



सी एस आई आर - राष्ट्रीय भौतिक प्रयोगशाला  
CSIR-NATIONAL PHYSICAL LABORATORY

(Council of Scientific and Industrial Research)

राष्ट्रीय मेट्रिकी संस्थान (एनएमआई), सदस्य बीआईएम एवं हल्कसिगनेचरि सिग्नेचरि (एनएमआई)  
(National Metrology Institute (NMI), Member BIPM and Signatory CIPM - MRA)

डॉ. के. एस. कुष्णन मार्ग, नई दिल्ली-110012, भारत

Dr. K. S. Krishnan Marg, New Delhi-110012, INDIA

दूरभाष/Phone : 91-11- 4560 8441, 8589, 8610, 9447, फैक्स Fax : 91-11- 4560 8448

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परीक्षण रिपोर्ट  
TEST REPORT

Sound Absorbing Material

दिनांक/Date	रिपोर्ट संख्या/Report No.	पृष्ठ /Page	पृष्ठों की संख्या /No. of Pages
31-01-2022	21111023/D1.07/T-094	1	2

1. Tested for : M/s. Strawcture Eco Pvt. Ltd.,  
52, Hari Om Nagar Colony,  
Phase -II, Civil Line,  
Gorakhpur - 273001  
Customer Ref. No.: Nil  
Dated 18/11/2021
2. Description and Identification of Items : AgriBio Panels (Natural Agri- Residue Bagasse),  
Composition is 90% by weight Natural Agri- Residue  
Bagasse, 5% by weight is binder  
(Sample size: 914 mm x 610 mm x 12 mm)
3. Environmental Conditions : Room Temperature: 23.0 ± 5.0 °C  
Relative Humidity: 50.0 ± 20.0 %RH
4. Standards used and Associated Uncertainty : Dual channel Acoustic Analyzer with  
Working Standard Microphone  
: ±0.4 dB to 0.6 dB
5. Traceability of Standard Used : The standards used for testing are traceable to  
National Standards which realize the units of quantities  
according to the International System of Units (SI).
6. Principle/Methodology of Testing and Test Procedure No. : Sound absorbing coefficient by diffuse field  
method: IS: 8225-1987 "Measurement of Sound  
Absorption Coefficient in Reverberation Room"  
(Equivalent to ISO: 354-2003,  
ASTM C-423 09a and ASTM 423-90)  
Sub-Div # 1.07/A/Doc. 3/ TP # 14

7. Results:

As requested by the party, the material was tested only for its sound absorption coefficient by reverberation method as per IS:8225 - 1987 under existing environmental conditions in a reverberation chamber of volume 271 m<sup>3</sup>, surface area 240 m<sup>2</sup> and average reverberation time of 6 sec. The chamber was of irregular shape and adequate diffusion was obtained by using suspended stationary diffusers.

परीक्षणकर्ता:

Tested by :

(Dr. Chitra Gautam)

जाँचकर्ता:

Checked by :

(Dr. Naveen Garg)

प्रभारी वैज्ञानिक:

Scientist-in-charge:

(Dr. Naveen Garg)

जारीकर्ता:

Issued by:



डॉ. श्रीनिवास राव रागम  
Dr. Srinivasa Rao Ragam



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राष्ट्रीय मॉट्रोलॉजी संस्थान (एनएमआई), सदस्य बीएमपीएम एवं सिग्नाचरी CIPM - MRA  
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A loudspeaker with uniform spherical radiation was used as the source of sound suspended at a height of 2.5 m above the floor in one corner while the microphone was kept in different locations near the other corners of the room and at least 1 m away from any surface. The material was kept on 50 mm airgap backing so as to get an exposed sample area of 12.0 m<sup>2</sup>.

Measurements were made by using 1/3-octave bands of random noise and several decay rates were determined for each of the microphone and loudspeaker positions. The sound absorption coefficient was calculated and the correction for boundary absorption was applied. The results were:

Frequency (Hz)	Sound Absorption Coefficient (α)	NRC
125	0.14	0.61
250	0.26	
500	0.53	
1000	0.71	
2000	0.65	
4000	0.55	

The evaluated uncertainty in measurement is  $\pm 5\%$  which is at a coverage factor  $k = 2$  and which corresponds to a coverage probability of approximately 95% for normal distribution.

8. Date of Testing : 31-01-2022

9. Remarks : NIL

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राष्ट्रीय मॉलेक्यूलर संस्थान (एनएमआई), सदन नई दिल्ली एवं हस्तशिल्पकारों की संस्था - एनआईएम (National Metrology Institute (NMI), Member BIPM and Signatory CIPM - MRA)

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