

# Bamboo Wood: Economically & Ecologically Sustainable Home Décor Item

*Products Certified By*



*Registered Under*



# Company Profile

ESES Bio Wealth Pvt. Ltd. is a Strand Woven Bamboo Wood manufacturing unit, first of its kind based in Jagiroad, Assam.

Implementing the ideology of “*Make in India*” initiative to boost the “*Atma Nirbhar Bharat*” phenomena, we hereby present to you EF Wood <sup>™</sup> (bamboo wood) an ideal alternative to hardwood.

Our company aims to promote green building by spreading awareness on the utilization of bamboo wood both as a building material & furnishing solution.

So by reducing our dependence on timber resources, we will minimize deforestation to a great extent. This will contribute towards safeguarding our ecology and in turn save our planet.

We strive to build a better tomorrow while creating a better world to live in.



# What is Bamboo Wood ?

- ❖ **Technical Term :** *Strand Woven Bamboo Wood*
- ❖ Also known as “*Bamboo Timber*” or “*Bamboo Lumber*”
- ❖ Bamboo wood is a type of engineered wood which is made purely from bamboo strands and bonded with a specially formulated resin
- ❖ The design and texture of bamboo wood is quite similar to any other hard wood
- ❖ Bamboo Timber is 100% substitute to hardwood material
- ❖ The strength and durability is significantly higher than the best quality hard wood available (refer to technical data slide)

# Why Bamboo Wood ?

- ❖ Eco-Friendly & Green Product
- ❖ High Density
- ❖ Bend & Warp Resistant
- ❖ Termite & Borer Proof
- ❖ Water Resistant
- ❖ Fire Retardant
- ❖ Acoustic Properties - Wall Cladding





# Technical Details of EF™ Bamboo Wood (General)

Sl. No.	Performance Characteristics	Test Method	Criteria	Result Obtained
1.	Density	IS: 1708 (Part 2) 1986	$\geq 900 \text{ Kg/m}^3$	1118 Kg/m <sup>3</sup>
2.	Hardness	IS: 1708 (Part 10) 1986	$\geq 800 \text{ Kg}$	1282 Kg
3.	Modulus of Rupture	IS: 1708 (Part 5) 1986	$\geq 150 \text{ N/mm}^2$	260.72 N/mm <sup>2</sup>
4.	Modulus of Elasticity	IS: 1708 (Part 5) 1986	$\geq 17500 \text{ N/mm}^2$	24762 N/mm <sup>2</sup>
5.	Moisture Content	IS: 1708 (Part 1) 1986	$\leq 12\%$ (oven dry method)	7.13 %
6.	Screw Withdrawal Resistance	IS: 2380 (Part 14) 1977	$\geq 200 \text{ Kg (Edge)}$	375 Kg
		IS: 2380 (Part 14) 1977	$\geq 250 \text{ Kg (Flat Face)}$	422 Kg
7.	Flame Penetration	IS: 1734 (Part 3) 1983	$\geq 30 \text{ min}$	136 min
	Flammability	IS: 1734 (Part 3) 1983	$\geq 5 \text{ min}$	38 min
	Rate of Burning	IS: 1734 (Part 3) 1983	$\geq 10 \text{ min (time taken to lose weight from 70% to 30%)}$	27 min

*\* As per tests conducted at IPIRTI Kolkata - Dated: 26<sup>th</sup> July , 2019*

# Termite & Borer Test [Laboratory Test]

## **PART - A : Termite Test (06 Months)**

### Numerical Ratings

- ❖ Control (Sal Wood) : 0.5
- ❖ Bamboo Wood : 0.0

### Condition of Samples

- ❖ Control (Sal Wood) - Trace attack, termite attacked less than 5% of surface area
- ❖ Bamboo Wood - No termite attack

## **PART - B : Borer Test (06 Months)**

### Condition of Samples

- ❖ Control (Sal Wood) - No attack
- ❖ Bamboo Wood - No attack



# Technical Specification - EF™ Flooring & Wall Cladding

Sl. No.	Name of Test	Test Method	Criteria	Residential	Commercial
1.	Cross Cut Test	DIN EN ISO 2409	$\leq$ GT 2	GT 0	GT 0
2.	Scratch Resistance Coin Test	Hamberger Planner	$\geq$ 20 N	37 N	43 N
3.	Heat Resistance (Cigarette Test)	DIN 68861 Part 6	6 A	6 A	6 A
4.	Impact Resistance	DIN EN 438 Part 2-12	$\geq$ 2 N	5 N	8 N
5.	Scratch Resistance Surface	Steel Wool Test, Type 2	No Scratch	No Scratch	No Scratch
6.	Abrasion Resistance	DIN EN 438-2 (500g load per wheel S 33)	IP > 100 Cycle	IP - 200 Cycle	IP - 1550 Cycle
7.	Chemical Resistance	DIN 68861 Part 1	5	5	5
8.	In Flammability	DIN 4102 Part -14	B1	B1	B1

\* Test Results acquired from: Klumpp Test Facility, Singapore - Dated: 24<sup>th</sup> June, 2019

# Certifications



## CERTIFICATION

In the opinion of Building Materials & Technology Promotion Council's Board of Agreement (BMBA), **Strand Woven Bamboo Wood Floor Tiles & Wall Panels** bearing the mark manufactured by M/s ESES Bio Wealth Pvt. Ltd. is satisfactory if used as set out above in the text of the Certificate. This Certificate PAC No.: **1051-P/2020** is awarded to **M/s ESES Bio Wealth Pvt. Ltd.**, Jagiroad, Assam.

The period of validity of this Certificate is for a period of One year i.e. from 13/01/2021 to 12/01/2022 as shown on Page 1 of the PAC.

This Certificate consists of a cover page and pages 1 to 42.

### Embossing

Dr. Suresh Kr. Agrawal  
Chairman, TAC  
& Member Secretary, BMBA  
Building Materials and Technology Promotion Council  
Ministry of Housing and Urban Affairs, Govt. of India  
Core 5A, 1st Floor, India Habitat Centre  
Lodhi Road, New Delhi-110003

On behalf of BMTPC Board of Agreement, Chairman, Technical Assessment Committee (TAC) of BMBA & Member Secretary, BMTPC Board of Agreement (BMBA) Under Ministry of Housing and Urban Affairs, Government of India

Place: New Delhi, India

Date: 11/4/21



## GRIHA Council

This is to certify that the products of

### "ESES BIO WEALTH PRIVATE LIMITED"

**Strand Woven Bamboo Wood  
(Bamboo Wood Flooring and Wall Paneling)**

have been included in the GRIHA Product Catalogue under the following categories:

**GRIHA V.3 criterion: 21  
GRIHA V.2015 criterion: 12  
&  
SVAGRIHA criterion: 17**

The products can be used in GRIHA & SVAGRIHA registered projects to meet the GRIHA & SVAGRIHA norms, respectively. This is valid only for the products which have been mentioned above.

The certificate for the above mentioned products is valid from  
**9<sup>th</sup> December 2019 – 8<sup>th</sup> December 2021**

**Sanjay Seth**  
Chief Executive Officer

Note: This evaluation has been done based on the documentation - in the form of 3rd party test results and/or declarations - submitted by the manufacturer to GRIHA Council.

GRIHA Council is a joint initiative of Ministry of New and Renewable Energy, Government of India and The Energy and Resources Institute (TERI) to implement GRIHA (Green Rating for Integrated Habitat Assessment), India's National Rating System for Sustainable Habitats.  
[www.grihaIndia.org](http://www.grihaIndia.org)





# **EF Wood™ Product Range**

**Bamboo Wood Floor Tiles**

**&**

**Bamboo Wood Wall Cladding**



# EF™ Wood Floor Tiles

*Standard Size : 2100mm x 100mm x 14mm*



*Pistachio*



*Cappuccino*



*Cocoa*



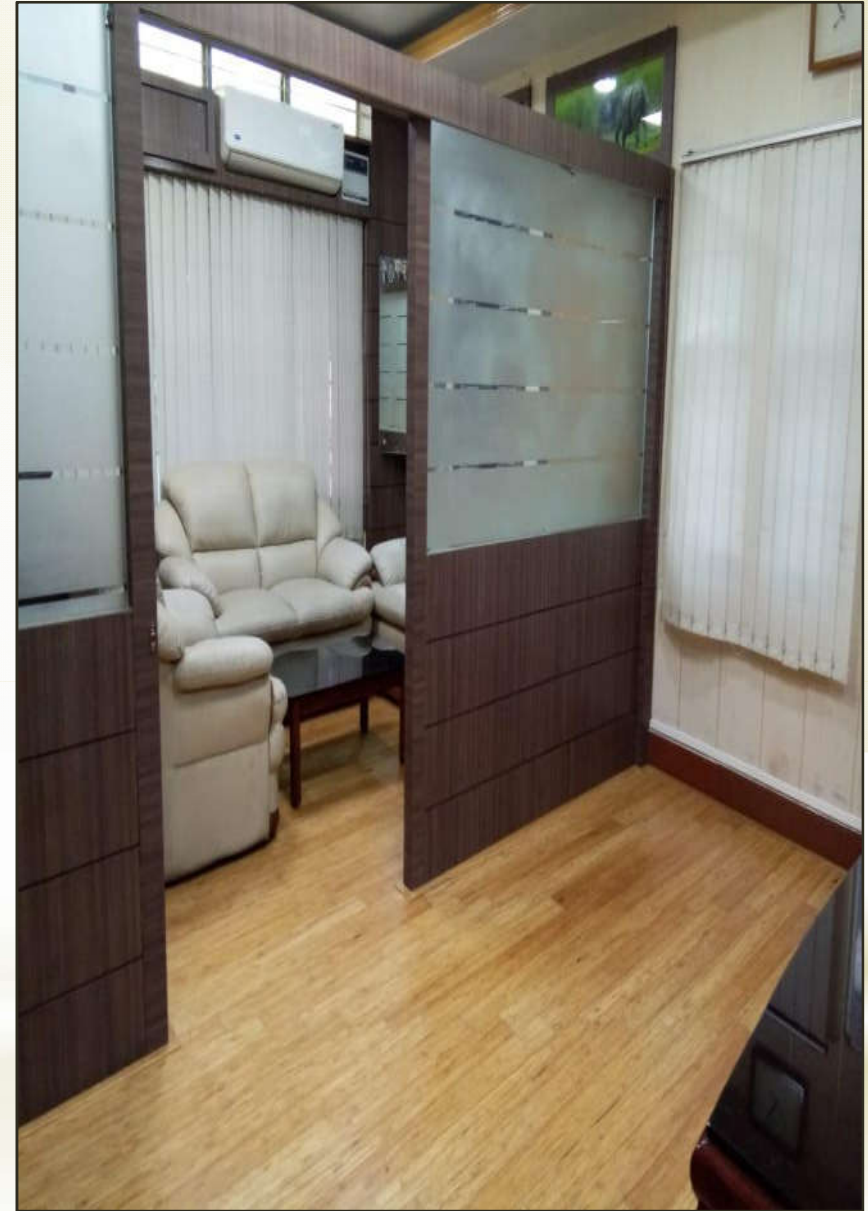
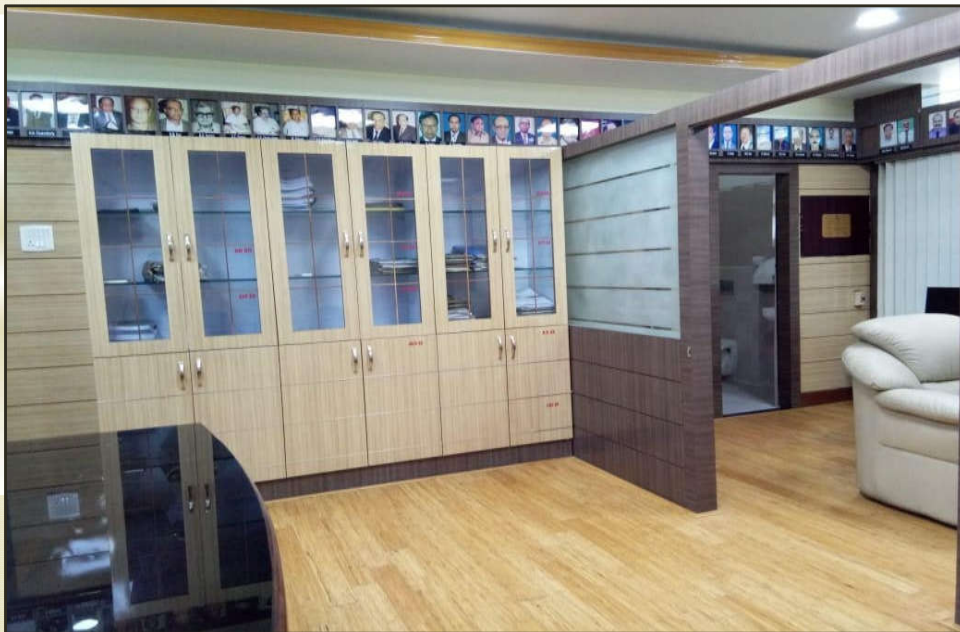
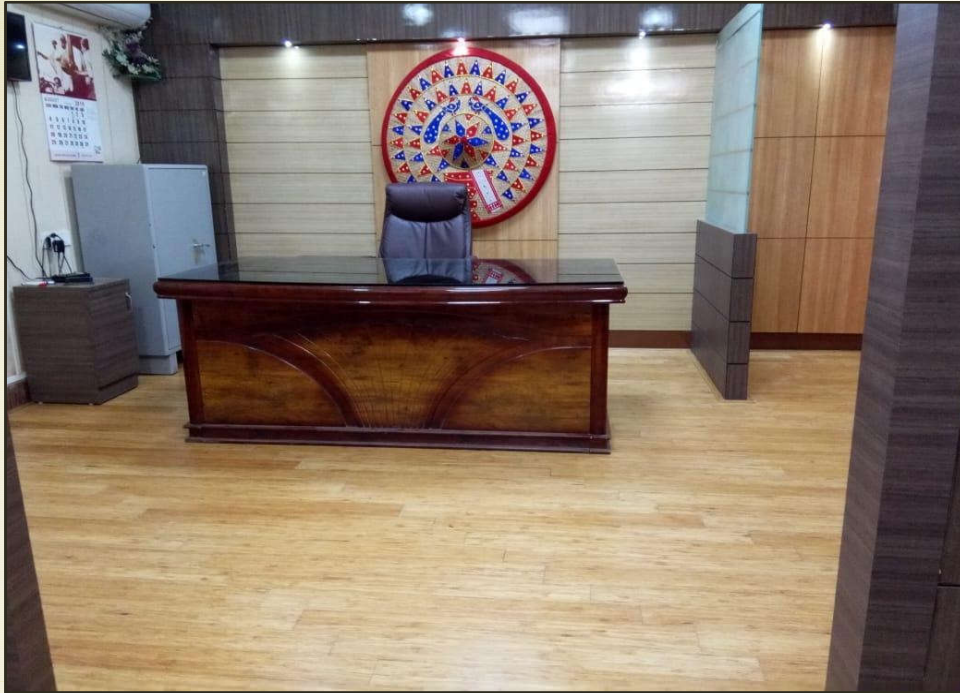
*Pomegranate*





*Assam Secretariat Office, Dispur, Guwahati, Assam*





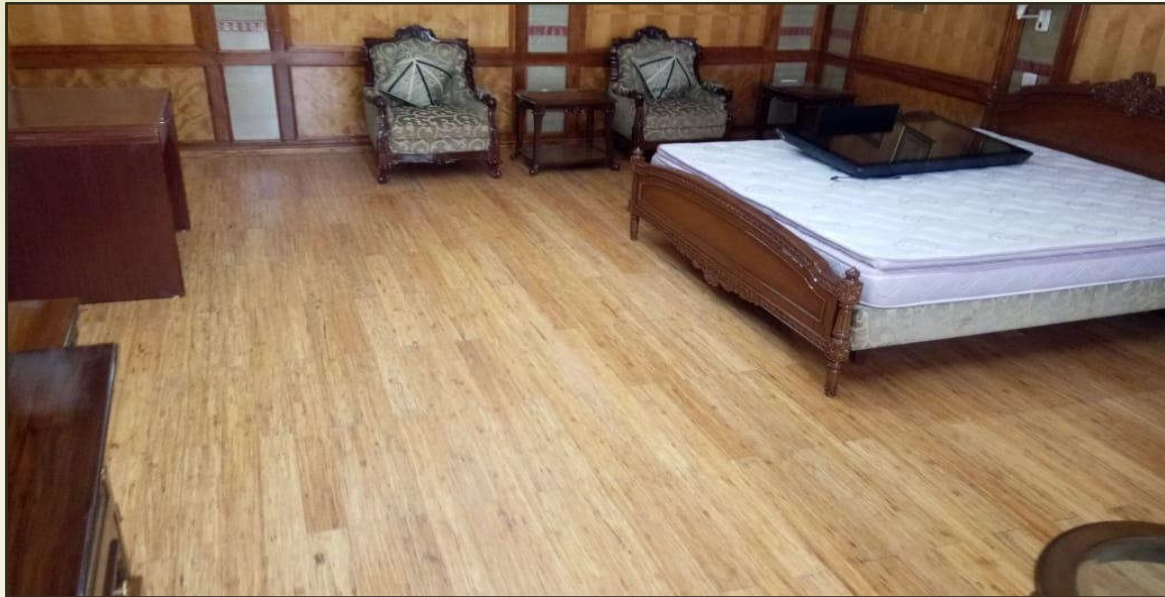
***PWD Chief Engineer (Roads) Office,  
Chandmari, Guwahati, Assam***



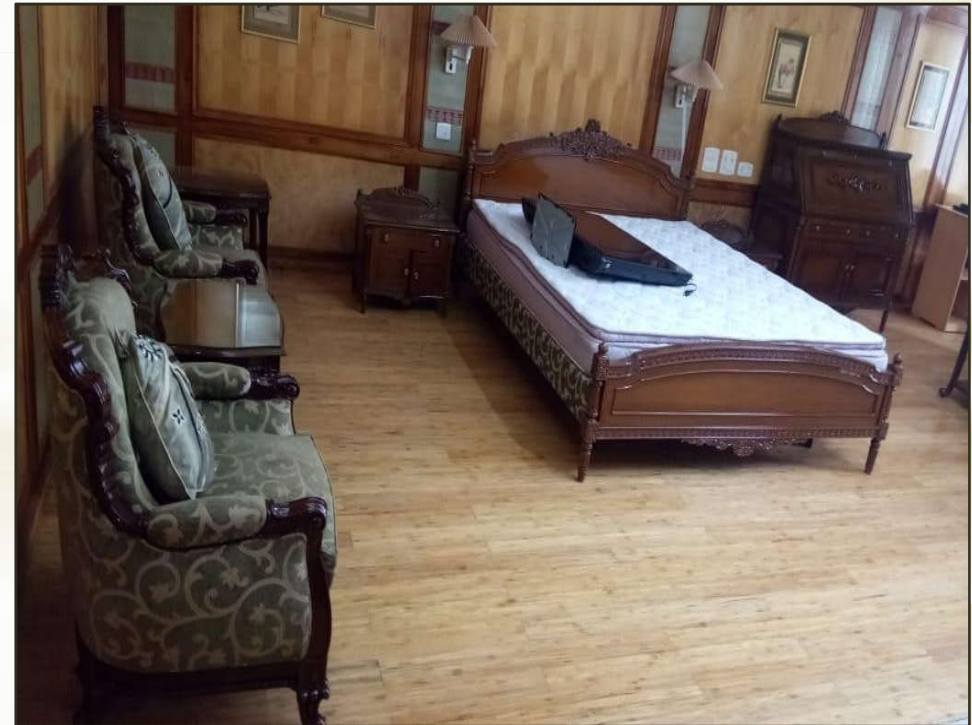
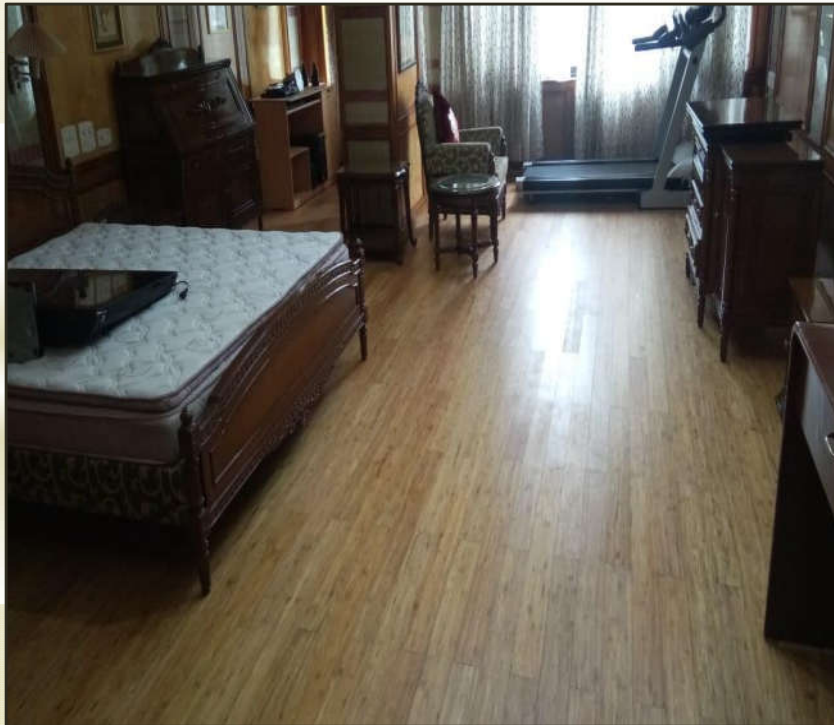


***EF™ Flooring & Wall Cladding @  
Assam Cancer Care Foundation  
(TATA TRUSTS), Assam***





**VVIP Guest House,  
Kharguli Hills -  
Guwahati, Assam**

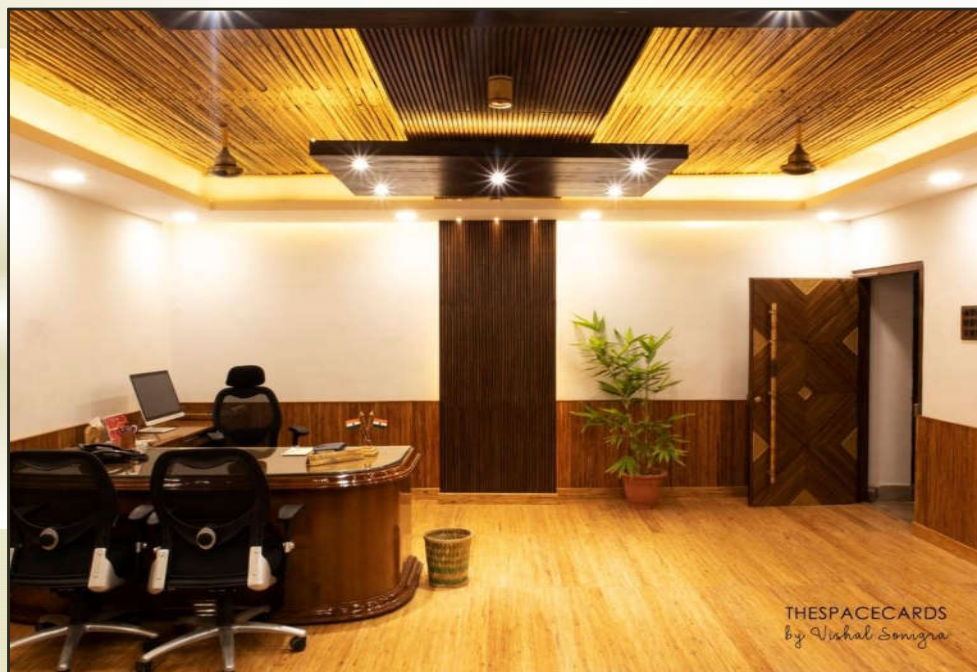
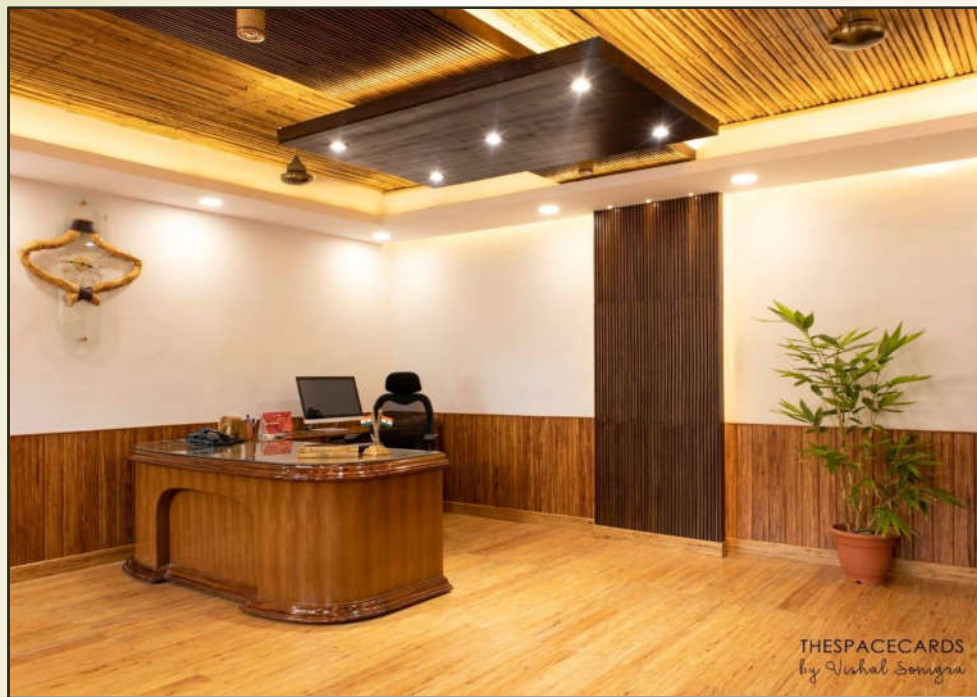






**18,000 Sq.ft of EF™ Bamboo Wood Flooring @ Global Investor's Summit, Advantage Assam - Guwahati**





**EF™ Bamboo Wood Flooring & Wall Cladding supplied to Maharashtra Bamboo Development Board, Nagpur, Maharashtra**





***Officer's Club Auditorium  
at  
Assam Petro-Chemicals Limited (APL),  
Namrup - Assam***





## Old temple rebuilt using bamboo at Sai Mandir

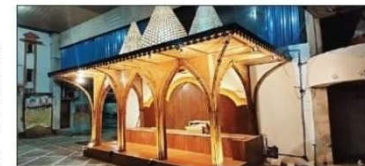
Vijay Pinjarkar  
@timesgroup.com

Nagpur: Bamboo has long been used for building shelter, houses, weapons, and also as a food. The city-based Shree Salbaba Seva Mandal, Nagpur, has made bamboo sacred by building a temple out of it.

"The 200 sqft temple built inside the Sai Mandir (Wardha Road) premises out of bamboo is the first such in the region replacing the earlier concrete structure. The 'Prana Pratishtha' (bringing life to the temple) was held on Monday to install idols of Maa Durga, Lord Ganesh, and Dattatraya," said Avinash Shegaonkar, secretary of the temple.

The bamboo temple is the result of joint efforts of Green Planet Social Foundation (GPSF), an NGO promoting bamboo development, Maharashtra Bamboo Development Board (MBDB), temple trustees, and Ganesh Harimkar, an architect who designed the temple.

"It's a small dream come true for us. We had earlier planned a bamboo walkway from the entrance to the temple point at Shirdi. Somehow it did not materialize. When the structure at Sai Mandir was to be replaced, bamboo concept came to our mind. We approached the MBDB, which readily agreed," said Yashodhara Dhanwatey,



The 200 sqft temple built inside the Sai Mandir (Wardha Road) premises out of bamboo is the first such in the region replacing the earlier concrete structure. Traditional bamboo weaving is used as an infill panel between arches

director, Green Planet.

"This is God's work commissioned by the divine in every sense of the word and we are a mere channel of delivery sent to reconstruct what was destined to be. The humble bamboo is stronger than mild steel and has multiple uses," Dhanwatey said.

"City's Sai Mandir is the only temple trust to have reconstructed old temple completely with bamboo. In less than a day, the design iterations were presented and approved and in less than a week the reconstruction started. It took 25 days to complete the work costing ₹8 lakh. MBDB provided artisans while labour cost was borne by the trust and knowledge provided by Green Planet," said Anand Fiske of GPSF.

The temple depicts arches, domes, delicate weaves, and bends. The struc-

tural potential of bamboo is explored by the use of arches and curved support members.

The roof is supported by bamboo arches from the front and both sides and rested on the existing wall at the rear side. Traditional bamboo weaving is used as an infill panel between arches. Cutouts for shikhar (domes) are left in the roof keeping in mind the philosophy of temple architecture.

The three shikharas are conceptualized from the form of coconut and made out of bamboo weaving layered with epoxy varnish and cloth from inside. The arched back panel is made using bamboo mat board finished in polyurethane and bamboo weaving grill is bordered in arched profile and is backlit with LED.

A platform for idols is clad with bamboo plywood and bamboo wood flooring is used for flooring.



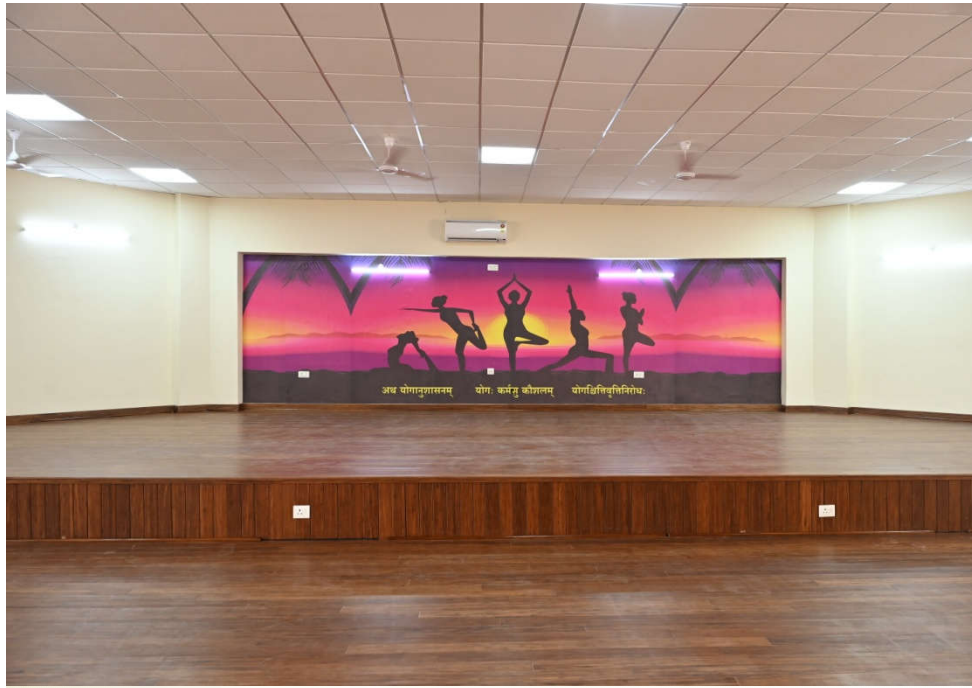


***Newly Developed Bamboo Emporium  
@ Rain Forest Research Institute  
(RFRI) Jorhat finished with EF™  
Bamboo Wood Flooring***



*Residential Flooring @ Living Room*





**Yoga cum Meditation Centre @ Patna, Bihar**





**Bihar Vidhan Sabha Auditorium, Patna**



# EF™ Wood Wall Cladding



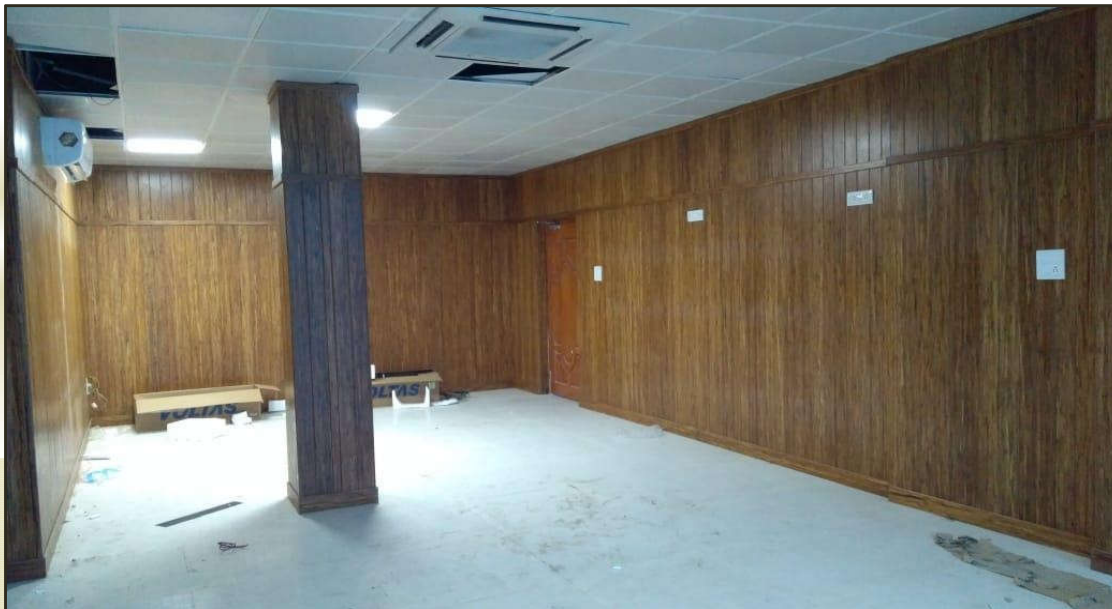
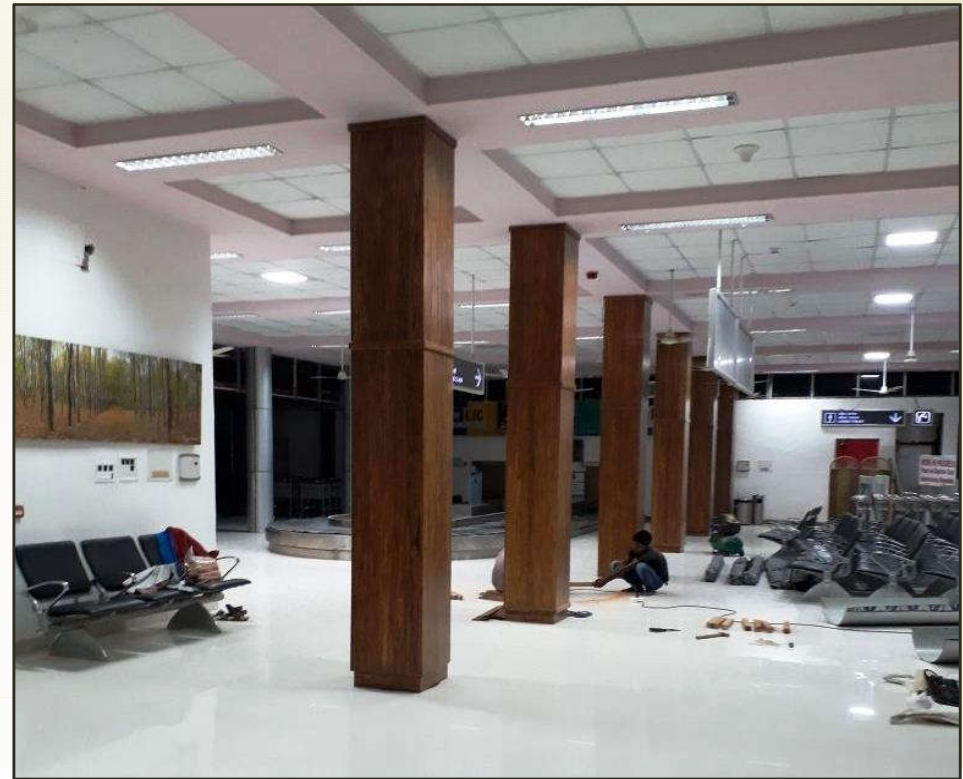
***Standard Size : 2100mm x 100mm x 10mm***





*NBCC Office, Beltola - Guwahati, Assam*





***EF™ Bamboo Wood Wall  
Cladding @ Jorhat Airport;  
Airport Authority of India,  
Assam***





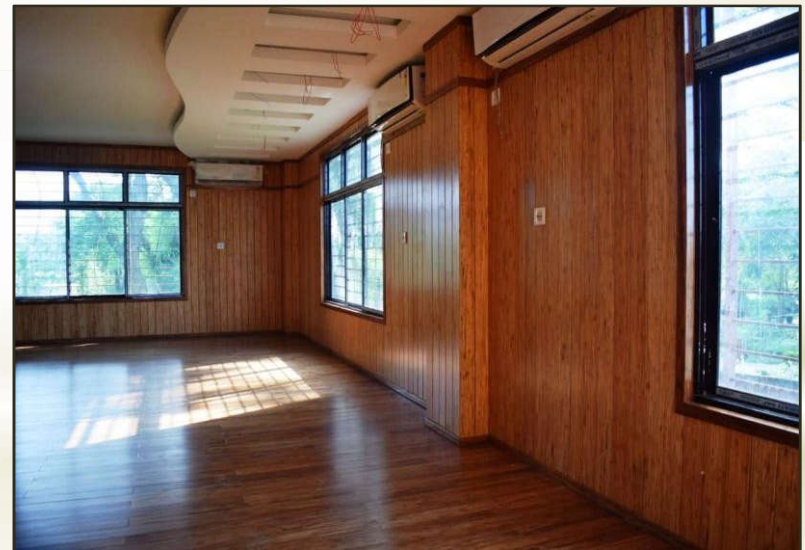
*National Investigation Agency (NIA Office), Sonapur, Assam*





***Raj Bhawan (Governor's Residence)  
- Kharguli Hills, Guwahati, Assam***



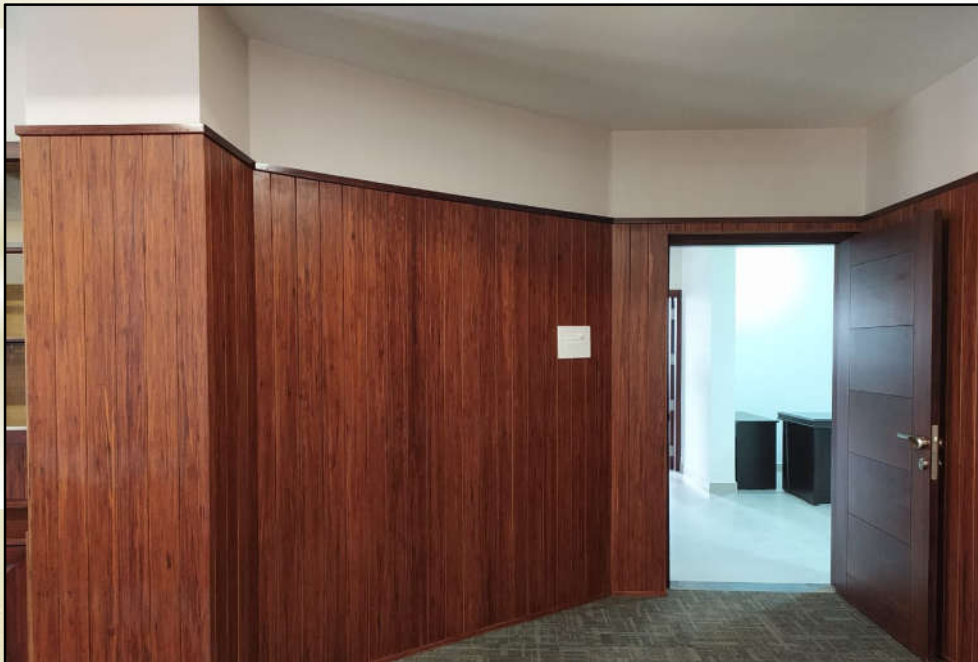


***Recreation Center of  
Assam Petro-Chemicals Ltd. (APL),  
Namrup***



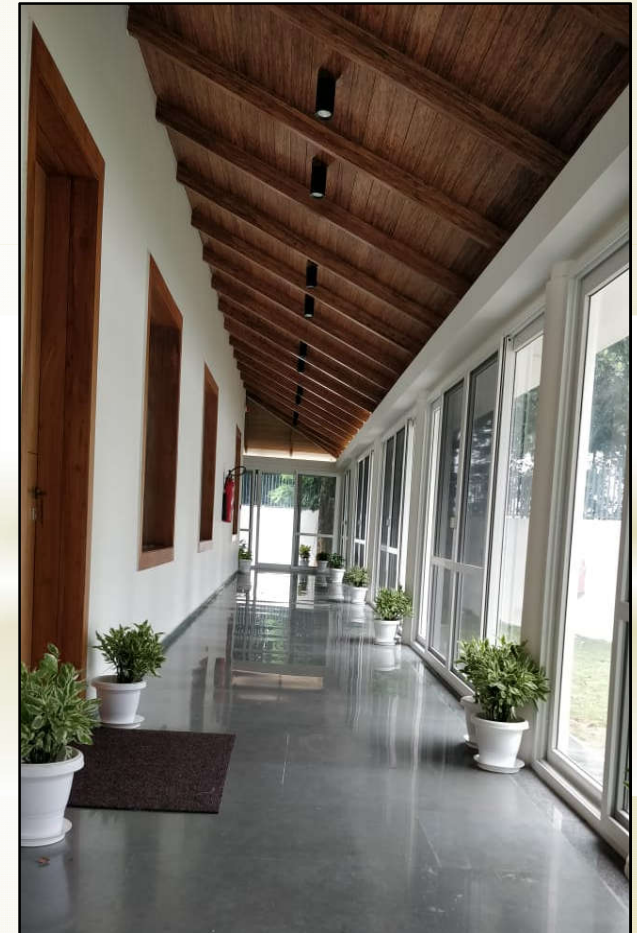
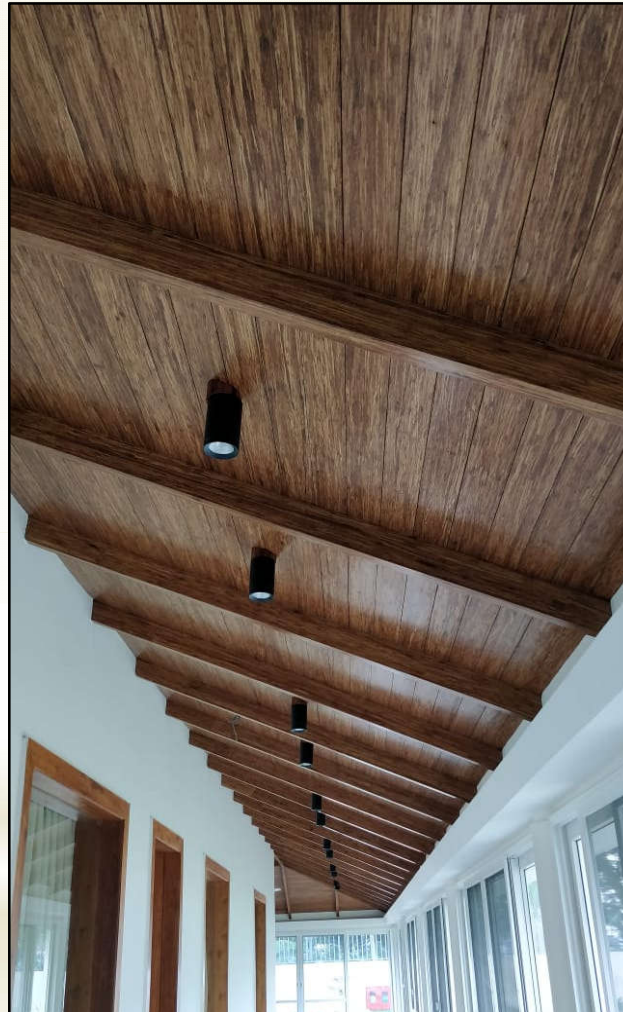








## EF™ Bamboo Wood Ceiling



**Bamboo Wood Ceiling installed @ Raj Bhawan, Guwahati**





**Bamboo Wood Ceiling installed @ Mohanbari Airport, Dibrugarh**





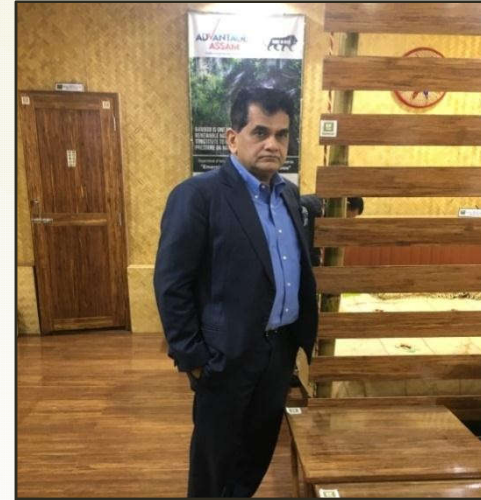
**At Global Investor's Summit, Advantage Assam - Dt. 03<sup>rd</sup> February, 2018**



# Honoured Guests & Dignitaries Visit



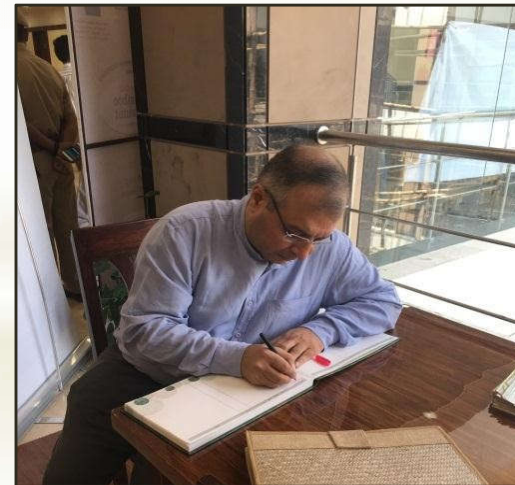
**Shri Tarun Gogoi, Former Chief Minister of Assam**



**Sri. Amitabh Kant, CEO Niti  
Ayog**



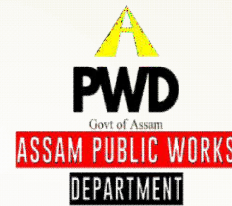
**Shri Ravi Capoor, Ex - Adtl. Chief Secretary,  
Govt. of Assam**



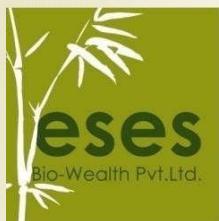
**Shri Sandeep Sanan, Ikea  
BDM (South East Asia)**



# Our Valued Customers







# Company Details

## ESES BIO WEALTH PRIVATE LIMITED

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Guwahati - 781001

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**Email:** [bambooassam.esesbiowealth@gmail.com](mailto:bambooassam.esesbiowealth@gmail.com)

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**Facebook:** [www.facebook.com/esesbiowealth](http://www.facebook.com/esesbiowealth)