



BEAM Plus V1.2 Final Platinum certification

# Shaw Auditorium Hong Kong

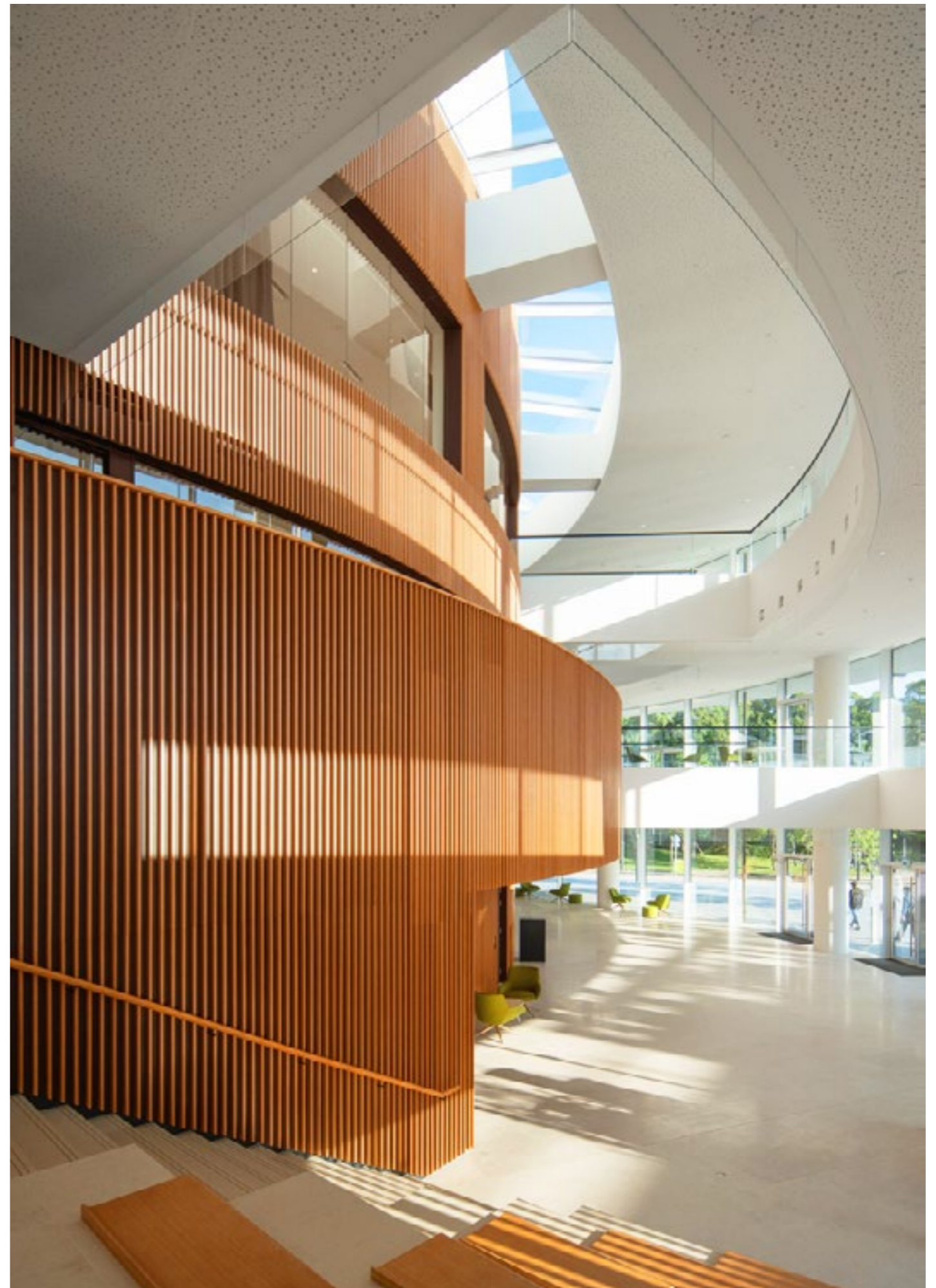
Hong Kong University Of Science And Technology  
Clear Water Bay Campus, Hong Kong, China

Henning Larsen + Wong Tung And Partners | architect

Inhabit| facade consultant & lighting design

Marshall Day Acoustics, Hong Kong | acoustics

WSP, Hong Kong | building acoustics



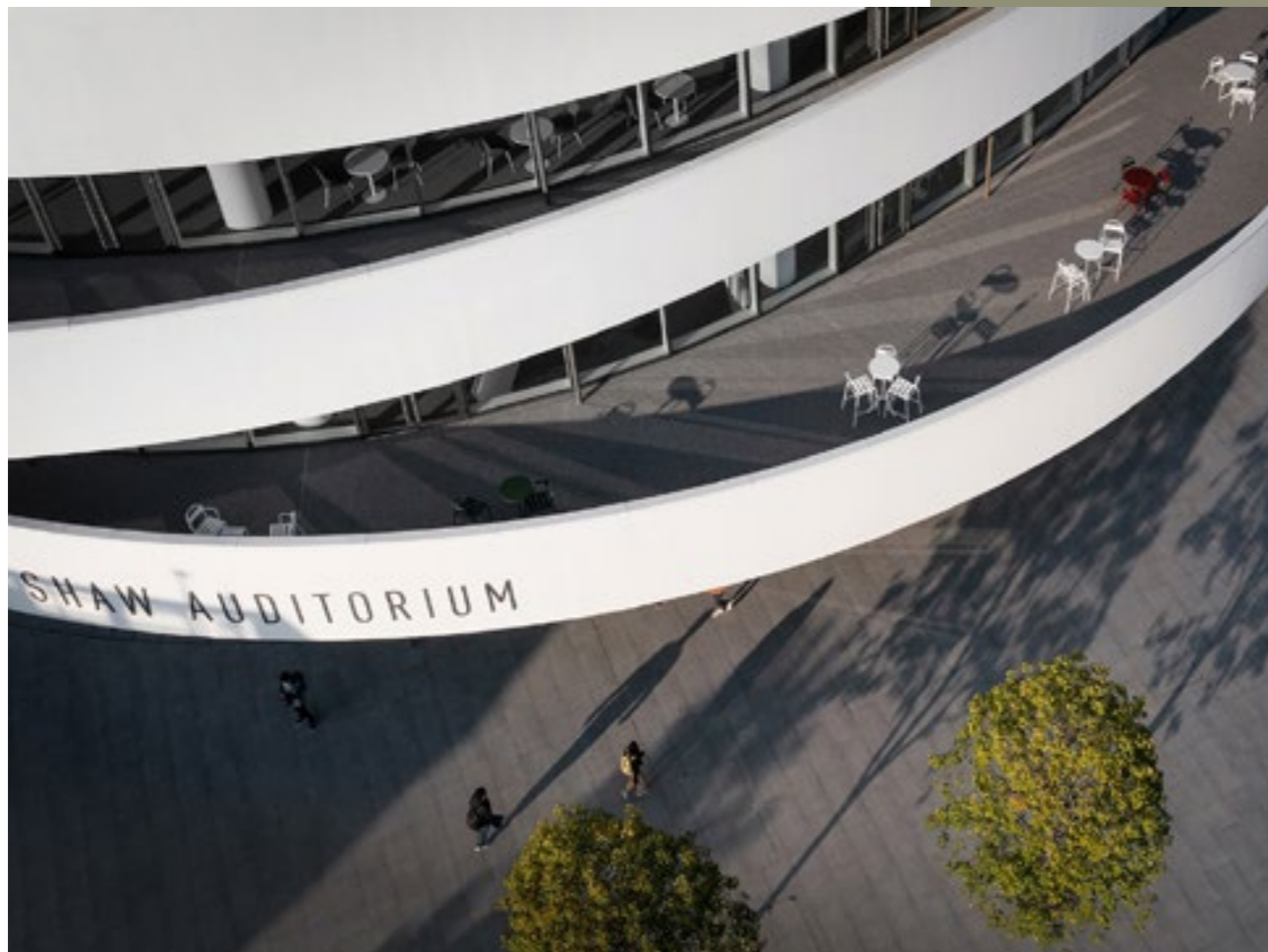


## Project Description

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The Shaw Auditorium designed by Henning and Larson at Hong Kong University of Science and Technology (HKUST) offers an inspiring design, with a versatile and acoustically advanced auditorium.

This adaptable and innovative building integrates multiple functions with its considered design and sits prominently on the university's Clear Water Bay Campus. The building's circular shape is expressed through three concentric white rings, interspersed with glass, providing stunning, expansive views of Sai Kung Bay.



# Project Description

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The auditorium features curved walls allowing 360-degree projection and immersive visual displays. Engineered bamboo is featured throughout, delivering a significant sustainable impact and a highly customised acoustic building.

The House of Bamboo's factory played a pivotal role in the design, development and manufacture of the engineered bamboo for this project, contributing significantly to the project's environmental influence and proudly aligning with our mission to produce eco-friendly materials.

Floor Area: 12,800m<sup>2</sup>



# Project Description



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Shaw Auditorium combines a highly flexible, acoustically sophisticated auditorium with bright, generous social spaces. By reducing energy consumption, the Shaw Auditorium is poised to become the first building of this type, in Hong Kong, to achieve a BEAM Platinum sustainability rating.



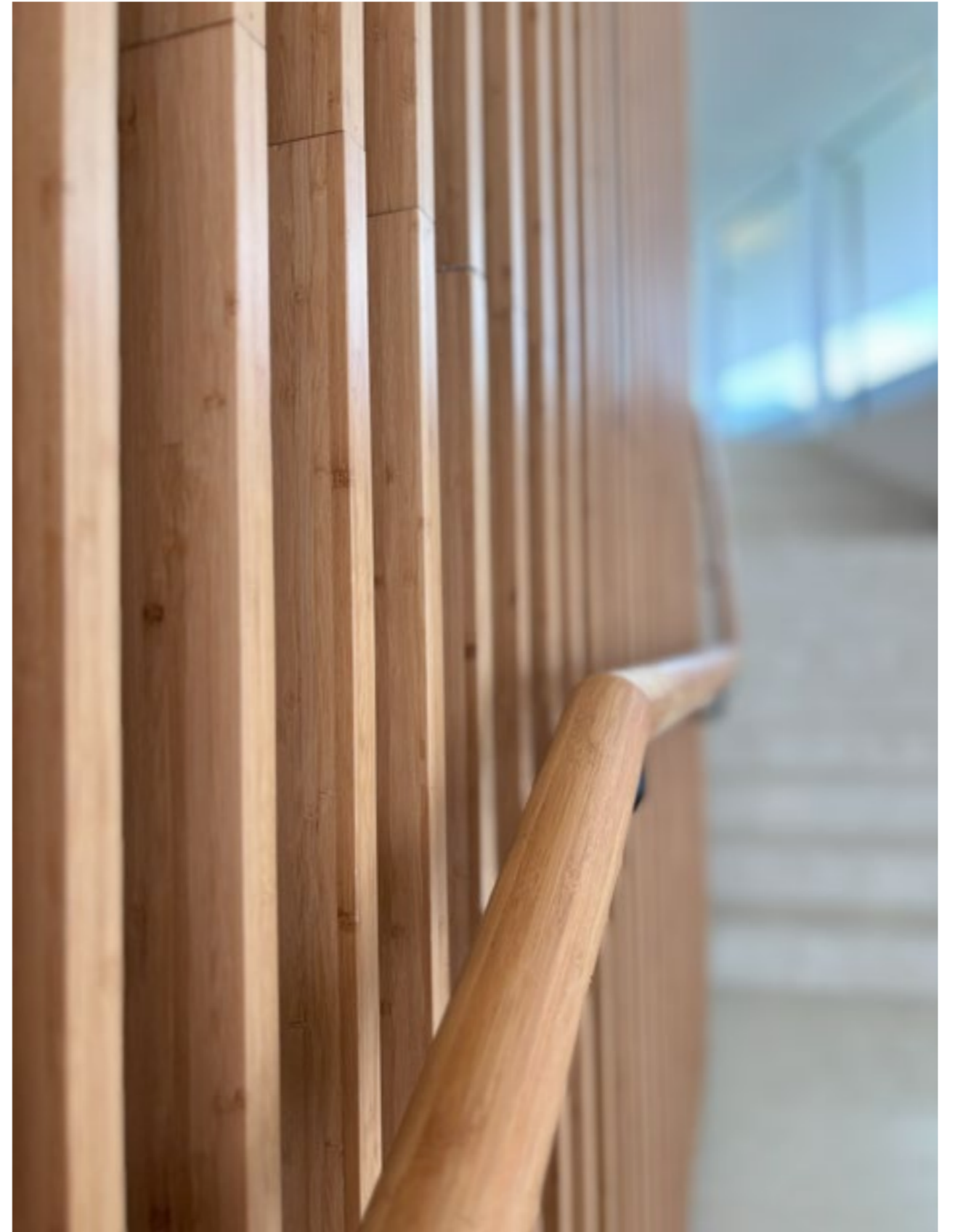
# Materials

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Approx 300m<sup>3</sup> of bamboo

Engineered bamboo manufactured:

- Battens
- Handrails
- Acoustic panels
- Wall panels
- Joinery Items

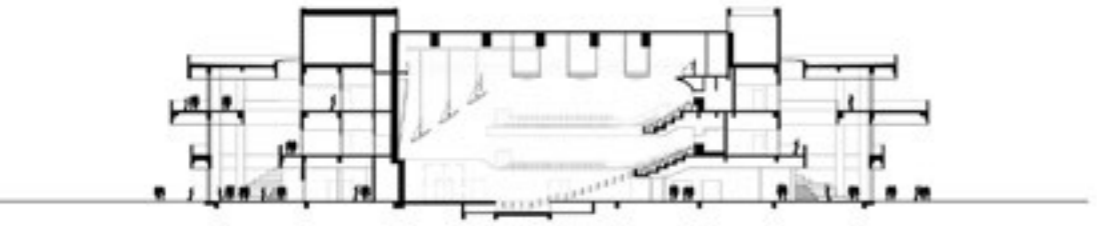
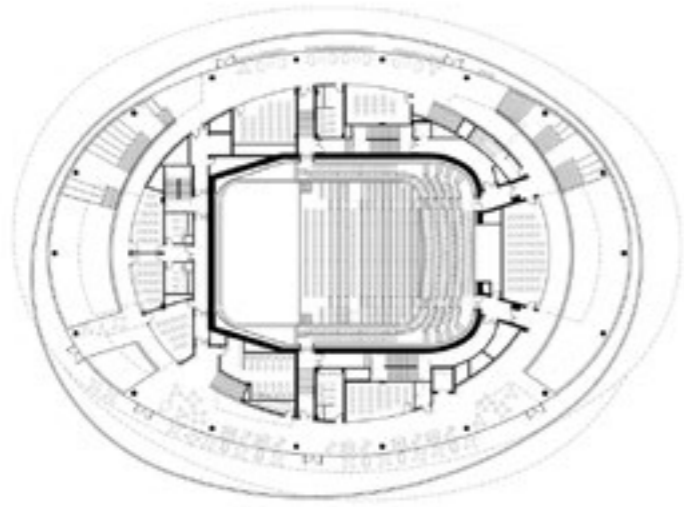


# Technical Specifications

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Full Engineered Bamboo material specification required to substitute all timber in the building:

Bamboo Species	P. edulis
Fire Rating	Class 3
Thermal Conductivity	0.17 W/mK
Density: [Kg/m <sup>3</sup> ]	650 - 700 [Kg/m <sup>3</sup> ]
Flexural Strength	40 - 89.7 (MOR) [MPa]
Shear Strength	14.2 [MPa]
Fibre content	99%
Formaldehyde emission	<0.04mg /m <sup>3</sup>
Maximum Resin / Glue content	<0.101% Glue/Resin hardener
Glue to be Biomass source	Wugu Bio-Glue
Ammoniated compound	4.5 ~ 7.0 51-6X opal 10 ~ 18 146317-23-9
Hydronium compound	20 ~ 40 9004-34-6 water 60 ~ 65 7732-18-5
Emission of Formaldehyde	Class E1 (< 0.124 mg/m <sup>3</sup> , EN 717-1) / Class E0 (< 0.025 mg/m <sup>3</sup> )
Fungus Resistance	Grade 0
Durability	Class 1-2



FSC Certified:

Chain of Custody  
Certification standard  
certified 100%.

Global GreenTag  
Certified -Level A

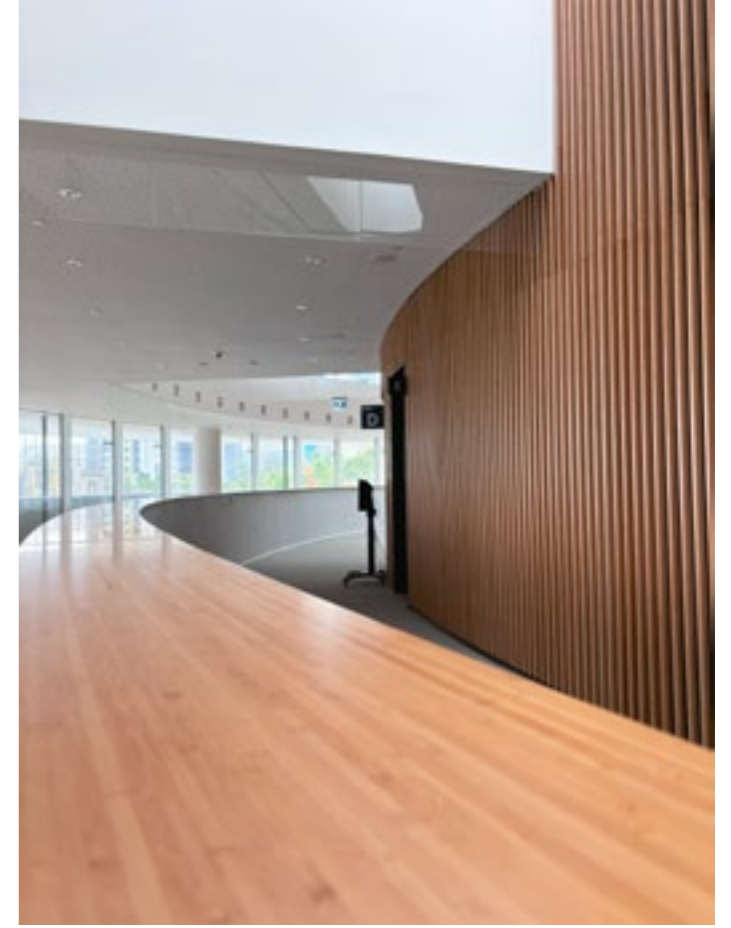
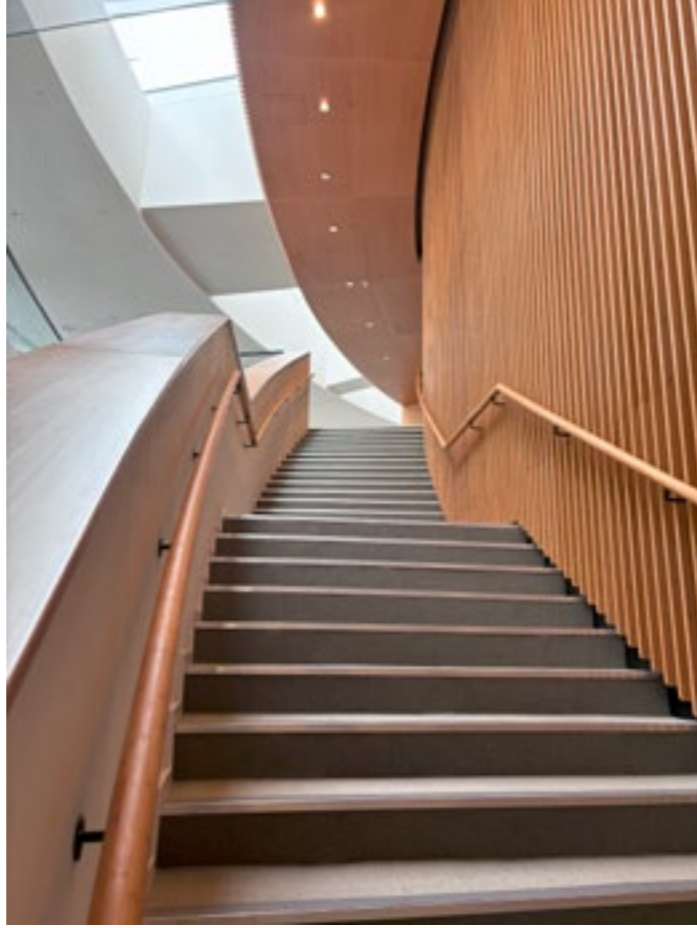
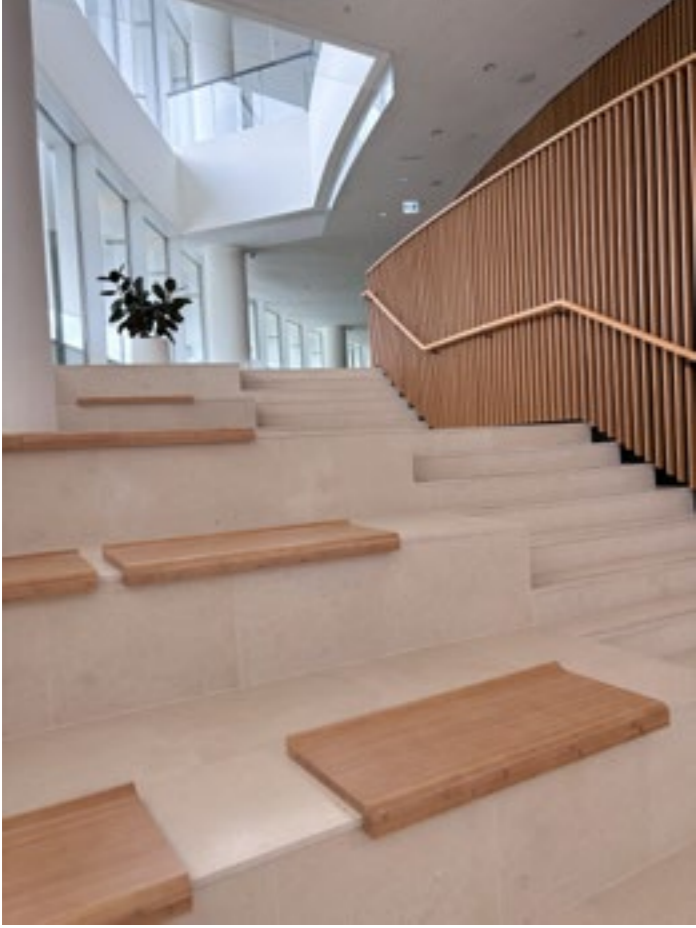
Global GreenTag  
HealthRate - Platinum

# Project Impact

A building material alternative with reduced embodied carbon:

Embodied Carbon (kg Co2/1 cubic metre of material) Comparison			
<b>Cross Laminated Bamboo (Engineered)</b>		<b>Average Timber (Inc Eucalyptus)</b>	
<b>Unit</b>	<b>Embodied Carbon (kg Co2/1 cubic metre.)</b>	<b>Unit</b>	<b>Embodied Carbon (kg Co2/1 cubic metre.)</b>
1m3	307.00 kg CO2	1m3	417.00 kg CO2
<b>Note:</b> Average A1 to B3 & C1 to D embodied carbon factors		<b>Note:</b> Average A1 to D embodied carbon factors	
<b>Source:</b> <a href="https://www.moso-bamboo.com/wp-content/uploads/20170315_EPD_INT_Moso_Solid_EN.pdf">https://www.moso-bamboo.com/wp-content/uploads/20170315_EPD_INT_Moso_Solid_EN.pdf</a>		<b>Source:</b> <a href="https://www.sciencedirect.com/science/article/abs/pii/S0360132322001871">https://www.sciencedirect.com/science/article/abs/pii/S0360132322001871</a>	







## Conclusion

The engineered bamboo elements of the Shaw Auditorium add significant sustainable improvements and maintain the performance acoustics of the building.

This choice to use engineered bamboo underscores the commitment to eco-friendly building solutions without sacrificing aesthetic value or functionality.



# Conclusion



The Shaw Auditorium incorporates several green technologies, including a district cooling system, photovoltaic panels, and a smart ventilation system, all designed to respond to Hong Kong's humid climate effectively.

The use of bamboo enhances the auditorium's sustainability, aligning with House of Bamboo's mission to promote environmentally responsible materials in modern architecture.





EST. 1972

## **OFFICE & SHOWROOM NSW**



13 Erith Street, Botany NSW 2019

## **SHOWROOM QLD**



66 Merivale Street, South Brisbane QLD 4101

## **CONTACT**



For General Enquiries  
[info@houseofbamboo.com.au](mailto:info@houseofbamboo.com.au)



Local or Interstate: 1800 240 996  
International: (+61)2 9666 5703

## **ONLINE**



[www.houseofbamboo.com.au](http://www.houseofbamboo.com.au)



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