



CONTACT US

Add: Economic Development Zone, Boxing county,
Binzhou City, Shandong Province, China, 256500
Email: info.timber@chambroad.com
Web: [Http://en.chambroadtimber.com](http://en.chambroadtimber.com)



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CHAMBROAD TIMBER FOR OUTDOOR

APPLICATIONS

Decking | Cladding | Soffit | Lumber | Beam



Sustainable



Eco-friendly



Stable

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Shandong Chambroad Holding Group CO.,LTD.

USD**14,2** billion
Revenue in 2024

50⁺
Regions of business
coverage

USD**1,1** billion
Tax Contribution

12000⁺
Employees

Started as a school-run factory in 1991. Through constant innovation, Chambroad has now developed into a diversified industrial group empowered by charity organisations and professional managers.



TOP- 500

“Enrollment of China’ s Top- 500 Enterprises for 16 consecutives years.”

316th

• Asian Top-500 brands

275th

China’ s Top-500
Enterprises

138th

China’ s Top-500
Manufacturers

83rd

China’ s Top-500 Manufacturing
Private Enterprises

108th

China’ s Top-500
Private Enterprises

33rd

China’ s Top-500 Petroleum
& Chemical Enterprises

Shandong Chambroad Timber Material CO.,LTD.

2014
Year of establishment

10+ years
R&D investment

8 years
Field test before launch

Shandong Chambroad Timber Material Co.,Ltd. belongs to Shandong Chambroad Holding Group Co.,Ltd, founded in 2014, is committed to the development of green recycling and low carbon economy, and produces high-performance special outdoor timber through advanced biomodification technology and proprietary moulding technology.

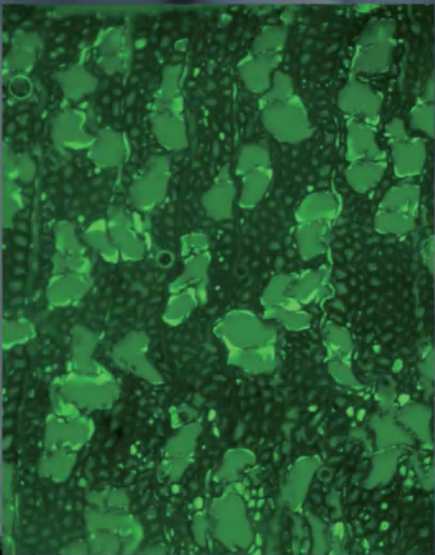


R&D STRENGTH

The company has a research and development team of 26 members, including 9 master's and doctoral-level professionals, and 8 external expert consultants.

The R&D team specializes in fields such as polymer science, wood modification, biomass material property analysis, and timber structure design. Their primary responsibilities include optimizing modification agent systems, enhancing wood cell walls, researching pre-treatment processes, and analyzing material performance.

The Technical Center is equipped with comprehensive software and hardware facilities, capable of providing complete technologies, analytical and testing methods, standards, processes, and equipment for large-scale production. It houses 31 sets of testing and production equipment, including QUV aging test chambers, xenon light aging test chambers, fluorescence analyzers, cryostat microtomes, halogen moisture analyzers, hardness testers, universal testing machines, abrasion testers, and aging testers. The R&D facilities span over 2,000 square meters.



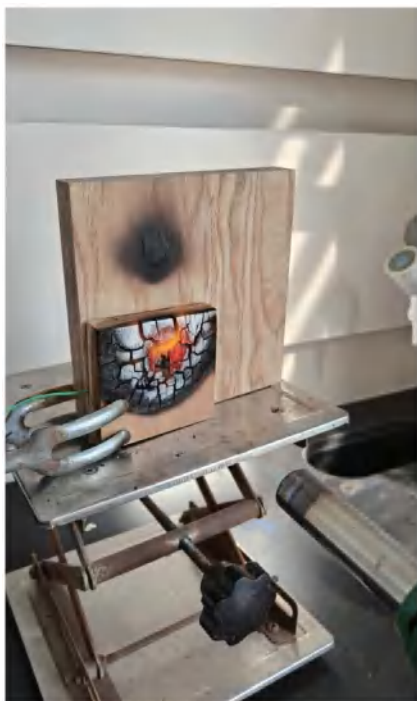
COMPANY POSITIONING

- Upholding the ESG philosophy of green and sustainable development, we are committed to breaking through critical bottleneck technologies in China's industrial-grade engineered wood materials and supporting major national infrastructure projects.
- With a global market outlook, we serve the green and low-carbon building industry by providing outdoor functional wood-based materials, aiming to build the international first-class brand image of **Chambroad Timber**. We strive to become a global leader in biomass-modified wood-based new materials.



- Shandong Tianfengtai New Material Co., Ltd.
Shandong Chambroad Timber Material Co., Ltd.
- Shanghai Marketing Office

PRODUCT TESTING



Flame Retardancy Testing



Underground Testing



Marine Corrosion Resistance Testing

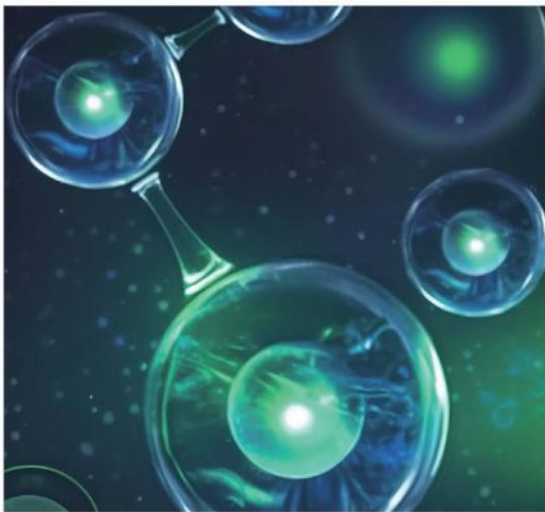
CORE TECHNOLOGY

Water is the source of life for sure, but it is also the source of issues like deformation, cracking, moulding etc. Removing water from the wood is the key word of wood modification, while free water in the cell cavity can be easily removed, the bonding water with cell wall left researchers a big headache. Chambroad Timber adopts a combined methodology of physical barrier and bio-chemical reaction to give wood cells the ultimate protection against corrosion from humidity, mould, termite etc.

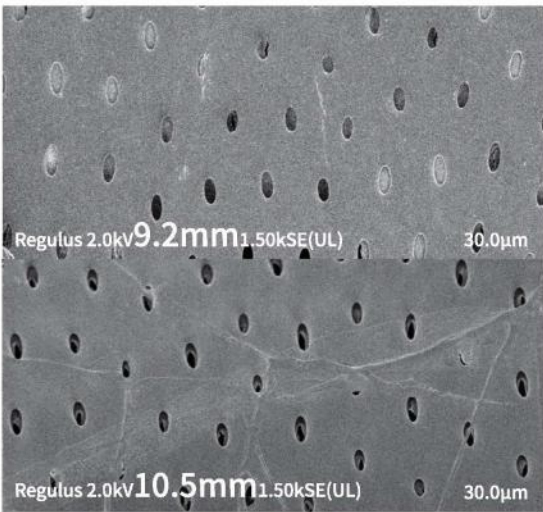


Four key technological directions

Biomass Modification Material Technology



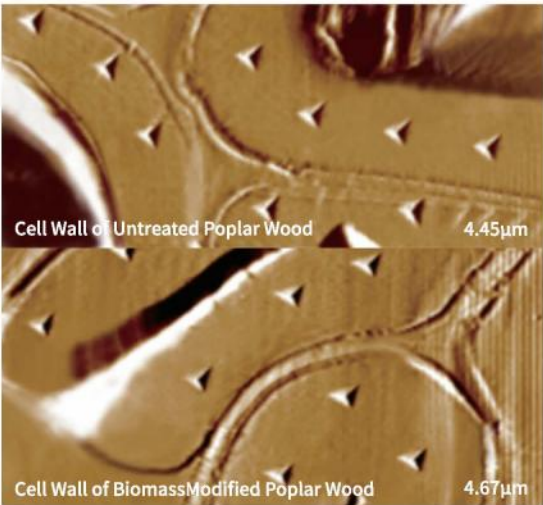
Cell Wall Pit Aperture Enlargement Technology



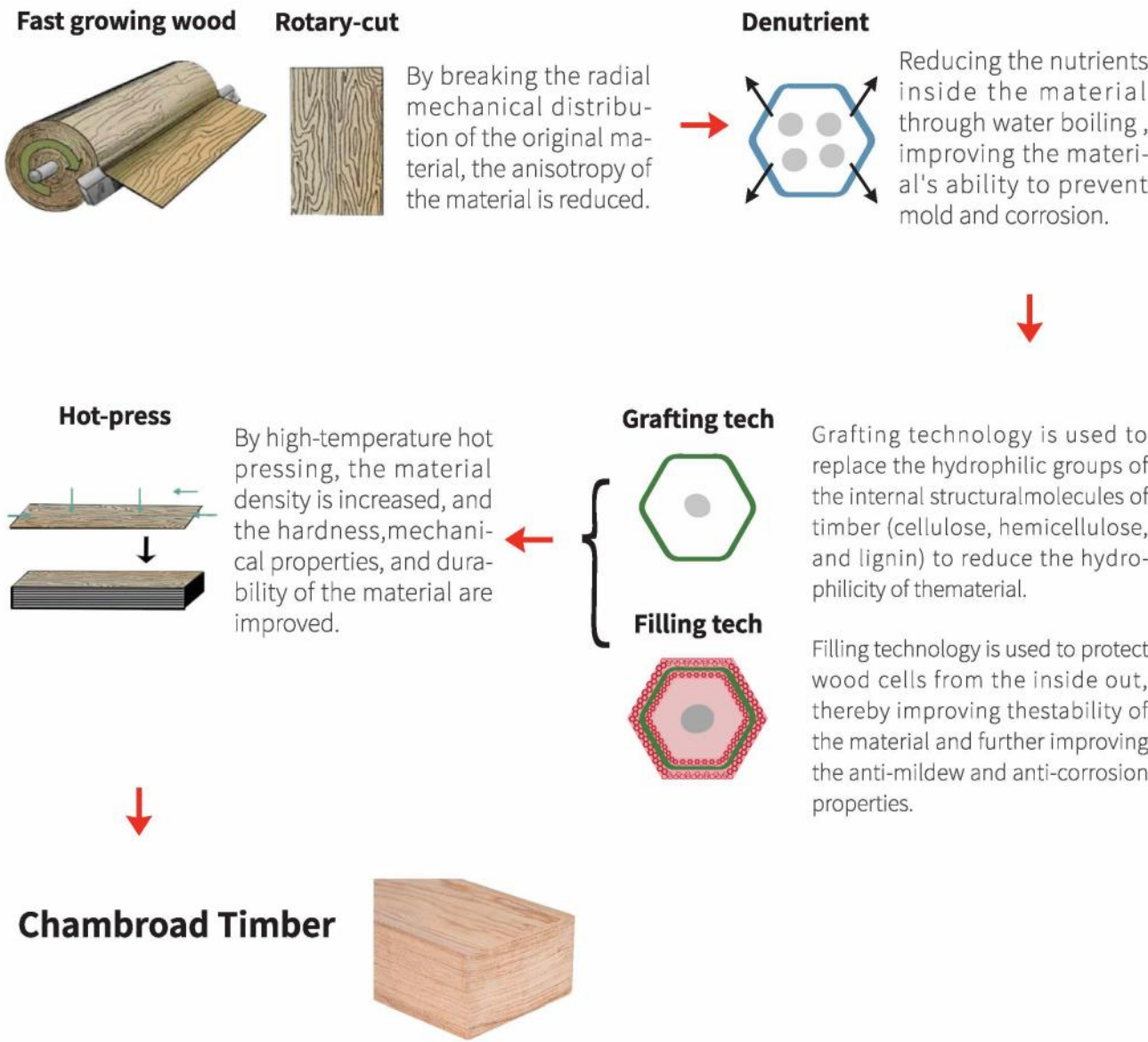
Modifier Activity Control Technology



Biomass Cell Wall Reinforcement Technology



what is chambroad timber



PERFORMANCE



Name	Chambroad		Padouk	Cumaru	Merbau	High-end Treated Bamboo	High-end WPC
	MP	FP					
Fire Rating	Class B _{fl} -s1	Class B-s1,d0	Class D - s2, d0 C _{fl} -s2	Class D - s2, d0 B _{fl} -s2	Class D - s2, d0 C _{fl} -s2	Class C - s1, d0 Class B _{fl} -s1	Class D or E Class C _{fl} -s1
Salty Water Contactable	YES	YES	No	No	Yes	No	No
Termite Resistance	DC D	DC D	DC M	DC D	DC M	DC D/M	DC M
Fungi Resistance	1	1	1	1	2-3	1-2	1-3
Density (Kg/m ³)	≥930	≥930	≥720	1085	900	≥900	1000
Janka Hardness (N)	9053	9053	6860	14800	7620	14800	Change with temperature
Bending Strength (Mpa)	170.1	170.1	116	175.1	115	84.4	27.4-40
Modulus of Elasticity (MPa)	20120	20120	15870	22330	15440	17366	4500
Thermal Conductivity (W/m K)	0.12	0.12	0.26	0.34	0.27	0.23	≈0.2

Note
1. The dimensional stability of WPC is greatly affected by temperature.
2. LVL is usually an indoor material.
3. Data is from Reference <https://www.wood-database.com/> and EN350-2016 standard and some papers
4.<https://www.makeitfrom.com/compare/Hardwood/Spruce-Pine-Fir-SPF-Softwood>
5.https://www.fpl.fs.usda.gov/documnts/fplgtr/fpl_gtr190.pdf

PRODUCT ADVANTAGES



Mould Resistance



Termite Resistance



Fire Resistance



Environment Friendly



High Hardness



Stable

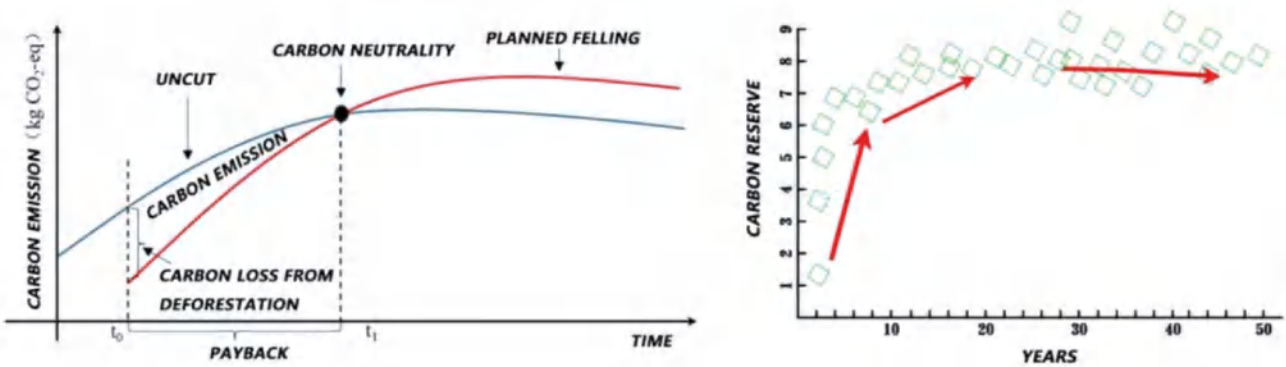


FAST GROWING WOOD HAS MORE ADVANTAGES IN CARBON STORAGE

Fast-growing forests are a type of fast-growing wood material that can quickly fix carbon dioxide from the air through photosynthesis. The growth period of fast-growing forests is 8-10 years, depending on the climate and conditions of different regions. The growth cycle of hardwood takes 100-200 years, so fast-growing forests have greater advantages in carbon storage.



Carbon storage VS time



As trees grow, the carbon storage accumulated by wood can be divided into three stages: rapid growth, slow growth, and year-on-year decline. Sustainable management of forests, reasonable felling and application of dry construction can achieve the effect of permanent carbon fixation of trees. The shorter the growth period of wood, the more environmentally friendly it is and the better the carbon fixation effect. The life cycle of wood products determines the carbon storage time. Through technological innovation, the service life of wood products can be extended, the carbon fixation time can be increased, which will help to fix carbon and reduce emissions.

Chambroad Timber

As of June 30, 2024, the cumulative carbon sequestration through the application of Chambroad Timber products has reached.

341,000,000KG



Sustainable



Eco-friendly



Stable

PRODUCT CATEGORIES

Chambroad Timber, with its excellent performance, such as high strength, weather resistance, and anti-deformation characteristics, easily adapts to various requirements under multi-application scenarios. The material undergoes special bio-modification treatments, ensuring strong stability and resistance to weather and environmental changes, making it suitable for producing decking, cladding, Soffit, and other outdoor products.



Decking



Cladding

Soffit



Lumber

Beam



DECKING

When selecting decking, key factors to consider include weather resistance, mold and insect prevention, and strength. Chambroad Timber undergoes special modification treatments, achieving a density of 850-1250 kg/m³, a mold resistance rating of Class 1 (EN350), and a bending strength of up to 170.1 MPa. It offers excellent resistance to mold and fungi, withstanding harsh weather conditions, and maintains long-lasting strength and stability.



Chambroad MP Decking			
Product	Dimension	Profile	Node Display
MP-DF01-A20	20*148*2450		
MP-DF02-A20	20*170*2450		
MP-DF03-A20	20*198*2450		
MP-DW00-A20	20*148*2450		
MP-DV00-A20	20*148*2450		

*Other sizes customizable upon request

DECKING INSTALLATION



A. Starting board fixation



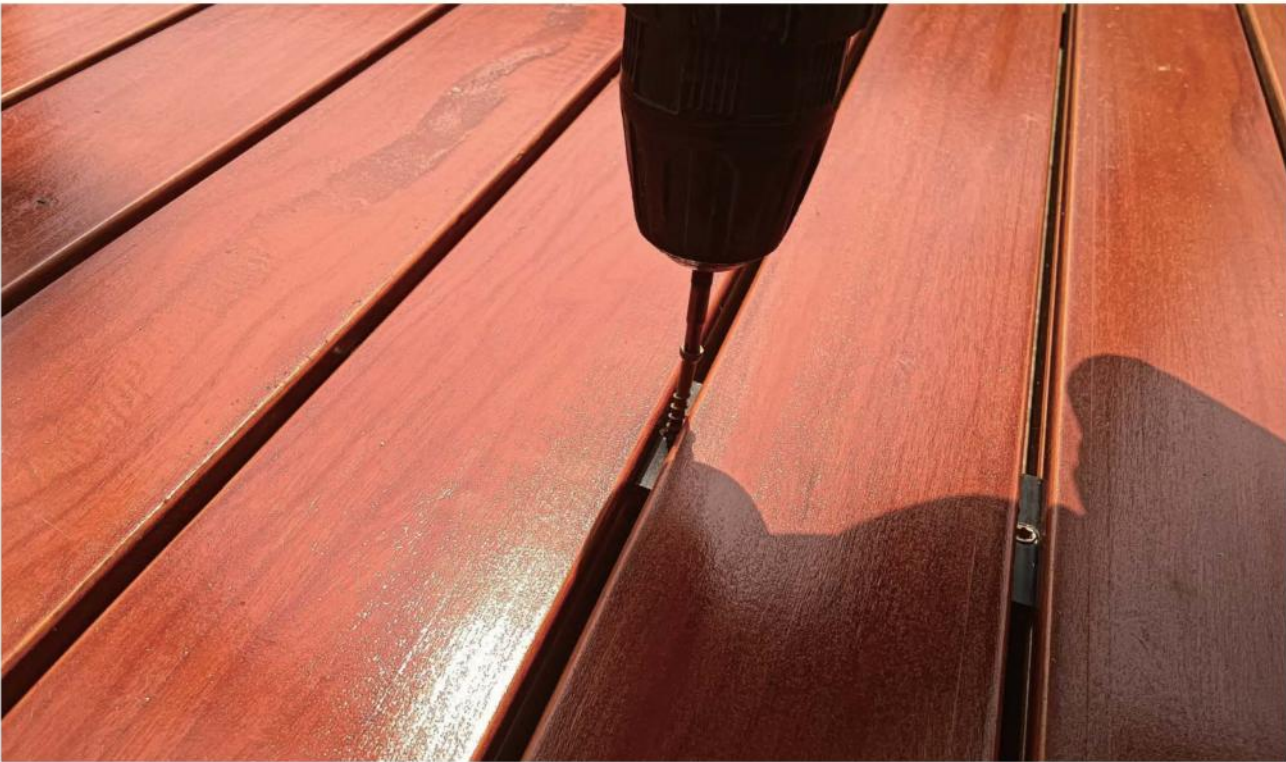
B. Insert clip



C. Clip at joints



D. End on joist



1. Select a non-wet and flat surface. If the surface is uneven, prepare it.
2. First of all, one side of the card with serrated pressure in the groove of the plate, the use of special batch head will be connected to the card and the wood joist, followed by the second plate using a leather hammer to tap into the non-serrated edge of the snap side, and so on for installation, it is recommended that the use of special snap conventional snap.
3. About 20 clamps are used per square, for the board width of 148mm.
4. Use only the supplied 304 stainless steel clamp screws. (4.2*30mm).



Installation Accessories



CLADDING

The unique bio-mass modifier of Chambroad Timber specially developed by R&D panel is perfectly compatible to fire retardants, through vacuumed and pressurized processes, they together are thoroughly injected into wood cells. As a result, its fire resistance is more than on the surface and does not fade with time. Rigorously tested, their fire performance meets the European standard Class B-s1,d0 (EN13501) , effectively reducing fire risks and ensuring building safety. They are the ideal choice for high-performance outdoor decorative materials.



Chambroad FP Cladding			
Product	Dimension	Profile	Node Display
FP-CP01-B15	15*131*2450		
FP-CP02-B15	15*131*2450		
FP-CP03-B15	15*131*2450		
FP-CF01-B15	15*131*2450		
FP-CF02-B15	15*148*2450		
FP-CF03-B15	15*170*2450		
FP-CF04-B18	18*131*2450		
FP-CF05-B18	18*148*2450		
FP-CF06-B18	18*170*2450		

*Other sizes customizable upon request

CLADDING INSTALLATION



A. Starting board fixatio B. Nailing position C. Ends on joist D. Connecting method

Installation of wooden joist

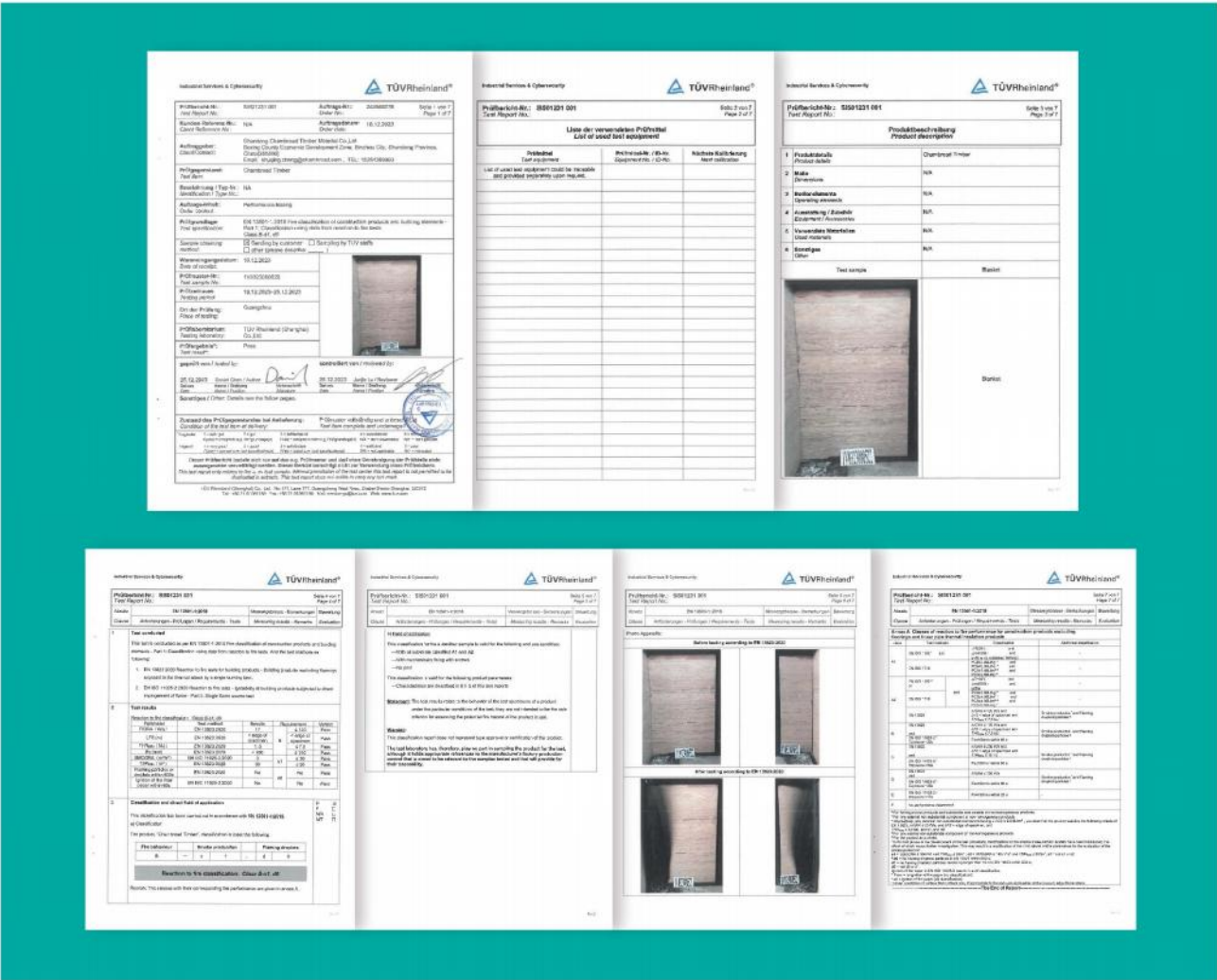
Apply the joist on smooth and flat wall with expansion bolt. Ensure well-done levelling of joists before installation. Joist span is recommend- ed to be within 560mm.

Installation of cladding boards

Install the cladding boards from bottom to the up. Fixing the first board to the joist at its groove with clips and nailing at its tongue. The following boards will connect its groove to the tongue of previous ones and its tongue will be fixed to the joist by air nailing.



FIRE RESISTANCE TEST REPORT



SOFFIT

Chambroad Timber soffit are made from eco-friendly materials, aligning with the concept of sustainable development. With advanced moisture-proof and anti-mold treatments, they offer excellent durability and resist deformation over time. The unique modification technology penetrates deep into the wood cells, effectively removing bond water. Even when crafted into thin panels, they maintain exceptional stability and are resistant to warping or deformation.



Chambroad MP Soffit			
Product	Dimension	Profile	Node Display
MP-SF01-B13	13*82*2450		
MP-SF02-B13	13*106*2450		
MP-SF03-B13	13*117*2450		

*Other sizes customizable upon request

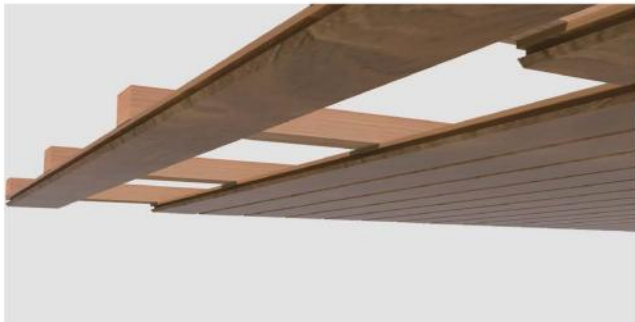
SOFFIT INSTALLATION



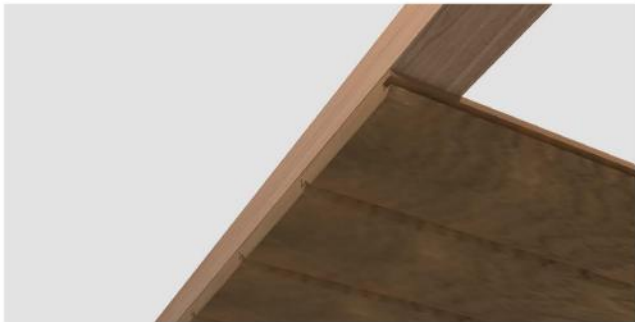
A.Starting board fixation



B. Insert clip



C. End on joist



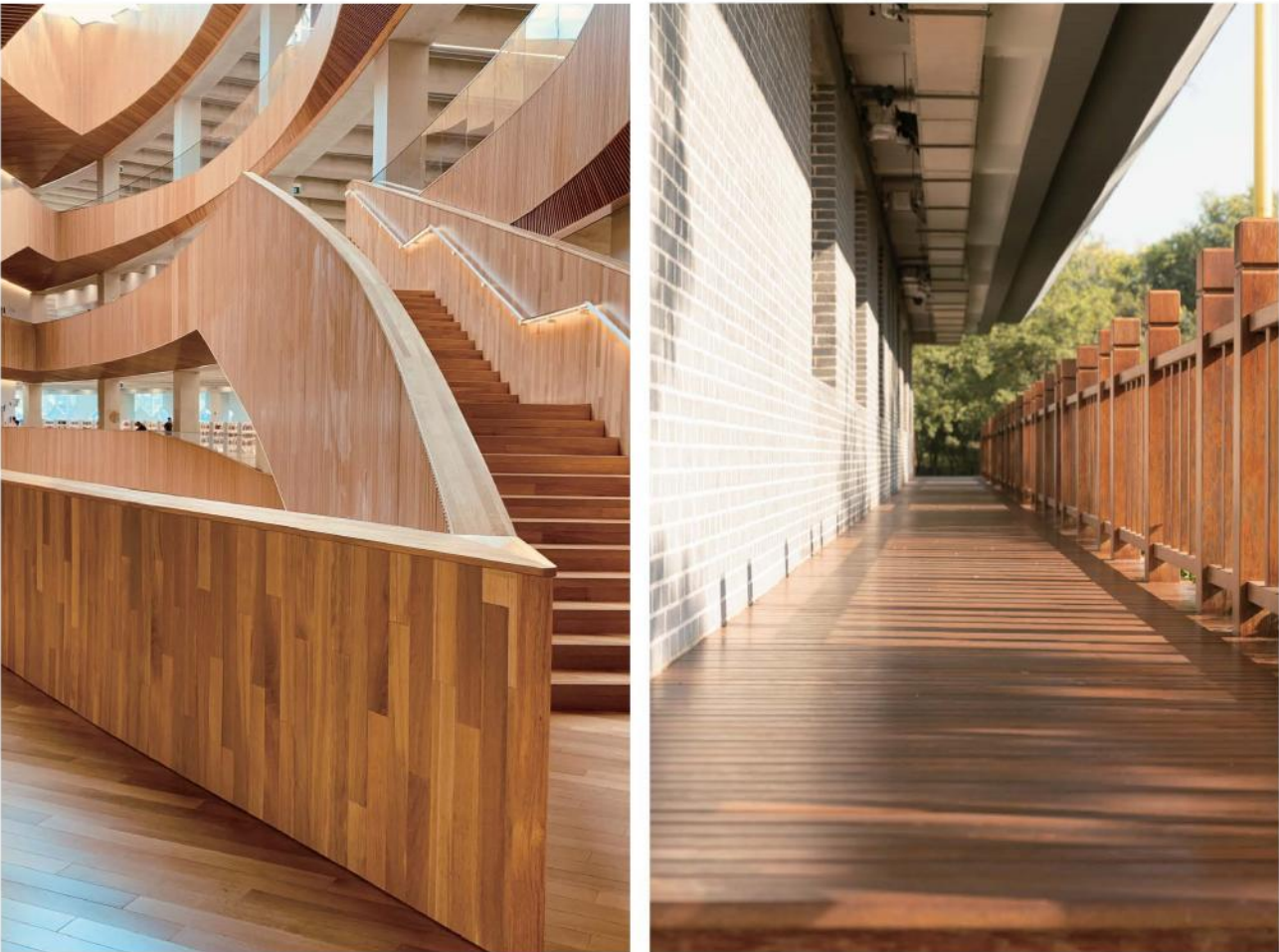
D. Clips at joint

1. Measure the roof dimensions and determine the position and spacing of the ceiling joists.The spacing of the ceiling joists should be controlled at approximately 490mm to ensure ceiling stability and load-bearing capacity.
2. Install the ceiling joists (cross-section: 40×40mm). First, fix the ceiling joists to the top of the wall, ensuring they are level and plumb.
3. Install the ceiling boards onto the joists.The cross-sectional dimensions of the ceiling boards are 13×82/106/117mm. Place the boards onto the ceiling joists according to the planned layout and spacing, and nail them in place. Be sure to maintain both horizontal and vertical alignment.To ensure the stability of the ceiling boards,seal the cut ends of the boards using an end sealer for protection.



LUMBER&BEAM

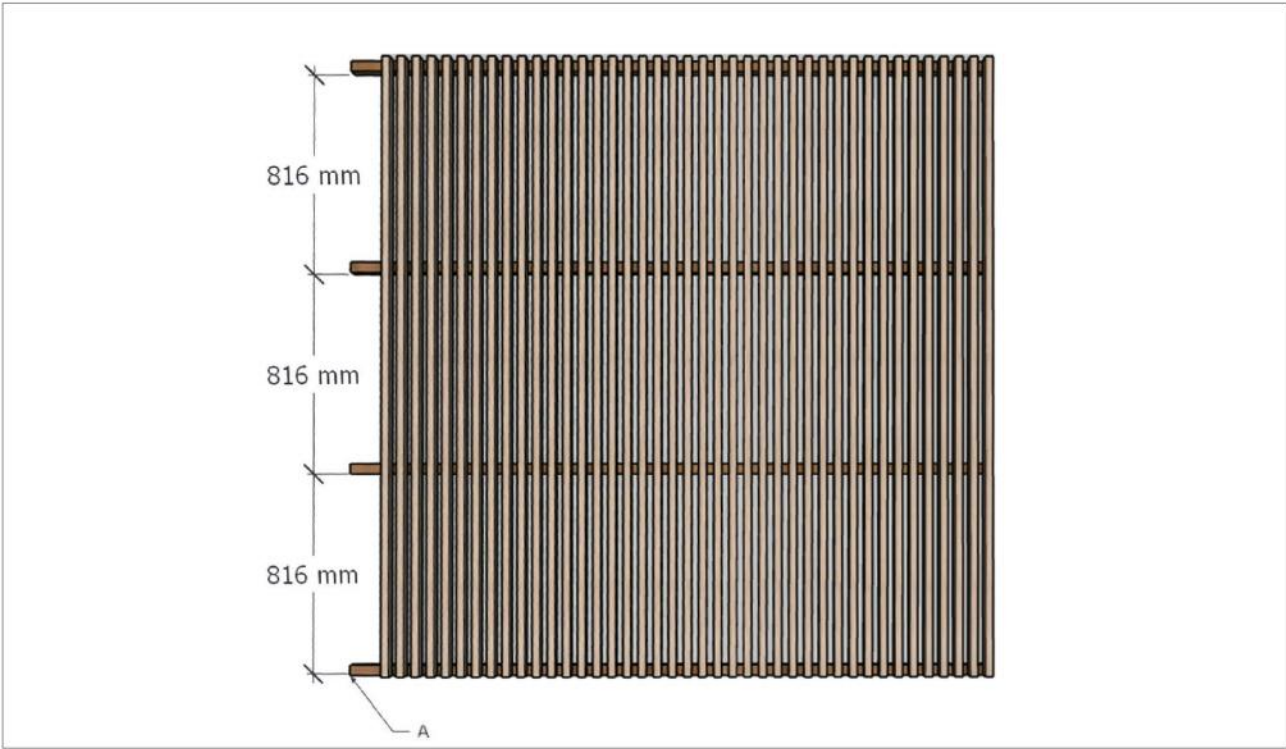
Chambroad Timber offers high strength and is resistant to cracking, warping, and deformation, meeting diverse structural needs and ensuring long-term outdoor usage. At the same time, it is a sustainable and eco-friendly material that reduces waste and minimizes carbon footprint to the greatest extent.



Chambroad MP lumber&beam			
Product	Dimension	Profile	Node Display
MP-LF00-A30	30*82*2450		
MP-LF00-A40	40*131*2450		
MP-LF00-A50	50*148*2450		

*Other sizes customizable upon request

INSTALLATION



1. Firstly, determine the space size for installing lumber. Then determine the required number and size of wooden joists based on the lumber.
2. Ensure that the wall is flat and unobstructed. If it is necessary to install on a wooden beam, ensure that the beam installation is stable.
- 3.

According to the size, assemble the lumber. Then use glue and self-tapping screws to fix the lumber (30*70 mm) and the back strip (20*40 mm) at the back. The center distance between the two adjacent back strips is 816 mm to ensure that all connections are stable and reliable.



4. Fix the joist on the flat wall which size is 40*40mm. Determine the joist position according to the installation position of the lumber. Connect the back strip to the joist by using an electric drill and self-tapping screws to ensure that the lumber is completely fixed with the joist.

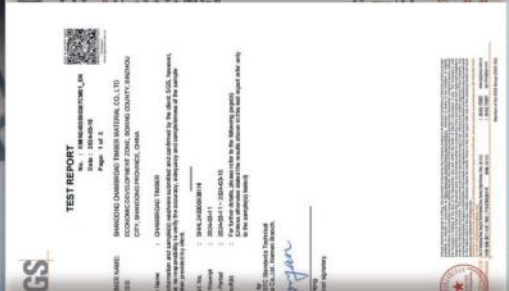


LIFECYCLE PERFORMANCE TRACKING

Installed in May 2015 at factory's testing area, initial bending strength being 144.8MPa, designed life span being 30 years.

— continual test on progress

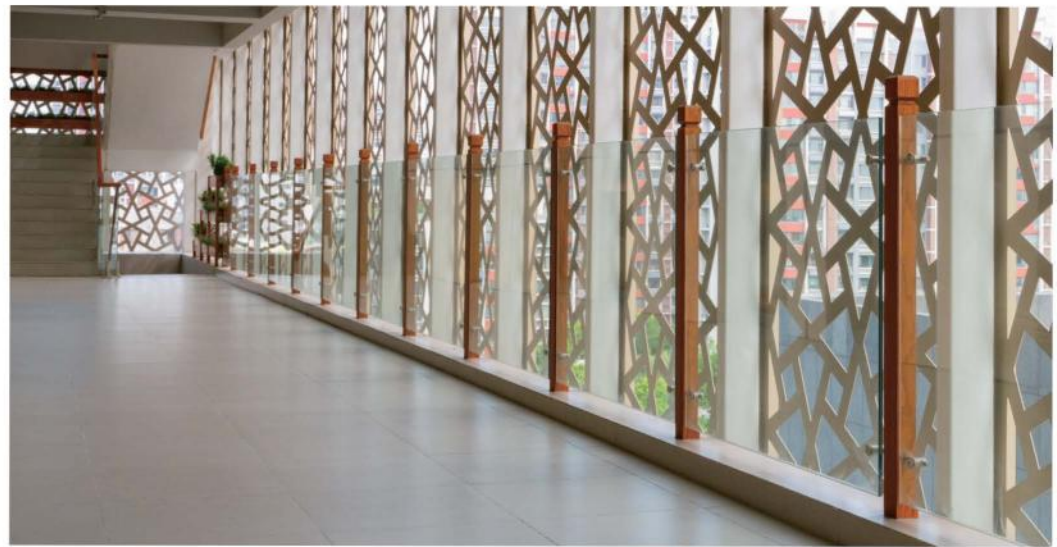


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**Chambroad Office,
Zhitai Plaza**

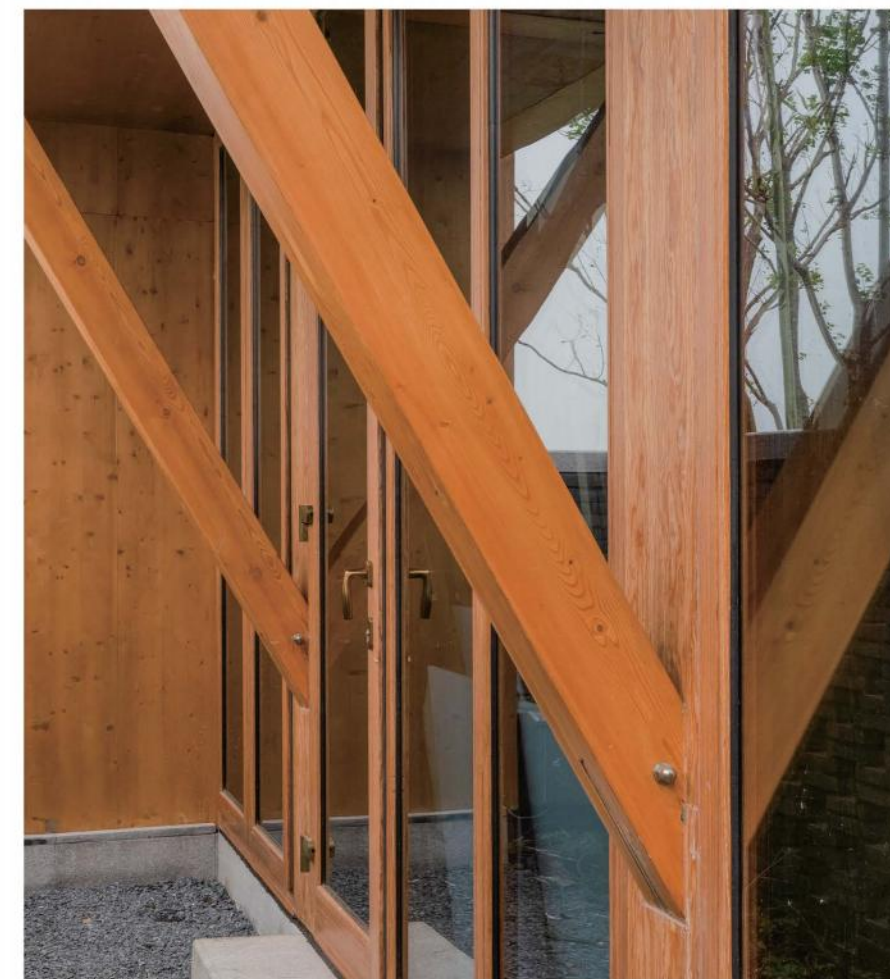
Time: June 2020
 Location: Binzhou city, Shandong
 Application: Window & door, flower box,
 handrail, decking, wall panel





Bamboo Carbon Sink Showroom

Time: June 2022
 Location: Jiaxing City, Zhejiang
 Volume: 350 m²



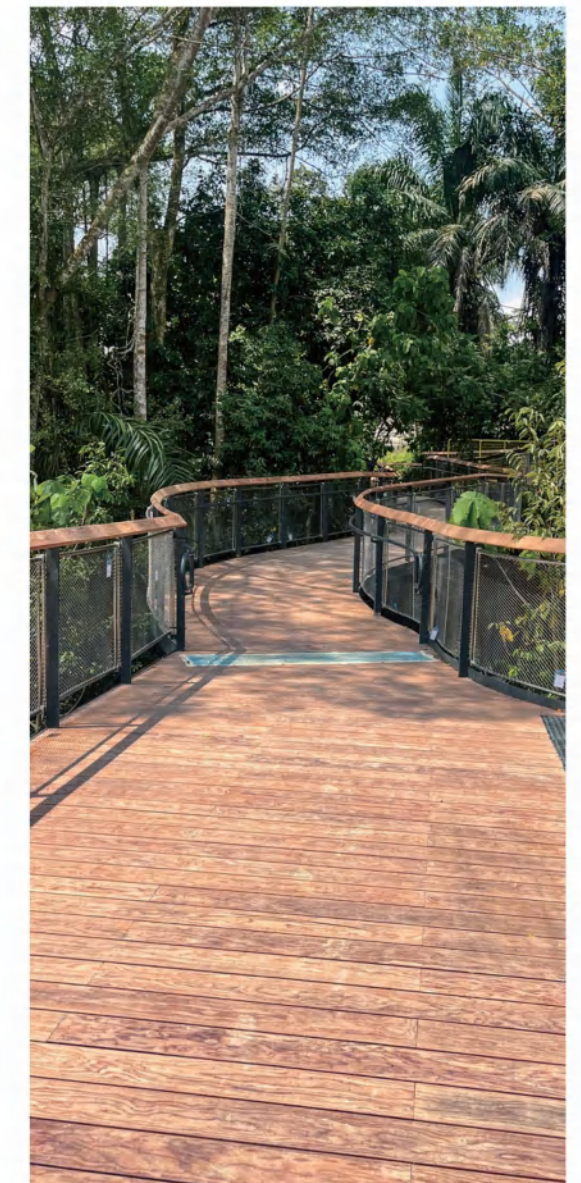


Singapore Mandai Park

Time: March 2023
 Location: Northern Singapore
 Volume: 10000m²
 Application: Decking & Pergola

Marina Bay Sand, Singapore

Time: March 2024
 Location: Singapore
 Application: Seashore walkway decking





Beijing Qianling Mountain Scenic Area project

Time: January 2023
Location: Beijing
Volume: 1350m²

Dishui Lake Pier No.1

Time: October 2022
Location: Shanghai
Volume: 1800 m²
Application: Viewing platform decking

