL INDUSTRIES LIMITED** 

PLOT NO.2, SECTOR -9 ,IIE, SIDCUL, PANTNAGAR, U S NAGAR, RUDRAPUR, UTTRAKHAND - 263153,

**INDIA** 

Test Report No: D230120027/D230120027-11

Issue Date: 30-Jan-2023

Sample Booking/Receipt Date: 20-Jan-2023

Test Start Date: 27-Jan-2023

Test Completion Date: 30-Jan-2023



Customer Relationship Number 64484

**Sample Description:** 

**GREENPANEL CLUB PLYWOOD** 

**Testing for Life** 

Customer Reference No:

Kind Attention: MR. PUROSOTTAM KUMAR SHARMA

Sample Condition: Good

Sample Quantity (Approx): 8 - Nos Sample Size (Approx): 600X1meter - mm

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED



Report Issued By

ULR-TC631423000001044F

Authencity of report can be verified by mail at <a href="verification@spectrolab.in">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signed Report and hence doesn't require Physical Signature">verification@spectrolab.in</a><a href="This is a Digitally Signature">verification@spectrolab.in</a></a><a href="This is a Digitally Signature">verification@spectrolab.in</a><a href="This is a Digitally Signatur

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Discipline: Mechanical Group: Building Materials

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

**Test Sponsor:** 

**GREENPANEL INDUSTRIES LIMITED** 

**Product Name:** 

**GREENPANEL CLUB PLYWOOD** (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 Private Limited** 

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 : 19 mm

**Sample Preparation:** The sample was 19 mm in thickness and 600 mm in width and 1000 mm in length. The sample was used to spread over the tunnel to form the requisite specimen length. During testing the sample was self-supporting.







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#### Results

Flame Spread Result

Calculated Flame Spread (CFS) 6.7 Flame Spread Index 7

**Smoke Developed Result** 

Calculated Smoke Developed 42.75 Smoke Developed Index 45

Result: The tested specimen qualified for Class 1 as per IBC. 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 = Area under the Obscuration Curve × 100

Area under the Red Oak Curve







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### TEST REPORT

#### **Annexure A**

### Flame Spread Data

Time(minutes)	Distance (Feet)
1	0.5
2	1.0
3	1.2
4	1.5
5	1.5
6	1.5
7	1.5
8	1.5
9	1.5
10	1.5

Flame Spread data	
Calculated Flame Spread (CFS)	6.7
Flame Spread Index	7
Maximum Flame Spread (Ft)	1.5 ft.
Area under the Flame Spread Curve (Ft. Min)	13.2 ft. min.
Smoke Data	
Calculated Smoke Developed	42.75
cartarated official perceptual	42.73
Smoke Developed Index	45.73
•	

The test duration was 10 minutes.







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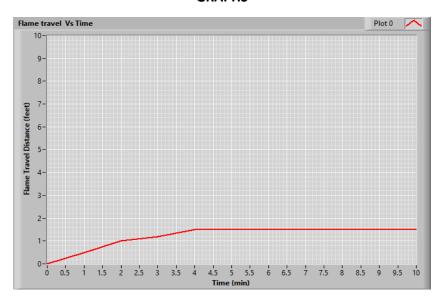
**Authorised Signatory** 

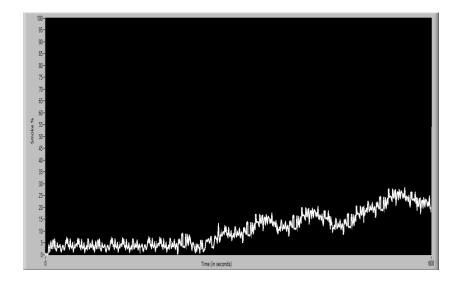
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#### **Annexure B**

#### **GRAPHS**











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### **Photographs**







**During Test** 



After Test







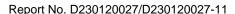


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## **Spectro**

#### General Terms & Conditions

pectro Analytical Labs Private Limited (formerly Spectro Analytical Labs Limited) undertakes to provide service to its customer subject to the terms & conditions mentioned her

- subsequent orders. Each order accepted by ES will be treated as a separate contract between ES and the customer.

  2.3 Any logistic service off-site of the laboratory must be paid in full, unless it has been cancelled or modified by the customer at least forty eight hours (48) in advance for collection services, ninety six (96) hours in advance for sampling services and one (1)

- 3. Pfice and Terms of Payment
  3.1 If the acknowledgment of an order does not state otherwise, ES\* prices apply "ex works", excluding packaging, which is charged separately. Any additional cost or disbursement (e.g. incurred by ES in connection with the order) must be paid by the customer.
  3.2 Prices are exclusive of all applicable taxes (GST or Other taxes) and are based on tariffs in force at the day of the remittence of the offer to the customer. Applicable taxes are those in force at the date of invoicing.
  3.3 Unless specifically agreed on thermise by ES in its acceptance of an order, payment of all invoices is due strictly which certain 30 days of the invoice date. Any dispute about invoices must be raised within 30 days of the invoice sets within 30 days of the invoice s initial examination is that an analysis or production is impossible or is possible only under more difficult conditions than originally anticipated ± for example, because the samples or materials have been interspersed with foreign materials or substances that were not reported by the customer or are degraded ± ES shall be entitled to terminate or interrupt the order and the customer shall bear costs incurred by ES to that point.
- 1.42. The customer must ensure, and hereby warrants, that no sample poses any danger, inducting on its site, during transportation, in the laboratory or otherwise to ES premises, instruments, personnel or representatives. It is the customer's responsibility to insure compliance with hazardous waste regulations, including any known or suspected toxic or other contaminant that may be present in the sample and its likely level of contamination as well as the risks to ES premises, instruments, personnel or representatives about sample health and safety concerns, including any known or suspect doxic or other contaminant that may be present in the sample and its likely level of contamination as well as the risks to ES premises, instruments, personnel or representatives related to the contamination. The customer shall be responsible for, and indemnifies ES against, all costs, damages, liabilities and injuries that may be caused to or incurred by ES or its personnel or representatives including on the sampling site, during the transportation or in the laboratory by the customer's sample or by sampling site conditions. The customer shall be all extraordinary costs for adequate disposal of hazardous waste resulting from the sample, whether or not described as hazardous waste. At ES' request, the customer must provide ES with the exact composition of the samples.

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  5. Property fights on Sample Material and Sample Storage

  5.1 All samples become the property of ES to the extent necessary for the performance of the order. Unless the customer pays for storage, ES will alway no obligation or liability for samples sent to ES for storage, including samples requiring refrigeration however ES retains the sample for three months. If the customer pays for further storage, ES will alway commercially reasonable steps to store the samples, according to professional practice.

  5.2 Sample will be destroyed after one month from the date of release of test report unless specified by regulatory or ES and the customer have agreed in writing on the terms of ES' retention of the sample. ES also can dispose of or destroy the samples after the agreed upon retention period, without further notice and at customer's cost, should an extra cost for ES arise to comply with any regulation (for example, with respect to disposal of hazardous waste). If the customer requests the return of unneeded sample material, ES will return them to the customer, at the customer's cost and risk.
- 5.3 The sample description is not verified in all cases and is given "as described by customer". Sample not drawn by us and analysis conducted on "as received bases". Unless specified otherwise
- 5.4 Lab retain the copy of report for 2 years from the date of release of test report or instructed by customer or any regulatory requirement and authenticity of test report can be verified within 2 years by sending mail at verification@spectrolab.in

#### 6. Delivery Dates, Turnaround Time

- 6. Delivery Dates, Turnaround Time
  6. Delivery Dates and furnaround times are estimates and do not constitute a commitment by ES. Nevertheless, ES shall make commercially reasonable efforts to meet its estimated deadlines.
  6.2 Results are generally sent by email and/or by mail, or via other electronic means, to the attention of the persons indicated by the customer in the order, promptly after the analysis is completed.
  7. Transfer of Property
  7.1 Title in any analysis results, products, equipment, software or similar supplied by ES to the customer will remain with ES until all invoices in respect thereof have been paid by the customer in full, and until such full payment, the customer shall have no property rights or other rights to use them. In addition, even if ES has accepted and begun to fulfil an order, ES has the right at any lime stop processing that order and to stop doing any work for a customer if that customer is late in paying any amount due to ES, whether for that or any other order.
  7.2 Even after payment in full by the customer, ES shall retain the right to store, use and publish all analysis results in an anonymous form which does not identify the customer.

- 8. Limited Warranties and responsibilities
  8.1 Orders are handled in the conditions available to ES in accordance with the current state of technology and methods developed and generally applied by ES and the results may not always be 100% exact and/or relevant. Analyses, interpretations, sments, consulting work and conclusions are prepared with a commercially reasonable degree of care but ES cannot guarantee that these will always be correct or absolute. This limited warranty expires three months after the delivery date of the samp knowledgement of the order does not specifically state otherwise. In all cases, the customer must independently verify the validity of any results, interpretations, assessments and conclusions supplied by ES, if it wishes to rely on the same in respect of natters of importance and shall do so at its own risk.
- 8.2 Each testing report relates exclusively to the sample analyzed by ES. If ES has not expressly been mandated and paid for the definition of the sampling plan (including which samples of which raw materials and finished products and at which frequent should be analyzed) and the definition of the precise range of analysis to be performed or if the customer has not followed ES recommendations, ES shall not bear any responsibility if the sampling plan and/or the range of analysis to be performed prove to be
- 8.3 The customer is responsible for the proper delivery of samples sent to ES for examination/analyses or materials sent for production. Unless otherwise specifically agreed in writing by ES, ES accepts no responsibility for any loss or damage, which may occur
- 8.3 The customer is responsible for the proper delivery of samples sent to ES for examination/analyses or materials sent for production. Unless otherwise specifically agreed in writing by ES, ES accepts no responsibility for any loss or damage, which may occur to any sample in transar to 1 or any facility or site where logistics services are being delivered. The outsomer will at all times be lable for the security, packaging and insurance of the sample from its dispatch until it is delivered by the offices or the laboratories of ES. ES will use commercially reasonable care in handling and storing samples, but ES shall not be held responsible for any loss or destruction of samples even after their receipt at its laboratories.

  8.4 The customer warrants and represents to ES that all samples sent to ES for analysis are safe and in a stable condition and undertakes to indemnifty ES for any losses, injuries, claims and costs which ES, or its personnel, may suffer as a result of any sample not being in a safe or stable condition, notwithstanding that the customer may have given an indication on the sample or any order form of any perceived problem with the sample. The customer must always inform ES in writing prior to shipment and label the packaging, samples and/ or containers appropriately; if the samples are dangerous or otherwise of a hazardous nature.

  8.5 Unless explicitly agreed in writing by all parties, the contractual relationship shall be exclusively between the customer and ES. There shall be no third party beneficiary or collateral warranty relating to any order and the customer shall indemnify and hold ES hammless from and against any and all third party claims in any way relating to the order by the customer.

  8.6 The result given on the test report refer only to tested samples and application parameters.

- its about the test report should be communicated in writing within 7 days of the issue of the report

#### 9. Limitation of Liability

- 9. Limitation of Liability
  9.1 Except to the extent that such limitations are not permitted or void under applicable law: (a) ES (together with its workers, office clerks, employees, representatives, managers, officers, directors, agents and consultants and all ES partners and affiliates, the "ES Indemnifying Partiess) shall be liable only for the proven direct and immediate damage caused by the ES Indemnifying Party's willful misconduct in connection with the performance of an order and then, only if ES has received written notice thereof not later than six (6) months after the date of the customer's knowledge of the relevant claim (unlesses any longer period is prescribed under applicable law and cannot be contractually limited), and (b) in all cases (whether arising under contract, tort, negligence, strict liability, through indemnification or otherwise), the ES Indemnifying Parties liability per claim or series of related dains, and the customer's exclusive remedy, with respect to ES' services which fall under these Terms and Conditions, shall be limited to the lesser of (i) the direct and immediate loss or damage caused by the ES Indemnifying Party's willful misconduct in connection with the performance of the order and (ii) Invoice amount ES actually received from the customer in relation to the order subject to maximum of Rs 1 and Riverses Cova Lav.)
- gr (i) the arrest and immensate loss or damage caused by the Es Indemnifying Party swill insconduct in connection with the performance of the order and (ii) invoice amount Es actually received from the customer in relation to the order suppert to first fact (Rupees One Lac)
  9.2 The ES Indemnifying Parties shall not be liable for any indirect, direct or consequential loss or damage (including but not limited to, loss of business, profits, goodwill, and business opportunities or similar) incurred by the customer or by a fact of a damage (including the state of the state of

under or services or products or software provided pursuant to these Terms and Conditions, accept to the detent that the ES Indemnifying Parties are required to bear them according to these Terms and Conditions, and by placing an order the customer agree provide that indemnification.

10. Repeated Analysis

Objections to test results can be made within thirty (30) days after the customer receives the results. However, unless it would appear that the repeated analysis do not match those of the first one, the customer shall bear the costs of the repeated testing or review. Furthermore, a repeated analysis will be possible only if ES has a sufficient amount of the original sample on hand when it receives the customer's objection. Otherwise the customer will be required to pay all costs, including sampling, transportation, analytical and disposal costs for the repeat analysis. No retest request will be accepted after return of tested sample.

ors, damages or other problems caused by events or circumstances which are unforeseen or beyond ES' reasonable control, or which result from compliance with governmental requests, laws and regulations

#### 12. Confidentiality & Processing of Customer Data

- 12. CS shall be entitled to save and process personal or commercial data received from the customer in any way, no matter whether such data stem from the customer directly or from a third party and shall use commercially reasonable efforts to keep such data confidential, in compliance with applicable law.

  12.2 ES shall use commercially reasonable efforts to keep all analysis results and service reports confidential, subject to ES' rights set forth in clause 7.2 and the right to use them in order to demonstrate its entitlement to payment for services rendered.

  12.3 Analysis results are prepared and supplied exclusively for the use of the customer and should not be divulged to a third party for any purposes without the prior written agreement of ES. In addition, the customer is required to maintain secrecy concerning all services provided by ES and their results as well as the composition of products and software delivered by ES. Analysis results are not to be publicly discolored or exploited without the prior written consent of ES. Even if such written cons
- Indemnified Parties may incur as a result of such divulgence or any such third party reliance.

  12.4 Test report certificate shall not be reproduced except in full, without written permission of laboratory
- 12.5 Test report certificate shall not be reproduced wholly or in parts and cannot be used as an evidence in a court of law and shall not be used in adverting media, without written permission of laboratory

- 13. Disclaimer and Miscellaneous
  13. IALL TERMS, CONDITIONS AND WARRANTIES (INCLUDING ANY IMPLIED WARRANTY AS TO MERCHANTABLE QUALITY OR FITNESS FOR A PARTICULAR PURPOSE) AS TO THE MANNER, QUALITY AND TIMING OF THE TESTING
  SERVICE AND RESULTS, EQUIPMENT, PRODUCTS OR SOFTWARE SUPPLIED BY ES ARE EXCLUDED TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW. THE WARRANTIES, OBLIGATIONS AND LIABIUTIES OF ES CONTAINED IN
  THESE TERMS AND CONDITIONS ARE EXCLUSIVE.
  13.2 These Terms and Conditions may be modified in writing from time to time by ES and orders will be governed by the most recent version of these Terms and Conditions that is in effect at the time ES accepts the order.
  13.3 Should a count valve, limit or hold to be invalid, diegal or unefforceable any part of these Terms and Conditions that it is in effect at the time ES accepts the order.
  13.4 Failure by either ES or the customer to exercise the rights under these Terms and Conditions shall not constitute a waiver or forfeiture of such rights.

- 14. Governing Law/ Jurisdiction
- 14.1 The construction, validity and performance of these Terms and Conditions shall be governed by the laws and the commercial courts of Delhi Jurisdiction, Delhi State, India in which the registered office of the ES company which accepted the order in question is located (including in cases involving multiple counsels for the defense or third-party respondents), which shall have exclusive jurisdiction.

\* End of Report \*

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